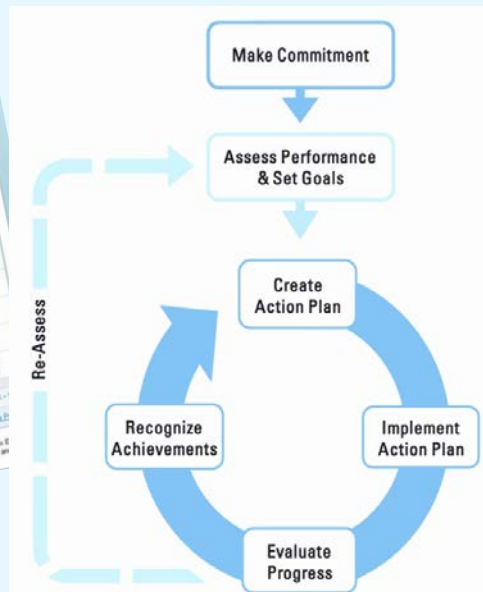




# ENERGY STAR for Congregations:

## Powerful tools and information for stewardship





- **EPA shares the faith community’s concern for human life, health and the ecosystems that support us**
- **EPA’s ENERGY STAR provides congregations and denominations:**
  - Accurate quantification of energy and emissions baseline and performance tracking
  - Objective technical support and training
  - National recognition for achievement



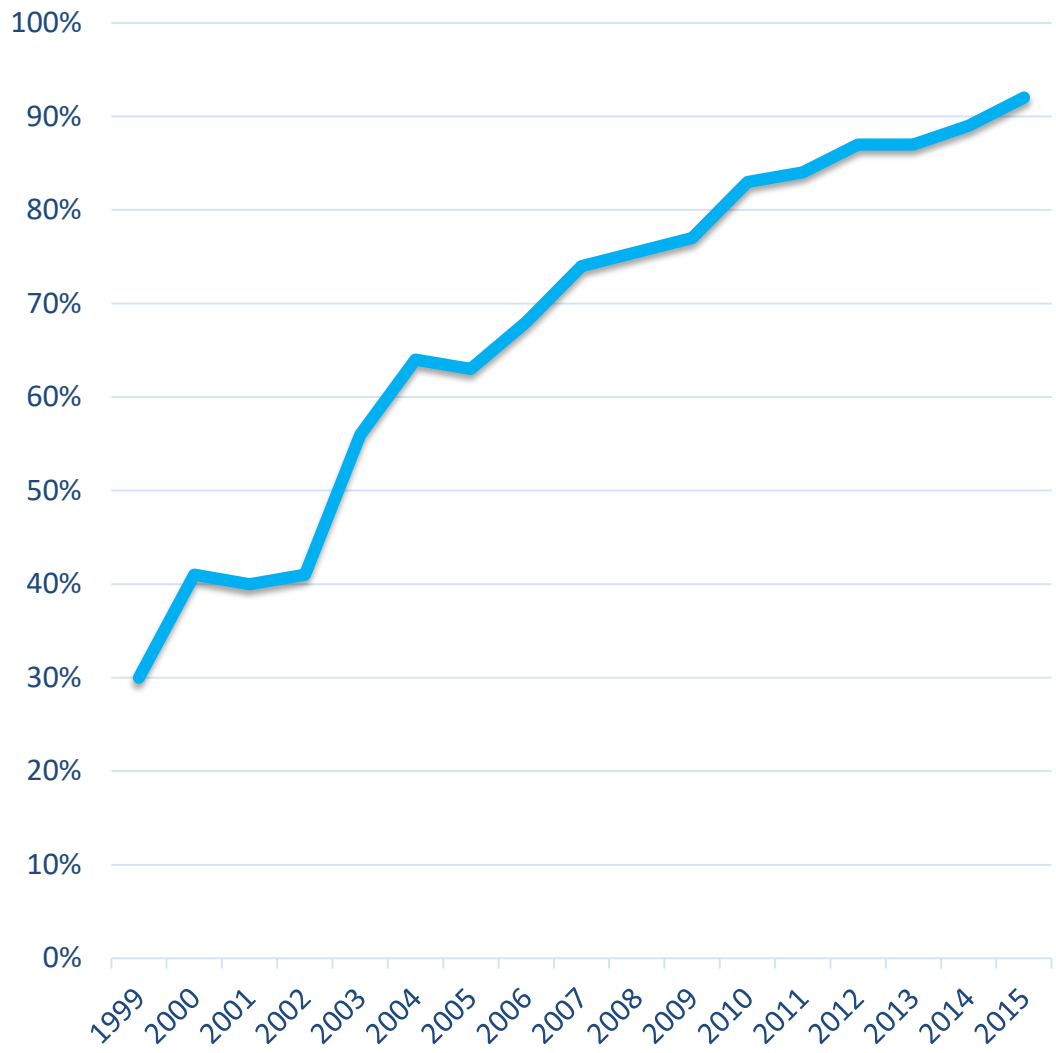
**ENERGY STAR supports your mission**



**Facility and financial stewardship**



**Protecting natural resources  
and human health**



Recognized by more than **90%** of Americans





# America's Worship Facilities

412,000 worship facilities in the United States\*\*

- Total floorspace is approximately 4,560,000 square feet
- Average worship facility is 11,100 square feet
- 1,940,000 people employed
- 31 average operating hours per week
- Worship facilities have by far the most square footage per worker (average 2,300 sq. ft./worker)
  - Compared to all other active building types.
  - Highlights the large amount of space that workers must maintain.

# America's Worship Facilities: Energy Use and Savings Potential

For 412,000 U.S. worship facilities:

- Total energy used in 2012 was 173.5 trillion BtU (421,000,000 BtU/building)
- Average major fuel costs of \$8,100/building
- If every congregation saved 20%...nearly \$670 million saved for ministry, missions, other priorities
- Typically, buildings waste 30% of energy used...
  - So, over \$1 billion in energy costs could be saved in worship facilities



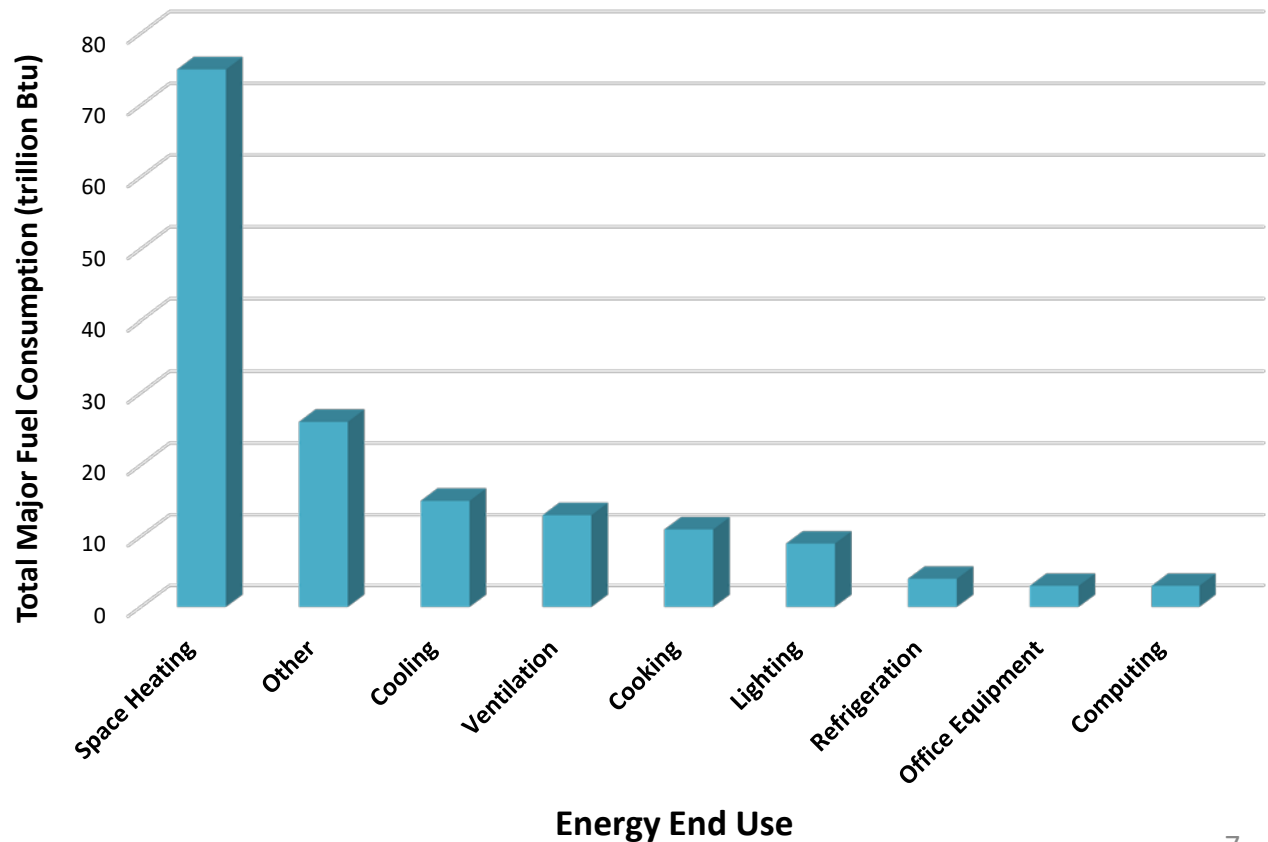


# America's Worship Facilities: Importance of HVAC for Energy Efficiency

### Energy Use by Worship Facilities

Worship facilities use a majority of energy for space heating, cooling, and ventilation.

This highlights the importance of efficient HVAC equipment and regular maintenance.



# Top 5 reasons why energy efficiency is key to your stewardship goals

1. Repurposes savings to the basic faith-inspired mission of the congregation
2. Extends lifespan of your facility and its equipment
3. Increases the asset value of the facilities
4. Is basis to engage the time and talents of members, especially youth group
5. Improves the overall comfort, functionality and appearance of your worship space





# Need more?....here are 5 additional reasons

1. Strengthens capital campaigns by demonstrating that financial stewardship is “practiced as well as preached”
2. Demonstrates energy and financial stewardship for members’ homes and businesses
3. Improves the credit-worthiness of congregation for financing new construction or remodeling
4. Conserves natural resources for future generations
5. Reduces pollution harmful to human life and health



# Be Strategic for Stewardship Savings

- **“Inaction is an action!”**
  - Indecision is a decision
  - Doing “nothing” locks in costly waste longer
  - Savings can pay for themselves
- Start with “baseline” assessment: audits and benchmarking
  - Know **where you start** to plan/track **where you are going**
- **Confirm support and address concerns** of clergy, governing board, staff and congregational members
- Leverage savings from **No-cost actions** to pay for...
  - **Low-cost actions/upgrades**; reinvest these savings to pay for...
  - **Higher cost upgrades** for larger savings and return-on-investment
- **Buy ENERGY STAR** labeled equipment – but, **ONLY WHEN** you need to purchase anyway

# What can YOU do?

- Become an partner congregation at [www.energystar.gov/joinbuildings](http://www.energystar.gov/joinbuildings)
- Download the ENERGY STAR *Action Workbook for Congregations & Appendices* at [www.energystar.gov/congregations](http://www.energystar.gov/congregations)


Existing buildings | Commercial new construction | Industrial energy management | Small business | **Congregations**

---

IN THIS SECTION

- Improve the Energy and Water Performance of your Congregation
- Track your Energy and Water Use
- Learn from others' Successes
- External Faith-Based Environmental Stewardship Organizations

## ENERGY STAR for Congregations



Did you know that most congregations can cut energy costs by up to 30% by investing strategically in efficient equipment, facility upgrades and maintenance? Congregations decide to focus on energy efficiency for a variety of reasons, including lowering utility bills, reducing energy consumption, and reducing pollution that is harmful to human health and the environment. Virtually all faith traditions teach stewardship of the earth and of its life-supporting natural resources.

### RESOURCES FOR CONGREGATIONS

Use these resources as planning guides for implementing cost-effective energy improvement projects for your house of worship.

- [The ENERGY STAR Action Workbook for Congregations](#)
- [Workbook Summary](#)
- [Workbook Appendices](#)
- [Click here for more Tools and Resources](#)

Discover the new and improved Portfolio Manager today.

**SIGN UP**

# The Action Workbook for Congregations

- **Step by step guide** to help manage energy and water use: worksheets, checklists, equipment info, finance, working with contractors and more...

## 7 Steps to Energy Management:

- Step 1: Make a Commitment to Savings
  - [www.energystar.gov/JoinBuildings](http://www.energystar.gov/JoinBuildings)
- Step 2: Assess Performance
  - [www.energystar.gov/benchmark](http://www.energystar.gov/benchmark)
- Step 3: Set Goals
- Step 4: Create an Action Plan
- Step 5: Implement the Action Plan
- Step 6: Evaluate Progress
- Step 7: Recognize Achievements



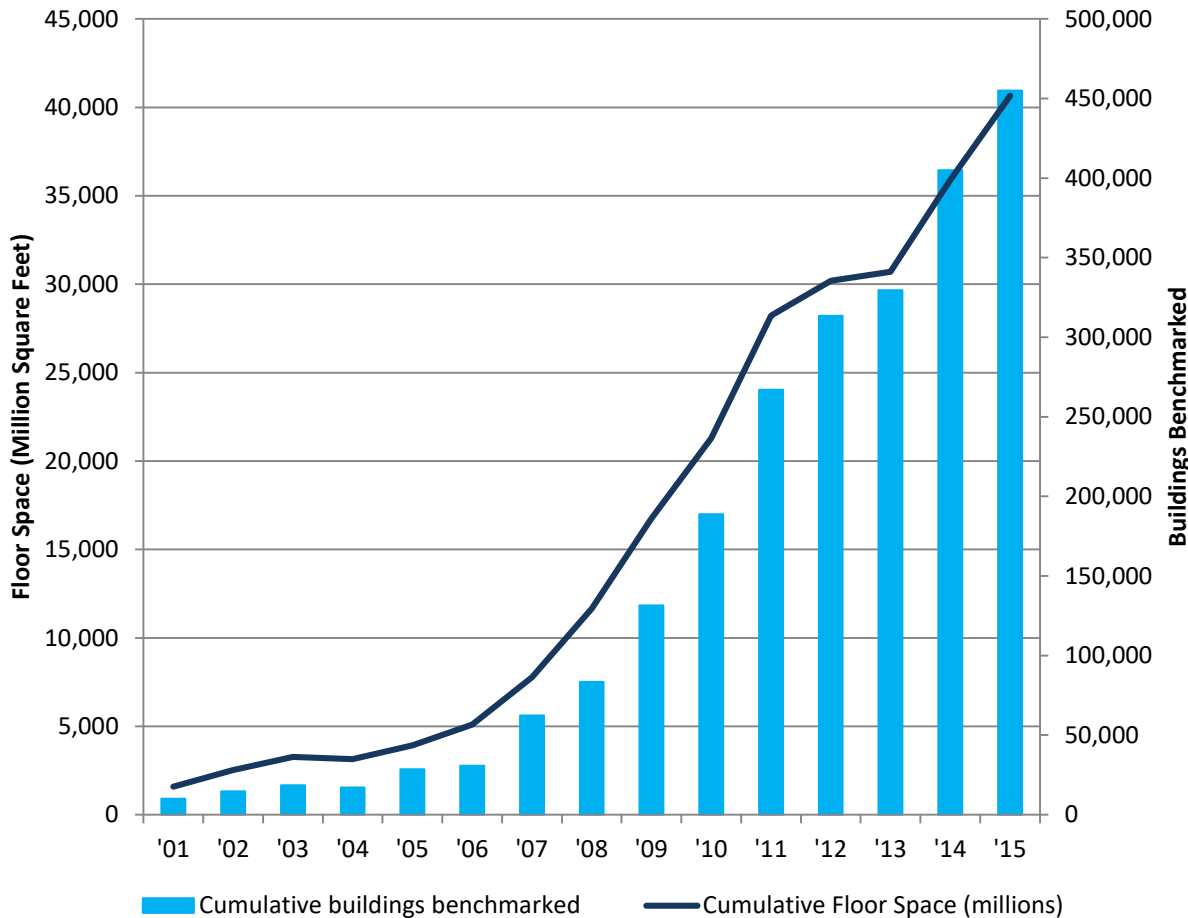


# What is Portfolio Manager?

- **Portfolio Manager helps you:**
  - Assess energy and water consumption – also materials/recycling
  - Track changes over time for costs, energy, water, greenhouse gas emissions
  - Track green power purchase
  - Share/report data with others
  - Create custom reports
  - Apply for ENERGY STAR certification
- **Metrics Calculator** – Integrate key performance metrics into a strategic management plan
  - Energy consumption (source, site, **weather-normalized**)
  - Water consumption (indoor, outdoor)
  - Site greenhouse gas emissions (indirect, direct, total, avoided)
  - ENERGY STAR 1-to-100 score



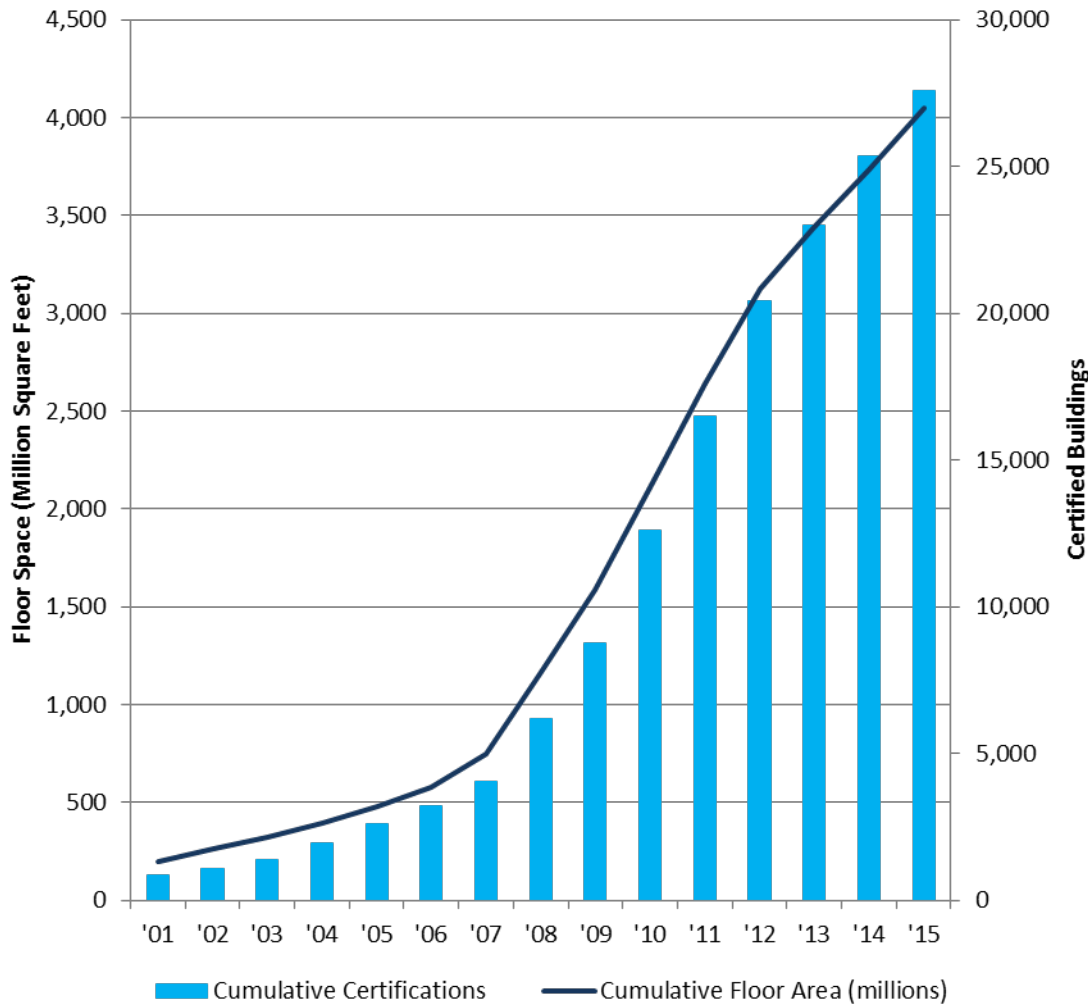
# ENERGY STAR is the national standard



Hundreds of thousands of facilities are benchmarked in Portfolio Manager



# ENERGY STAR is the national standard



More than **34,000** buildings and plants have achieved ENERGY STAR certification

# Starting out in Portfolio Manager



[Help](#) | [Login](#)  
Language: [English](#) | [Français](#)

[MyPortfolio](#) | [Sharing](#) | [Planning](#) | [Reporting](#) | [Recognition](#)

## Portfolio Manager Help



### [Learn More about Portfolio Manager](#)

Get fact sheets, quick reference guides and other information about how the tools works.



### [Take or View a Training](#)

Sign up for a session or view a recording on a wide variety of topics.



### [Search the Knowledge Base](#)

Browse or search our Frequently Asked Questions.



### [Ask a Question](#)

Send a question or comment to our staff.



### [Check the Glossary](#)

Look up terms used throughout Portfolio Manager.



### [Web Service Documentation](#)

If you exchange data via web services, check out the documentation or get email updates.

Don't forget, we're out there with you! Network with us and other folks who are using Portfolio Manager.

[Like us on Facebook](#)   [Follow Us on Twitter](#)   [View Our YouTube Channel](#)

## Technical References

Are you into the math of it all? Learn more about how Portfolio Manager calculates metrics.

- [Source Energy](#)
- [Greenhouse Gas Emissions](#)
- [ENERGY STAR Scale](#)

For more information on specific property types, like office and school, visit the [ENERGY STAR website](#). These are available in English only.

- [National Median Values](#)
- [Accounting for Climate & Weather](#)
- [Thermal Conversion Factors](#)

[Get more documentation on the ENERGY STAR website.](#)





# Training Center at [www.energystar.gov/buildings/training](http://www.energystar.gov/buildings/training)

The screenshot shows the top navigation bar of the Energy Star website. It includes the Energy Star logo, the tagline "The simple choice for energy efficiency.", and navigation links for "ABOUT ENERGY STAR" and "PARTNER RESOURCES". Below this is a search bar. The main navigation menu features categories: "ENERGY EFFICIENT products", "ENERGY SAVINGS at home", "ENERGY EFFICIENT new homes", and "ENERGY STRATEGIES FOR buildings & plants". A secondary navigation bar includes "Home » Buildings & Plants » Training", "Buildings & Plants", and utility links like "about us", "press room", "help desk", and "portfolio manager login". A horizontal menu below that lists "Owners and managers", "Service providers", "Program administrators", "Tenants", "Tools and Resources", and "Training" (which is highlighted).

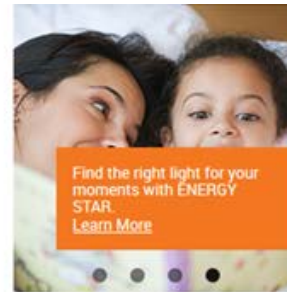
- PDF “how-to” fact sheets
  - QuickStart Guide
  - Enter Utility Data
  - Share Data
  - Standard & Custom Reports
  - Apply for certification
- Register for live webinars
- Recorded webinars – “24/7”
- See short videos
- Download slides
- FAQs and browse topics
- “Ask a Question” link to Help Desk
- Sign up for monthly email alerts

The screenshot shows the main content area of the Energy Star Training Center. It features a "Training" section with a sub-header "EPA offers training on a range of energy efficiency topics – from the ins and outs of ENERGY STAR's Portfolio Manager to guidance on improving the energy performance of your buildings and plants. And that's all with no travel, no lost time out of the office, and no cost. We make it easy to get the information you need, when you need it." Below this is a prompt to "Explore the categories below and be sure to check back often for new resources!". Three categories are listed: "Training" (Access how-to guides, videos, and webinars about Portfolio Manager and other topics.), "Slide Library" (Find annotated ENERGY STAR PowerPoint presentations that you can read yourself or deliver to an audience.), and "Knowledgebase" (Browse through an array of energy efficiency topics for further learning.).

The screenshot shows a promotional banner for the Energy Star Portfolio Manager. It features the Energy Star logo and the text "ENERGY STAR® PortfolioManager®". Below this is a call to action: “Ask The Expert” webinar, scheduled for Wednesdays at 12pm noon ET. The banner also includes a speech bubble icon. Below the banner are three sections: "LIVE AND RECORDED TRAINING SESSIONS" with a link to register for upcoming training or view pre-recorded training; "ASK A QUESTION" with a link to the Energy Star Help Desk; and "GET MORE OUT OF ENERGY STAR TRAINING" with a link to get monthly emails listing upcoming training sessions.



## Find ENERGY STAR products @ [www.energystar.gov/products](http://www.energystar.gov/products)



- Product Finder
- Rebate Finder
- “Learn about”
  - Videos
  - Podcasts
  - Purchasing guides
  - Calculators
  - FAQs

### Appliances

- Air Purifiers (Cleaners)
- Clothes Dryers
- Clothes Washers
- Commercial Clothes Washers
- Dehumidifiers
- Dishwashers
- Freezers
- Refrigerators

### Electronics

- Audio/Video
- Digital Media Player
- Set-top Boxes
- Signage Displays
- Slates and Tablets
- Telephones
- Televisions

### Office Equipment

- Computers
- Data Center Storage
- Enterprise Servers
- Imaging Equipment
- Large Network Equipment
- Monitors
- Small Network Equipment
- Uninterruptible Power Supplies
- Voice over Internet Protocol (VoIP) Phones

### Heating & Cooling

- Air-Source Heat Pumps
- Boilers
- Central Air Conditioner
- Commercial Boilers
- Ductless Heating & Cooling
- Furnaces
- Geothermal Heat Pumps
- Light Commercial Heating & Cooling
- Room Air Conditioner
- Smart Thermostats
- Ventilation Fans

### Other

- Electric Vehicle Supply Equipment (EVSE)
- Laboratory Grade Refrigerators and Freezers
- Pool Pumps
- Vending Machines
- Water Coolers

### Building Products

- Residential Windows, Doors and Skylights
- Roof Products
- Seal and Insulate

### Commercial Food Service Equipment

- Commercial Dishwashers
- Commercial Fryers
- Commercial Griddles
- Commercial Hot Food Holding Cabinets
- Commercial Ice Makers
- Commercial Ovens

### Lighting

- Ceiling Fans

### Water Heaters

- Commercial Water Heaters
- Heat Pump Water Heaters
- High Efficiency Gas Storage Water

### WAYS TO SAVE TIPS

Choose a new ENERGY STAR certified smart thermostat

ENERGY STAR certified smart thermostats provide convenience, insight, and control. If everyone used an ENERGY STAR certified smart thermostat, savings would grow to 56 trillion BTUs of energy and \$740 million dollars per year, offsetting 13 billion pounds in annual greenhouse gas reductions.

### PRODUCT FINDER

Looking for a specific ENERGY STAR certified product model?

[START HERE](#)

### REBATE FINDER

ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!



# A Quick Tour: Workbook “Sure Savers”

- Lighting
- Heating and Air-Conditioning
- Building Envelope
- Office Equipment
- Kitchen Equipment
- Water Savings
- Others

## ***LIGHTING - WHAT CAN I DO?***

- Illuminate only to the levels required for the use
  - Too much light: Glare, eyestrain, reduced visual quality, higher costs without benefit
  - De-lamp to recommended levels
    - *See Appendix B.1.1. How's the Lighting? Conduct an Assessment*
- Two basic ways to save:
  - Install more efficient equipment
  - Optimize current lighting use
    - Turn lights not in use
      - Walk the property when lights should be off; note findings
      - Eliminate “day-burners” – nighttime lighting with failed or dirty light sensor
    - Keep lighting systems clean and properly lamped





## ***LIGHTING - WHAT CAN I DO?***

- Replace all incandescent bulbs with ENERGY STAR qualified LEDs
  - Start with the lights most often in use
  - LEDs cost about 75% less to operate
  - LEDs last 6 times longer
  - LEDs generate about 75% less heat
- ENERGY STAR LED specs exceed CFLs performance
  - Major manufacturers ending CFL development
  - Better dimming and better color quality
  - No mercury concerns
  - Variety of shapes/ sizes: recessed cans, track, table lamps, etc.
  - Many utilities have rebates, retailers have promotions

## *LIGHTING - WHAT CAN I DO?*

- Install LED exit signs
  - Current fixture may accept simple screw-in lighting element
  - New fixture offers 90% savings over incandescent unit
  - Dramatic maintenance savings
  - Improved safety and code compliance reliability
    - *See Appendix B.1.2. LED Exit Signs*
- For parking lot lighting, see <http://energy.gov/eere/femp/promising-technology-parking-lot-light-emitting-diodes-controls> and <http://energy.gov/eere/buildings/articles/leds-and-specification-parking-lots-lighten-energy-load>





## ***LIGHTING - WHAT CAN I DO?***

- Wall mounted sensors in high-use areas automatically turn lighting off when people are not present
  - Occupancy sensors: Turn off after pre-set amount of time; turn on when people return
  - Vacancy sensors: Turn off, but must be manually turned on. Generally save more because occupancy sensors will turn on even when daylight may be sufficient
- *See Appendix B.1.3. Occupancy/Vacancy Sensors*
- Install “daylight dimming” lighting controls on exterior lighting and inside within 15 feet of a window to benefit from free available daylight
  - *See Appendix B.1.4.: Daylight Dimmers/Photo Cells*



## ***LIGHTING - WHAT CAN I DO?***

- Upgrade T12 (1.5" diameter) fluorescent tubes/magnetic ballasts to T8 (1" diameter) or T5 (<1" diameter) tubes with solid state ballasts
  - T12's (1945-WW II vintage technology) are no longer manufactured
  - T8/T5 provide same illumination at less cost
  - Consider tubular LEDs (TLEDs)
- For LED tube retrofit information:
  - See <http://lightingfacts.com/About/Consumers>
  - See U.S. Navy guidance at <http://gonneville.com/wp-content/uploads/2015/05/TLEDS.pdf>
  - See Underwriters Laboratories **safety alert** for TLED retrofit kits at <http://www.ul.com/newsroom/publicnotices/safety-alert-for-tubular-fluorescent-to-led-luminaire-retrofit-kits/>



# FOOTCANDLE LIGHT GUIDE

Footcandles are the most common unit of measure used by lighting professionals to calculate light levels in businesses and outdoor spaces. A footcandle is defined as the illuminance on a one square foot surface from a uniform source of light. The Illuminating Engineering Society (IES) recommends the following footcandle levels to ensure adequate illumination and safety for occupants. Below is a guideline for common areas to assist in achieving appropriate light levels with the greatest energy-efficiency.

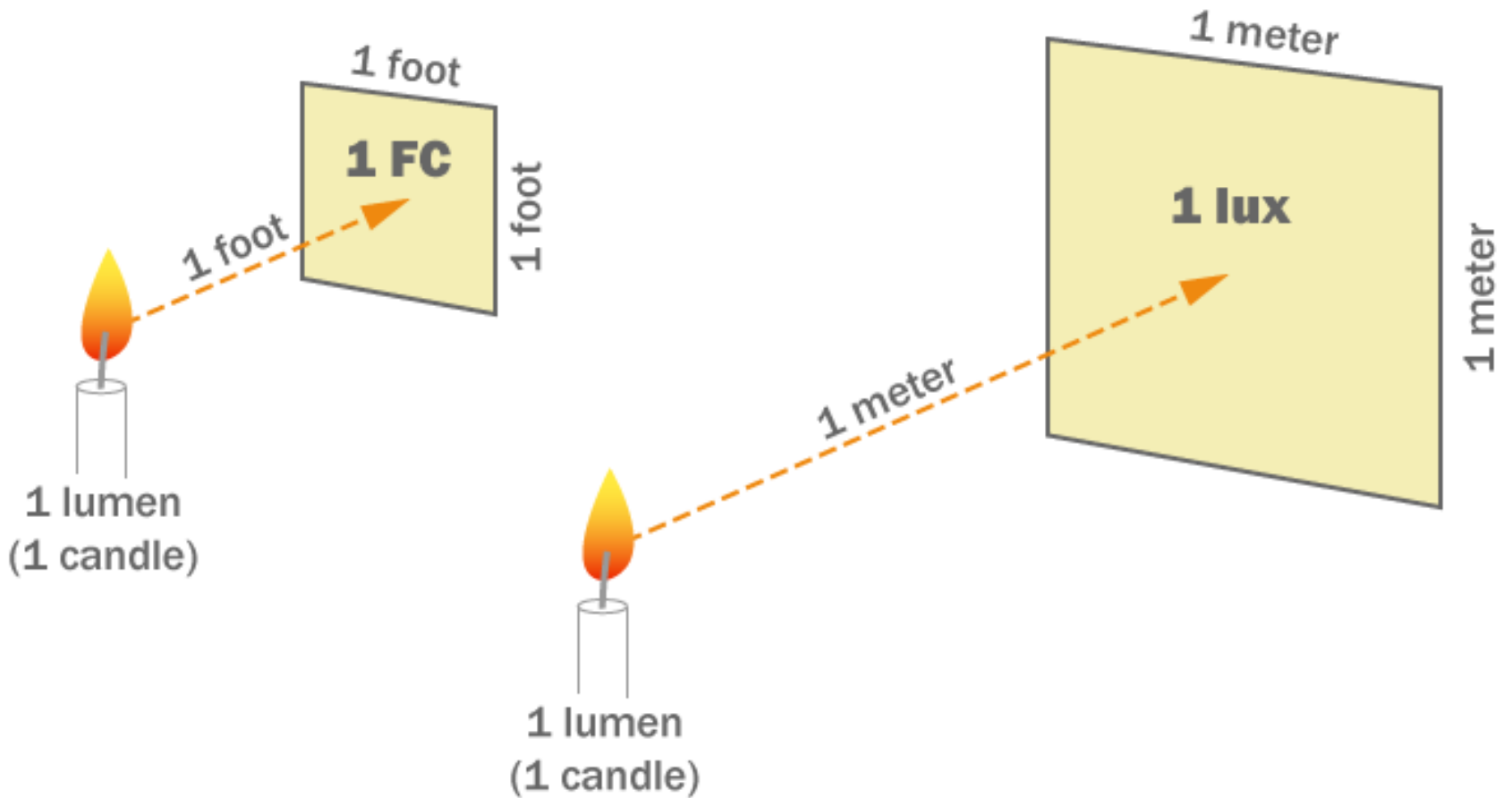
Building Area & Task	Average Maintained Footcandles (Horizontal) (FC)	Range of Maintained Footcandles (Horizontal) (FC)	Average Maintained Footcandles (Vertical) (FC)	Range of Maintained Footcandles (Vertical) (FC)	Comments
<b>WAREHOUSING &amp; STORAGE</b>					
Bulky Items—Large Labels	10		5		
Small Items—Small Labels	30		15		
Cold Storage	20	10 - 30	10	5 - 15	
Open Warehouse	20	10 - 30			
Warehouse with	20	10 - 30	10	5 - 15	
<b>COMMERCIAL OFFICE</b>					
Open Office	40	30 - 50			@30" Above Finished Floor (AFF)
Private Office	40	30 - 50			@30" AFF
Conference Room	30				Matte surface reflectance for the table 40% recommended
Restroom	18	7.5 - 30			
Lunch & Break Room	15	5 - 20			
<b>EDUCATIONAL (SCHOOLS)</b>					
Classroom	40	30 - 50			@30" AFF
<b>Gymnasium</b>					
Class I (Pro or Div. 1 College)	125		30		
Class II (Div. 2 or 3 College)	80		20		
Class III (High School)	50		150		
Class IV (Elementary)	30		100		
Auditorium	7.5	3 - 10	5	2.5 - 10	
Corridor	25	10 - 40			

Light meter



Building Area & Task	Average Maintained Footcandles (Horizontal) (FC)	Range of Maintained Footcandles (Horizontal) (FC)	Average Maintained Footcandles (Vertical) (FC)	Range of Maintained Footcandles (Vertical) (FC)	Comments
<b>INDUSTRIAL/MANUFACTURING</b>					
<b>Assembly</b>					
Simple (Large Item)	30	15 - 60	30	15 - 60	
Difficult (fine)	100	50 - 200	100	50 - 200	
<b>Component Manufacturing</b>					
Large	30	15 - 60	30	15 - 60	
Medium	50	25 - 100	50	25 - 100	
<b>EXTERIOR</b>					
Parking (Covered)	5				1FC min, 10:1 Max to Min Uniformity
<b>Parking (Open) (Medium Activity)</b>					
Lighting Zone 3 (Urban)	1.5	.75 - 3	.8	.4 - 1.6	
Lighting Zone 2 (suburban)	1	0.5 - 2	.6	.3 - 1.2	
Gas Station Canopy	12.5	10 - 15			
Safety (Building Exterior)	1	0.5 - 2			If security is an issue—raise average level to 3
<b>RETAIL</b>					
General Retail (Ambient)		50			
Department Store	40	20 - 80	15	7.5 - 30	
Perimeter			75	35 - 150	
Accent Lighting (Displays)					3 - 10 times greater than ambient light levels
<b>AUTOMOTIVE</b>					
Showroom	50	25 - 100	10	5 - 20	
Service Area	50	25 - 100	30	15 - 30	
<b>Sales Lot (Exterior)</b>					
Lighting Zone 3 (Urban)	20	10 - 40	20	10 - 40	
Lighting Zone 2 (Suburban)	15	7.5 - 30	15	7.5 - 30	
<b>GROCERY</b>					
Circulation	20	10 - 40	7.5	3.5 - 15	
General Retail	50	25 - 100	20	10-40	
Perimeter			50	25-100	





One foot-candle is equal to one lumen per square foot or approximately 10.764 lux



9W ENERGY STAR certified LED bulb

<u>Brightness</u>	<u>Estimated Energy Cost</u>
800 lumens	\$1.26 per year



43W Halogen

<u>Brightness</u>	<u>Estimated Energy Cost</u>
800 lumens	\$6.02 per year



# LED Bulbs Made Easy

























## Just Look for the ENERGY STAR®



- ★ Independently certified to deliver efficiency and performance.
- ★ Same brightness (lumens), 70–90% less energy (watts)
- ★ Lasts 15 times longer = big \$ savings
- ★ Help protect the environment and prevent climate change

Only LED bulbs that have earned the ENERGY STAR label have been independently certified and undergone extensive testing to assure that they will save energy and perform as promised.

**ENERGY STAR certified LED bulbs** are available in a variety of shapes and sizes for any application—including recessed cans, track lighting, table lamps, and more. You can even find certified bulbs that are dimmable. Use this chart as a guide to finding the right ENERGY STAR certified bulb for your light fixture and remember to always check the packaging for proper use.

		BULB TYPES			
TABLE OR FLOOR LAMPS		 STANDARD			
PENDANT FIXTURES		 STANDARD	 GLOBE	 MR16	 CANDLE
CEILING FIXTURES		 STANDARD	 CANDLE		
CEILING FANS		 STANDARD	 CANDLE		
WALL SCONCES		 STANDARD	 GLOBE	 CANDLE	
RECESSED CANS		 MR16	 SPOT	 FLOOD	
ACCENT LIGHTING		 MR16	 SPOT		

# LIGHTING MADE EASY

BRIGHTEN OUR PLANET'S  
FUTURE WITH ENERGY STAR®

Saving money on your electricity bill is still simple: Look for the ENERGY STAR for energy savings. No matter the technology or the performance claims, only bulbs with the ENERGY STAR label meet strict guidelines for efficiency and performance that set them apart.

## Look for the ENERGY STAR

ENERGY STAR MEANS HIGH QUALITY AND PERFORMANCE. BULBS WITH THE LABEL HAVE BEEN INDEPENDENTLY CERTIFIED AND UNDERGONE EXTENSIVE TESTING.

ENERGY STAR certified bulbs use less energy, so they cost less to operate than standard bulbs. And less energy means fewer greenhouse gas emissions.



- ★ Use up to **90%** less energy than standard bulbs
- ★ Save about **\$80** in electricity costs over its lifetime
- ★ Provide the same brightness (**lumens**) with less energy (**watts**)
- ★ Last **15-25** times longer than standard bulbs
- ★ Help protect the environment and prevent climate change

- Incandescent bulbs release 90% of their energy as heat
- CFLs use about 70% less energy than incandescent bulbs
- LED lighting products produce light approximately 90% more efficiently than incandescent light bulbs.

# Choosing the Right Brightness & Color

INSTEAD OF WATTS, LOOK FOR LUMENS TO MEASURE THE BRIGHTNESS OF THE BULB.

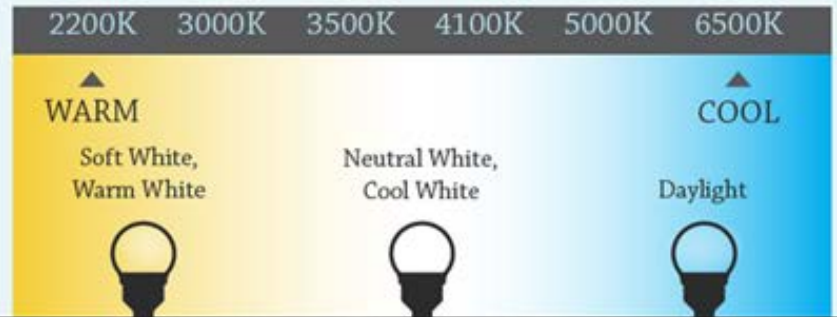
[ MORE LUMENS = MORE LIGHT ]

Look for the light output you need to match the brightness of your old standard bulbs.

Old Standard Bulbs (Watts)	ENERGY STAR Bulb Brightness (Minimum Lumens)
100 watts	1,600 lumens
60 watts	800 lumens
40 watts	450 lumens

Watts measure the amount of electricity a bulb needs to operate. ENERGY STAR certified bulbs provide the same brightness (lumens) with less energy (watts).

ENERGY STAR bulbs are available in a wide range of colors. Light color, or appearance, matches a temperature on the Kelvin scale (K). Lower K means warmer, yellowish light, while higher K means cooler, bluer light.



- Look for LUMENS (brightness) not WATTS (electricity used) to choose lighting
- Kelvin scale measures “color temperature” from warm (2200K) to cool (6500K)

## Lifetime Savings

ENERGY STAR certified bulbs last

# 15-25 times longer

than standard bulbs.

Total Savings

**\$80**



One 9-Watt LED ENERGY STAR Certified Light Bulb

Total Cost: \$18



Fifteen 43-Watt Standard Light Bulbs

Total Cost: \$99

13 years

1 ENERGY STAR certified light bulb prevents up to **785 lbs.** of greenhouse gas emissions over its lifetime.

[www.energystar.gov/lighting](http://www.energystar.gov/lighting)

## Impact of ENERGY STAR

LIGHTING AN AVERAGE HOME CAN USE MORE ENERGY THAN YOUR CLOTHES WASHER, REFRIGERATOR, AND DISHWASHER COMBINED.

### The Average Household:

Has approximately  
**70 light**  
bulbs.



Nearly **60%** of light bulb sockets in the U.S. still contain inefficient bulbs.



If every household replaced just **one** light bulb with **one that has earned the ENERGY STAR,**

we would save enough energy to light **3.5 million homes for a year.**

**&** prevent greenhouse gas emissions equivalent to that of **640,000 vehicles**




= 32,000

\*One light bulb\* refers to one LED bulb

Learn more at [energystar.gov/lighting](http://energystar.gov/lighting).





# CHOOSE A LIGHT GUIDE

## Looking to replace a light bulb?

Here's how in three easy steps:

1. Choose the shape
2. Choose the color
3. Choose the brightness

[FIND YOUR LIGHT BULB](#)

## Why Choose ENERGY STAR?

- Independently certified to deliver efficiency and performance
- Same brightness (lumens), 90% less energy (watts)
- Last 15 times longer = big \$ savings
- Help protect the environment and prevent climate change

## Savings Calculator for ENERGY STAR Qualified Light Bulbs



This calculator was developed by U.S. EPA and DOE to estimate the energy consumption and operating costs of light bulbs and the savings with ENERGY STAR. New ENERGY STAR qualified compact fluorescent lighting is compared to the average available new conventional light bulbs. Actual savings may vary based on use and other factors. See [www.energystar.gov](http://www.energystar.gov) for information on other ENERGY STAR products. See [www.energystar.gov/rebate-finder](http://www.energystar.gov/rebate-finder) to find utility incentives for these products by entering your zip code. Enter these incentives in the "utility incentive" fields below.

### Where will your lighting be used?

Commercial or residential use

Location  U.S. average residential electric rate is \$0.128/kWh. If you know your own rate, enter it below.

Electric Rate (\$/kWh)

What light bulbs are you planning to purchase? Enter quantities below, then either fill in product information or use the defaults.

General Purpose CFL/LED (Omnidirectional)		Comparable incandescent or halogen bulb		ENERGY STAR bulb	Average daily use (hours)	Additional cost per unit for ENERGY STAR bulb	Rated lifetime of ENERGY STAR bulb (hours)	Labor cost per bulb replacement	Incentive or discount amount per bulb
Bulb 1	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>
Bulb 2	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>
Bulb 3	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>
Bulb 4	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>
Bulb 5	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>

LED - flood/spot reflector		Comparable incandescent or halogen bulb		ENERGY STAR bulb	Average daily use (hours)	Additional cost per unit for ENERGY STAR bulb	Rated lifetime of ENERGY STAR bulb (hours)	Labor cost per bulb replacement	Incentive or discount amount per bulb
Bulb 1	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>	<input type="text" value="\$0.00"/>
Bulb 2	<input type="text" value="0"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="3.0"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="\$0.00"/>	<input type="text" value="\$0.00"/>

Optional:



[Click here to go to the RESULTS tab and see your savings.](#)

See the ENERGY STAR website for more information:

[ENERGY STAR Lighting Page](#)      [About the Energy Independence and Security Act of 2007 \(EISA\)](#)  
[Bulb Purchasing Guide](#)      [Frequently Asked Questions about lighting](#)  
[List of incentive programs for consumers](#)

To see detail on the formulas and values used in this calculator or to modify assumptions, click on the grey tabs at bottom of the page.



## *Heating, Ventilation, Air-Conditioning (HVAC)* *- WHAT CAN I DO?*

- Keep doors/windows closed when running HVAC
- Annual maintenance contract to “tune-up” HVAC both pre-heating and pre-cooling seasons
  - Checks accuracy of thermostats
  - Service dirty or damaged parts
  - Change/clean the filters (EVERY month during “season”)
  - Clean heating and cooling coils
- Keep clutter away from fan coils, baseboards, supply/return vents
- Schedule special events and cleaning on days just before or after major services for benefit of *consecutive* days temperature stability



## *HVAC - WHAT CAN I DO?*

- Use fans when an area is occupied
  - Comfort = temperature, humidity, AND air movement
- Programmable thermostats optimize operation based on regular, scheduled use
  - Occupants temporarily override for long or unscheduled meetings
- A smart thermostat can be programmed to pre-cool or pre-heat spaces for comfort just before people enter
  - Depending on outside temperature, unit can be set to turn off the HVAC 15-30 minutes before space use ends for additional savings
- *See Appendix B.2. Heating, Ventilation and Air Conditioning*



## *HVAC - WHAT CAN I DO?*

- Regular maintenance can extend the life of HVAC system
- Research, plan HVAC replacement 1–2 years anticipated need
- “Expect” equipment failure on the coldest/hottest Sunday of the year—or just before religious holidays, other special events !!!
- Check for utility rebates at [www.dsireusa.org/](http://www.dsireusa.org/)
- Cold weather thermostat setback guidelines for pipe organs:
  - The **Associated Pipe Organ Builders of America** says:
    - “...temperatures as low as 45° F. will not cause damage to the organ; so normal setback ranges of about 55° F. to 60° F. should not be an issue.”

Proper sizing and installation is the key to cool

GET TIPS →

1 2 3 4

## REBATE FINDER



ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!



## PRODUCT FINDER



Looking for a specific ENERGY STAR certified product model?

## HEATING & COOLING RESOURCES



### Ask the Expert: Cooling

Stay Cool by Looking for the Label and Chill Out with ENERGY STAR



### A Guide to Energy-Efficient Heating and Cooling (PDF)

Take control of your household energy use



### Ask the Expert: Maintain Your Cooling System

Listen to ENERGY STAR experts on how best to stay cool this summer

## FAQs

- How do I know if I need a new heating and cooling (HVAC) system?
- Can an HVAC contractor partner with ENERGY STAR?

[MORE HEATING & COOLING FAQs](#)

## DID YOU KNOW?

• If your central air



**Room Air Conditioner**

[FIND PRODUCTS](#)



**Ventilation Fans**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Smart Thermostats**

[FIND PRODUCTS](#)

**Commercial Boilers**

[FIND PRODUCTS](#)



**Ductless Heating & Cooling**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Air-Source Heat Pumps**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Furnaces**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Geothermal Heat Pumps**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Boilers**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Central Air Conditioner**

[FIND PRODUCTS](#)   [MOST EFFICIENT](#)



**Light Commercial Heating & Cooling**

[FIND PRODUCTS](#)



## Building Envelope - WHAT CAN I DO?

- Plug the air leaks with caulking, weather-stripping, spray foam...
- Survey all penetrations of the “envelope” - ceiling/attic interface, windows and doors, basements, crawl spaces, exhaust vents, etc.
- Doors/windows are “major holes in your building” to be maintained and managed to minimize conditioned air loss
  - See *Appendix B.3.5.: Check Doors*
- “Last resort” – new windows are costly, but may be necessary
  - ENERGY STAR replacement windows may be available
  - Consider repairs: reglazing, caulking, weather-stripping, etc.
  - Shade east and west windows in summer; keep open sky or deciduous trees on south for winter solar heat gain
  - If conditions allow, consider trees/vines, solar film, insulating curtains
    - See *Appendix B.3.4.: Check Windows and Shading*
    - See *Appendix B.3.6.: Additional Online Resources for Building Envelope*

ENERGY STAR® Certified in Highlighted Regions

ENERGY STAR

World's Best Window Co.  
Millennium 2000+  
Vinyl-Clad Wood Frame  
Double Glazing • Argon Fill • Low E  
Product Type: Vertical Slider  
(per NFRC 100-97)

ENERGY PERFORMANCE RATINGS	
U-Factor (U.S./I-P)	Solar Heat Gain Coefficient
<b>0.30</b>	<b>0.30</b>
ADDITIONAL PERFORMANCE RATINGS	
Visible Transmittance	Air Leakage (U.S./I-P)
<b>0.51</b>	<b>0.2</b>

Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. Consult manufacturer's literature for other product performance information. www.nfrc.org



## *Building Envelope - WHAT CAN I DO?*

- Lighter exterior wall materials and paints reflect, rather than absorb, solar heat:
  - Maintains cooler walls which reduces heat transfer into the building, and cooling load
  - The priorities are the west and west sides; even south side in hotter climate zones
- Lighter roofing shingles or special reflective roof paint can reduce attic temperatures and heat transfer
  - Cool paints with a solar reflectance of 0.495 have been shown to reduce cooling energy consumption by 4%–13%





## *Building Envelope - WHAT CAN I DO?*

- Check the roof: take photographs and notes:
  - Damaged, cracked shingles or other surface aging – under warranty?
  - Roof condition: signs of leaks, membrane cracks/holes, or damaged insulation?
  - Note attic/roof questions, check around attic bypass pipes
- Check attic insulation thickness/type to determine R-value
  - Consider supplementing insulation in an unfinished attic floor with blown loose-fill, sprayed foam, or foamed-in-place insulation
  - For unfinished attic walls and ceilings, use rigid, batt/roll insulation and “foil” backed radiant barrier immediately under the roof
- Do NOT retrofit existing roof with a “green” roof or a “cool” roof without first having a structural engineer evaluate the weight and structural strength

Identify the Home Improvement Projects for You

CHOOSE YOUR PROJECT →

1 2 3

#### REBATE FINDER

ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!

SUBMIT

#### PRODUCT FINDER

Looking for a specific ENERGY STAR certified product model?

START HERE

- Congregations can often use “residential” ENERGY STAR products and equipment

#### LEARN MORE

Residential Windows, Doors and Skylights

MOST EFFICIENT

Roof Products

FIND PRODUCTS

Seal and Insulate

- Congregational members may be able to increase giving if they can reduce utility bills...

#### OTHER PRODUCTS YOU MIGHT BE INTERESTED IN

Heating & Cooling | Lighting & Fans | Office Equipment | Appliances | Water Heaters

### START SAVING WITH MY ENERGY STAR

Looking for ways to save energy at home? My ENERGY STAR makes it easy to browse energy saving tips, and to see how your actions can make a difference. Here are a few tips to get you started.

GET STARTED

See all the ways to save



Caulk and weather-strip around windows and doors



Consider ENERGY STAR certified windows, doors and skylights



Add insulation to your home to improve comfort and efficiency



ENERGY STAR SAVINGS TIPS

#### BUILDING PRODUCTS NEWS



Check out recent ENERGY STAR certified product news

- “Rule Your Attic!” Consumer Outreach Campaign Launches
- “Rule Your Attic!” Consumer Outreach Campaign Launches
- Top 5 Ways to Chill Out This Summer with ENERGY STAR

- at home ([www.energystar.gov/campaign/home](http://www.energystar.gov/campaign/home))
- or in their business ([www.energystar.gov/smallbiz](http://www.energystar.gov/smallbiz))
- or workplace ([www.energystar.gov/work](http://www.energystar.gov/work))



## *Office Equipment - WHAT CAN I DO?*

- *When new equipment is needed, always buy ENERGY STAR certified products*
- Set computer power default to “sleep” when not in use
- Replace any old cathode ray (CRT) computer monitors
- Use “Smart” power strips to manage “standby” power consumption, which (in average home) ranges from 5% to 10 percent of total household energy use. This may account for about 1% of worldwide CO2 emission.  
[source: Lawrence Berkley National Laboratory]
  - Control amplifiers, receivers, and other audio units
- Develop an education/training program for staff and facility users to encourage efficient use



# Office Equipment



ENERGY STAR certified office equipment - from computers and monitors to imaging equipment, such as printers and copiers - save energy through efficient design and power management options. They use less energy to perform regular tasks, and when not in use, automatically enter a low-power mode.

Energy Efficient Video Streaming

ASK THE EXPERT →

1 2

## REBATE FINDER



ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!

## PRODUCT FINDER



Looking for a specific ENERGY STAR certified product model?

## OFFICE EQUIPMENT RESOURCES



### Power Manage Computers

Best tips for reducing your computer's energy use



### ENERGY STAR Certified Office Equipment Brochure (PDF)

Improve your home office with ENERGY STAR



### ENERGY STAR Most Efficient

See ENERGY STAR's most energy saving products

## OFFICE EQUIPMENT FAQs

- What other resources are available for those interested in greening their IT?
- What are energy vampires and what can I do about them?

## DID YOU KNOW?

## OVERVIEW

## SPECIFICATION

## BUYING GUIDANCE

Sales of electric vehicles (EVs) in the U.S. are estimated to reach over 1 million by the year 2020. Electric vehicles, including plug-in hybrid electric vehicles (PHEVs), receive energy from the electrical grid through Electric Vehicle Supply Equipment (EVSE), more commonly known as EV chargers. Components of EV chargers can include a standard 3-prong wall outlet connector, a power supply cable, a charge stand or wall mount, a vehicle connector, and protection components to deliver energy efficiently and safely to the vehicle.

There are two main types of EV chargers, one of which provides alternating-current (AC) electricity to the vehicle, with the vehicle's onboard equipment converting AC to the direct current (DC) needed to charge the batteries. The other type is Direct Current (DC) output EV chargers, sometimes known as 'fast chargers'. Read more information on EV charging infrastructure [here](#).

There are also two types of AC EV chargers – Level 1 and Level 2, both covered in the scope of the ENERGY STAR Specification. Level 1 chargers utilize a 120 V wall outlet and provide 2 to 5 miles of range per hour of charging time, while Level 2 chargers require a 208 or 240 V wall outlet and provide 10 to 60 miles of range per hour of charging time.

Driving an EV and choosing ENERGY STAR certified EV chargers to charge it offers the following benefits:

**Savings.** For every mile driven, it costs on average half as much to drive an EV compared to a standard gasoline-powered vehicle. Compare the cost of fueling a gasoline vehicle to an EV [here](#). Consumers and businesses can save additional money by choosing an ENERGY STAR certified EV charger, which on average use 40% less energy than a standard EV charger when the charger is in standby mode (i.e., not actively charging a vehicle). EV chargers are typically in a standby mode for about 85% of the lifetime of the product.

**Convenience.** EV chargers can be installed in indoor and outdoor settings at various locations including home garages and parking lots of apartment residences, retail stores and offices. In addition to the convenience of charging at your own home or workplace, there are over 34,000 public Level 1 and Level 2 chargers in the United States. Locate the nearest one [here](#).

**Smart technology.** Some ENERGY STAR certified EV charger models have Wi-Fi technology to allow for remote power monitoring and control of the charging state of the connected vehicle. With these 'smart-grid ready' products, households and property managers can also take advantage of special energy bill savings programs offered by some local electric utilities.

## PRODUCT FINDER



Looking for a specific ENERGY STAR certified product model?

[START HERE](#)

## INCENTIVES FOR ELECTRIC VEHICLE CHARGERS

Search for available incentives for EV chargers. Note that these may not be specific to ENERGY STAR products.

[START HERE](#)



## *Kitchen/Food Service Equipment - WHAT CAN I DO?*

- Current refrigerators: older models can cost twice as much to run
  - See Appendix B.5.1. Commercial Food Service Guidance
  - See Appendix B.5.2. Refrigerators
- Position refrigerators/freezers away from heat sources
- Service “walk-in” refrigerators annually
- Use multiple refrigerators only when necessary
- A non-ENERGY STAR water cooler can use more energy than a residential refrigerator
- Buy an ENERGY STAR model if buying a new vending machine
- Always buy ENERGY STAR certified products for your property when new equipment is needed
  - See EPA’s Responsible Appliance Disposal Program at [www.epa.gov/rad](http://www.epa.gov/rad)

# Commercial Kitchen Success Stories

LEARN MORE →

1 2 3



## REBATE FINDER



ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!

## PRODUCT FINDER



Looking for a specific ENERGY STAR certified product model?

START HERE

## COMMERCIAL KITCHEN EQUIPMENT RESOURCES



### ENERGY STAR Dealer and Distributor Toolkit

This toolkit was designed to help dealers and distributors sell and communicate the benefits of ENERGY STAR commercial kitchen equipment.

[ENERGY STAR CFS Equipment Savings Calculator](#)

[CEE Commercial Kitchens Initiative](#)

[National Restaurant Association's ConServe](#)



### Where to Buy

Connect with retailers selling ENERGY STAR CFS equipment



### ENERGY STAR CFS Newsletter

Read the latest ENERGY STAR Commercial Kitchen Equipment newsletter.

[Keep Food Service Technology Center](#)

[ENERGY STAR for Restaurants](#)

[ENERGY STAR for Lodging](#)

## FAQs

Can commercial food service distributors join the ENERGY STAR Program?

## DID YOU KNOW?



Outfitting a commercial kitchen with a suite of commercial food service equipment that has earned the ENERGY STAR could save operators about 360 MBTU/year, or \$5,500/year.



## LEARN MORE



### [Commercial Hot Food Holding Cabinets](#)

[FIND PRODUCTS](#)



### [Commercial Griddles](#)

[FIND PRODUCTS](#)



### [Commercial Ovens](#)

[FIND PRODUCTS](#)



### [Commercial Steam Cookers](#)

[FIND PRODUCTS](#)



### [Commercial Refrigerators & Freezers](#)

[FIND PRODUCTS](#)



### [Commercial Fryers](#)

[FIND PRODUCTS](#)



### [Commercial Ice Makers](#)

[FIND PRODUCTS](#)



### [Commercial Dishwashers](#)

[FIND PRODUCTS](#)

## OVERVIEW

## SPECIFICATION

## BUYING GUIDANCE

ENERGY STAR qualified new and rebuilt refrigerated beverage vending machines can save building and business owners more than 1,700 kWh/year, or \$150 annually on utility bills.

- New and rebuilt refrigerated beverage vending machines that have earned the ENERGY STAR are 50% more energy-efficient than standard machine models.
- ENERGY STAR qualified new and rebuilt vending machines incorporate more efficient compressors, fan motors, and lighting systems to keep beverages just as cold and the machine visible while using less energy.
- ENERGY STAR qualified new and rebuilt machines come with a low power mode option that allows the machine to be placed in low-energy lighting and/or low-energy refrigeration states during times of inactivity.



**You may be interested to know** that, according to the Consortium of Energy Efficiency, at least 25% of all rooftop HVAC units are oversized, resulting in increased energy costs and equipment wear. Properly sized equipment dramatically cuts energy costs, increases the life of the equipment, and reduces pollution.

## Case Studies

- [More About Rebuilt Machines](#)
- [Davis School District Case Study \(PDF, 77KB\)](#)
- [U-M Case Study \(PDF, 62KB\)](#)
- [SUNY-Buffalo Case Study \(PDF, 56KB\)](#)
- [Green the Capitol Field Study \(PDF, 3.1MB\)](#)

[In The Halls of Congress, The Savings are in the Halls \(PDF, 229KB\)](#)

## PRODUCT FINDER



Looking for a specific ENERGY STAR certified product model?

[START HERE](#)

## REBATE FINDER



ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!

[SUBMIT](#)

## DID YOU KNOW?



A typical vending machine meeting the ENERGY STAR criteria will save more than 1,500 kWh per year compared with non-qualified models.

## OVERVIEW

## SPECIFICATION

## BUYING GUIDANCE

Installed in businesses and homes across the country, water coolers provide a convenient way to quench your thirst, make your hot tea, and enjoy small talk with your colleagues. ENERGY STAR certified water coolers use about 30 percent less energy than conventional models. This difference could amount to an energy savings of nearly \$70 over the life of the unit.

Water coolers can offer hot, cold and room temperature water in a variety of new ways, including:

- **Bottom-Loading Bottled Water** units allow you to install the bottled water, spout up, at the bottom of unit. This eliminates the heavy lifting and occasional spills of conventional top-loading units.
- **Point of Use** units avoid bottled water by using a dedicated water line and filtering systems.
- **On Demand** units do not store conditioned water in internal tanks but provide hot and cool water upon request – saving energy.

With so many choices, one thing is clear....you can look for the ENERGY STAR label on your water cooler to save energy.



## PRODUCT FINDER



Looking for a specific ENERGY STAR certified product model?

[START HERE](#)

## REBATE FINDER



ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!

[SUBMIT](#)

## DID YOU KNOW?



If all water coolers sold in the United States were ENERGY STAR certified, the energy cost savings would grow to nearly \$117 million each year and nearly 2 billion pounds of annual greenhouse gas emissions would be prevented, equivalent to the emissions from more than 195,000 vehicles.

## *Water – Hot and Cold - WHAT CAN I DO?*

- Survey water use to identify major uses, find and fix any leaks, especially hot water
- “Benchmark” water use in Portfolio Manager
- See EPA WaterSense program for indoor/outdoor water efficiency at [www.epa.gov/watersense/](http://www.epa.gov/watersense/)
  - WaterSense labels efficient faucets, toilets, urinals, showerheads, and other equipment
- For a new water heater, buy ENERGY STAR certified and check for rebates
  - Typically, set temperature 110 – 120 degrees or per local code to prevent scalds and save
  - Consider “tankless” heaters for low-use areas
  - Insulate 7-year or older water heaters and the first 3’ of heated water “out” pipe



## *Water – Hot and Cold - WHAT CAN I DO?*

- Optimize water use in heating/cooling systems:
  - Cooling towers, chillers, boilers...
  - Consider recirculating/reusing water
- Implement water-efficient landscaping
  - Plant native landscaping
  - Reduce turf grass to save water, mowing
  - If irrigating, check the system for leaks
  - Trees, shrubs and other shading plants can cool the “micro-climate” around buildings several degrees
- <http://www.epa.gov/watersense/commercial>



# WaterSense

## April Showers Bring May Flowers

Let our [Landscape Gallery](#) provide inspiration for your yard this spring.



- 1
- 2
- 3
- 4



SEARCH PRODUCTS

FIND REBATES

CONNECT WITH US

## WaterSense

Take steps each day to save water and protect the environment by choosing [WaterSense labeled products](#) in your home, yard, and business. [Learn more](#) about WaterSense and how we can all get more by using less.



WaterSense Products



WaterSense for Kids



Our Water

---

[WaterSense Home](#)

---

[About WaterSense](#)

---

[WaterSense Products](#)

---

[WaterSense for Kids](#)

---

[Our Water](#)

---

[Outdoors](#)

---

[Landscaping Tips](#)

---

[What to Plant](#)

---

[Landscape Photo Gallery](#)

---

[Watering Tips](#)

---

[Irrigation with a Pro](#)

---

[Professional Certification](#)

---

[Additional Resources](#)

---

[Homes](#)

---

[Commercial Buildings](#)

---

[WaterSense Partners](#)

---

[Specifications and](#)

## Outdoors



Did you know that residential outdoor water use across the United States accounts for nearly 9 billion gallons of water each day, mainly for landscape irrigation? The average U.S. household uses more water outdoors than for showering and washing clothes combined.

**By following some simple steps, you can have a water-smart landscape that's beautiful, healthy, and easy to maintain:**



[Design a beautiful and efficient water-smart landscape](#) that gives your home desirable curb appeal.



[Visit WaterSense's Water-Smart Landscape Photo Gallery](#) for stunning real world examples of

WaterSense Home

About WaterSense

WaterSense Products

WaterSense for Kids

Our Water

Outdoors

Homes

Commercial Buildings

Types of Facilities

Getting Started

**Best Management Practices**

Tools

Case Studies

Water Score

Webinars

H20tel Challenge

Additional Resources

WaterSense Partners

Specifications and Certifications

Product Search

# Best Management Practices



WaterSense has developed *WaterSense at Work*, a compilation of water-efficiency best management practices (BMPs), to help commercial and institutional facilities understand and manage their water use, help facilities establish an effective water management program, and identify projects and practices that can reduce facility water use.

- [Commercial & Institutional Facilities Fact Sheet](#) (2 pp, 500 K, [About PDF](#))
- [Download the full WaterSense at Work guide](#) (308 pp, 6 MB, [About PDF](#))

Each of the 36 BMPs in the guide provides an overview of the technology, tips for operation, maintenance, and user education, options for retrofits and replacements, and calculations for potential water, energy, and dollar savings and payback periods.



**Monitoring and Education**



**Sanitary Fixtures and Laundry**



**Kitchen Equipment**



**Outdoor Water Use**



**Mechanical Systems**





[WaterSense Home](#)

[About WaterSense](#)

[WaterSense Products](#)

[WaterSense for Kids](#)

[Our Water](#)

[Outdoors](#)

[Homes](#)

[Commercial Buildings](#)

[WaterSense Partners](#)

[Specifications and Certifications](#)

[Product Search](#)

# WaterSense for Kids



## Thirsty for Knowledge? Let's Learn About Water!

Do you know how much water a family of four uses every day in the United States? Not 50 gallons, not 100 gallons, but 400 gallons! You could take up to 10 baths with that much water—but who would want to do that? Fortunately, there are many things we can do to save.

[Why Save?](#)

[Simple Ways to Save](#)

[WaterSense Game](#)

[For Educators](#)

## Why Save Water

Did you know that less than 1% of all the water on Earth can be used by people? The rest is salt water (the kind you find in the ocean) or is permanently frozen and we can't drink it, wash with it, or use it to water plants.

As our population grows, more and more people are using up this limited resource. Therefore, it is important that we use our water wisely and not waste it.



# WaterSense Products



## Water Efficiency Is Just a Click Away!

WaterSense makes it easy to find and select water-efficient products that can help your wallet and the environment. Just look for products bearing the [WaterSense label](#) at your local retailer.

WaterSense labeled products are backed by independent, third-party certification and meet EPA's specifications for water efficiency and performance. When you use these water-saving products in your home or business, you can expect exceptional performance, savings on your water bills, and assurance that you are saving water for future generations.

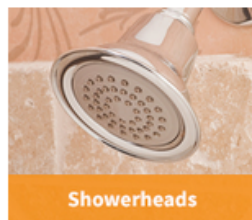
### Find Products

Looking for water-efficient products?



**START HERE**

- [Find Rebates Near You](#)
- [Calculate My Savings](#)



---

Commercial Buildings

---

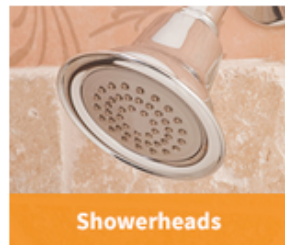
WaterSense Partners

---

Specifications and  
Certifications

---

Product Search



---

## New Products

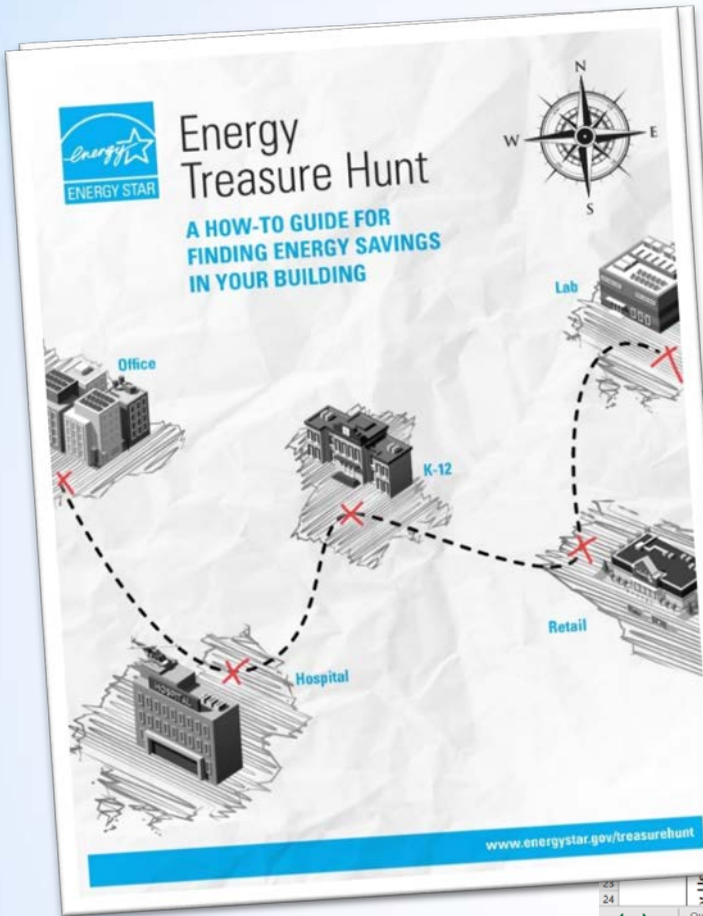
Check out what new water-efficient [products are in development](#) for WaterSense!

- Find a [WaterSense labeled product](#).
- Find water-saving [rebate programs](#) offered by WaterSense partners.
- Find out [how much water, energy, and money](#) water-efficient products can save you.

[Contact Us](#) to ask a question, provide feedback, or report a problem.



# Treasure Hunt Kit



Project Details

Opportunity Short Title

Insert text describing the project area within the building.

Opportunity Type:  Operational  Equipment Modification  Equipment Upgrade  Other

Originator(s):

Background: Insert text describing the background.

Opportunity: Insert text description of opportunity.

Equipment Name:	Current Situation (before Opportunity)		Projected Situation (after Opportunity)	
	Business Hours	Non-Business Hours	Business Hours	Non-Business Hours
Running: Hours/Day				
Days/Month				
Months				
Set point				
Other				

Utility Use	Current Situation (before Opportunity)		Projected Situation (after Opportunity)	
	Electricity	Natural Gas	Electricity	Natural Gas
Electricity				
Natural Gas				
District Steam				

Units: KWh, MMBtu, MMBtu

[www.energystar.gov/TreasureHunt](http://www.energystar.gov/TreasureHunt)





# ENERGY STAR Treasure Hunts



During an Energy Treasure Hunt, teams walk around a building looking for quick ways to save energy. Those quick fixes can add up to big savings. Hundreds of organizations have used Energy Treasure Hunts to reduce their facilities' energy use by 7 to 15 percent. Are you and your crew ready to find the treasure buried within your buildings?

## TOOLS

### OCTOBER IS TREASURE HUNT SEASON!

Throughout the month, we'll be shining a spotlight on partners and what they're finding on their Treasure Hunts. Get yours scheduled today to get in on the action!



#### Treasure Hunts: A How-to Guide for Commercial Buildings

This 4-page guide walks you through the basics of planning and implementing a 1-2 day Treasure Hunt in any commercial building.



#### Treasure Hunts: A How-to Guide for Industrial Plants

This 31-page guide includes detailed instructions and examples for Treasure Hunts in industrial facilities. Appendices with detailed planning and preparation checklists are also included.



#### Treasure Maps

Print out these checklists and take them along during your Treasure Hunt. Any building can use any version, although there are some building-specific items in each.

- Offices
- K-12 schools
- Retail Stores
- Hospitals
- Libraries

### WHAT'S A TREASURE HUNT?



### OTHER HELPFUL RESOURCES

Case study: [Treasure Hunt at a Staples Fulfillment Center](#) (PDF, 123 KB)

Read about how Burton Energy Group helped Staples with a 3-day Treasure Hunt at their London, Ohio, fulfillment center.

Short presentation by Bruce Bremer, "The Father of Treasure Hunts" (PDF, 508 KB)

While at Toyota, Bruce Bremer first came up with the idea of Treasure Hunts. Browse through his slideshow to learn more about his guiding philosophy.

Training videos: [Industrial Treasure Hunts](#)

This series of four 8-minute training videos walk through the steps of the 31-page Industrial Treasure Hunt Guide

**Treasure Map for  
Worship Facilities**

**How-to Guide**

**Detail Sheet**

**Action Workbook &  
Resource  
Appendices for  
Congregations at  
[www.energystar.gov/  
congregations](http://www.energystar.gov/congregations)**





U.S. Environmental Protection Agency  
**ENERGY STAR® Guide to Energy Efficiency  
Competitions for Buildings & Plants**



# Competitor Tool Kits: Customizable posters, social media graphics







## Resources for more information

First, join ENERGY STAR at no cost or obligation at [www.energystar.gov/JoinBuildings](http://www.energystar.gov/JoinBuildings)

For help, visit [energystar.gov/BuildingsHelp](http://energystar.gov/BuildingsHelp)

Portfolio Manager fact sheets, recorded and live training at [www.energystar.gov/Buildings/Training](http://www.energystar.gov/Buildings/Training)

Action Workbook and more at [www.energystar.gov/Congregations](http://www.energystar.gov/Congregations)



**Jerry Lawson | National Manager  
ENERGY STAR Small Business & Congregations**

[lawson.jerry@epa.gov](mailto:lawson.jerry@epa.gov)

**202.343.9314**

**Andrew Kreider | ENERGY STAR Lead  
U.S. EPA Region 3, Philadelphia, PA**

[kreider.andrew@epa.gov](mailto:kreider.andrew@epa.gov)

**215.8143.301**

[www.energystar.gov/smallbiz](http://www.energystar.gov/smallbiz)

[www.energystar.gov/congregations](http://www.energystar.gov/congregations)

**Follow us on Twitter! [www.twitter.com/EnergyStarBldgs](http://www.twitter.com/EnergyStarBldgs)**

CONNECT WITH US

