Resources for Educating Consumers on Energy Efficient Lighting

ENERGY STAR Partner Meeting
2011 Charlotte, NC
Taylor Jantz-Sell
EPA

Learn more at energystar.gov
Agenda

• Consumer education challenges with lighting
• ENERGY STAR Resources
• Mercury update
• EISA update – LUMEN Coalition and Consumer reactions to the changes
What are the issues?

- **EISA** - People don’t know/understand what is happening to light bulbs and think the government is making everyone switch to CFLs
- **Brightness** - CFLs take too long to get bright
- **Dimmers** - CFLs don’t work with dimmers
- **Mercury** - CFLs contain mercury
- **Cost** – CFLs and LED bulbs are too expensive
- **Appearance/Color** - The color of CFLs/LED bulbs is yucky and they look funny
- **Lifetime** - CFLs don’t last
New lighting landing page

- General lighting info
  - Fun facts carousel
  - How to choose: ABCs of efficient lighting
- Important tips for efficient lighting
- Interactive experience
  - Choose a light guide
  - FTC video
- Graphics, tables and charts
- Links to resources

www.energystar.gov/lighting
A = Appearance & Tips

Lighting
You may have heard that light bulbs are becoming more energy efficient to help you save energy, money and protect the environment. Looking for the ENERGY STAR can help you navigate the world of efficient lighting options with confidence.

Get the Facts

One small switch: Switching from traditional lighting to ENERGY STAR qualified lighting is a smart move. With energy savings of 75% or more you can save about $6 per bulb or about $14 a fixture annually on your energy bill. The new light bulb standards only require bulbs to be 25% more efficient that leaves a lot of savings on the table.

How to Choose: The ABCs of Efficient Lighting

Appearance | Brightness | Cost
---|---|---

How to choose starts with the knowing which light you want to replace and being informed about your energy efficient options.

If you are looking to install a new fixture you’re probably most concerned with how it will look. ENERGY STAR qualified fixtures are available in a wide assortment of styles. Just ask your local retailer to show you their ENERGY STAR qualified models.

When replacing bulbs consider the tips below.

Light color or appearance

Think about the purpose and the mood you want from your light. Most people prefer soft yellowish light in bedrooms, dining rooms and living rooms, or rooms with warm paint tones and opt for cooler white light in work spaces such as home offices, garages, outdoors or in rooms with cooler paint tones. ENERGY STAR qualified lighting products are available in a wide range of warm to cool white light. This information is available on the packaging in the Lighting Facts label (shown to the right). Learn more about light color.

Lighting Facts Per Bulb

<table>
<thead>
<tr>
<th>Brightness</th>
<th>870 lumens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Yearly Energy Cost</td>
<td>$1.57</td>
</tr>
<tr>
<td>Based on a $0.11/kWh utility rate and 3 hours of use per day</td>
<td></td>
</tr>
<tr>
<td>Life</td>
<td>5,500 hours</td>
</tr>
<tr>
<td>Light Appearance</td>
<td>Cool</td>
</tr>
<tr>
<td>Energy Used</td>
<td>13 watts</td>
</tr>
</tbody>
</table>

Dimmer Switches

If the light is controlled by a dimmer switch look for an ENERGY STAR qualified bulb that is marked “dimmable” because not all are. The package or the manufacturer’s web site should provide a list for dimmer compatibility.

Recessed lighting

Recessed lighting is a perfect place for ENERGY STAR qualified reflector bulbs. ENERGY STAR qualified reflector bulbs are designed and tested to operate efficiently in this hot environment while non qualified bulbs and other types like spirals generally are not. ENERGY STAR qualified LED reflectors provide excellent light instantly in one direction and last about 22 years. CFL reflectors are also a good choice but have a less distinct beam of light and take a little while to reach full brightness.

Three-way bulbs

Does the fixture have a three way switch to provide three different light levels? If it does you’ll need to look for an ENERGY STAR qualified bulb that is specially designed to provide three different light levels and marked “Three-way”. Note: Three-way bulbs are among the list of bulbs exempt from the new light bulb standards.

Lighting controls

Is the fixture connected to any control as such as a timer, a motion sensor or a photo sensor? Check your controls and the bulb package to make sure they are compatible.

Learn more tips for how to get the most out of your bulbs.
How to Choose: The ABC's of Efficient Lighting

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Brightness</th>
<th>Cost</th>
</tr>
</thead>
</table>

**How to Choose** - Look for the Lumens (not watts)

- Watts are simply a measure of power — the amount of electricity a bulb needs to operate, while the light output or brightness of the bulb is actually measured in LUMENS.
- As light bulbs get more efficient they use less watts to produce the same amount of light as traditional bulbs. As familiar wattages disappear because of new federal standards their replacements will save money and resources — about $150 a year per household. With this change we need to learn something new — lumens — the measurement of light a bulb puts out. Luckily this information is right on the front of light bulb packaging and will be printed on bulbs by 2012.
- As part of an effort to save energy and reduce United States dependence on foreign energy, Federal legislation is requiring the most common light bulbs (regardless of technology) to produce familiar light levels using less watts. The good news is that light bulb manufacturers support the new standard because it is already possible using today's technology and it fosters innovation!
- Light bulbs of a variety of technologies, including incandescent, compact fluorescent and LED can already meet the new standard.

* Below is a handy reference for those familiar wattage ratings. [Learn more about brightness](#)

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**HOW MUCH LIGHT DO I NEED?**

<table>
<thead>
<tr>
<th>INCANDESCENT BULBS (WATTS)</th>
<th>MINIMUM LIGHT OUTPUT (LUMENS)</th>
<th>COMMON ENERGY STAR QUALIFIED BULBS (WATTS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>250</td>
<td>4 to 9</td>
</tr>
<tr>
<td>40</td>
<td>450</td>
<td>9 to 13</td>
</tr>
<tr>
<td>60</td>
<td>800</td>
<td>12 to 15</td>
</tr>
<tr>
<td>75</td>
<td>1,100</td>
<td>18 to 25</td>
</tr>
<tr>
<td>100</td>
<td>1,600</td>
<td>23 to 30</td>
</tr>
<tr>
<td>125</td>
<td>2,000</td>
<td>22 to 40</td>
</tr>
<tr>
<td>150</td>
<td>2,600</td>
<td>40 to 45</td>
</tr>
</tbody>
</table>

See the typical lumens from traditional bulbs so you can find the lumens you need in a more efficient ENERGY STAR model. Remember, to save energy costs, find the bulb with the lumens you need, then choose the ENERGY STAR qualified one with the lowest watts.

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EPA
### How to Choose: The ABCs of Efficient Lighting

**Appearance** | **Brightness** | **Cost**
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Choose the bulb that will cost you the least in the long run, not just the lowest first cost.

- New labeling requirements give you the information you need to compare bulbs true operating cost right on the front of the package.
- Stop throwing your money away. Replace traditional bulbs that are still operating with ENERGY STAR qualified CFLs and recover your costs in about 6 months. Then easy knowing you’ve cut your lighting energy use by 75% and you won’t have to change the bulb(s) for about 9 years.
- ENERGY STAR qualified bulbs are 75% more efficient than traditional light bulbs, while initial compliance with the law only requires bulbs to be about 25% more efficient. To get the biggest savings, long life, and quality you can trust look for the ENERGY STAR.
- Find out how much you can save

#### LIFETIME COST

<table>
<thead>
<tr>
<th>ENERGY STAR Qualified Light Bulbs</th>
<th>$10</th>
<th>$20</th>
<th>$30</th>
<th>$40</th>
<th>$50</th>
<th>$60</th>
<th>$70</th>
<th>$80</th>
</tr>
</thead>
<tbody>
<tr>
<td>13W ENERGY STAR qualified CFL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5W ENERGY STAR qualified LED bulb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43W Incandescent halogen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60W Incandescent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Estimated Energy Cost
- Brightness 800 lumens
- Estimated Energy Cost

Related Products
- Decorative Light Strings
- Fans, Ceiling
- Fans, Ventilating
- Light Bulbs
- Light Fixtures

Related Sites
- Luminenow.org
- DOE Energy Savers - Lighting Choices
EISA Background

- Explains the law
  - Purpose
  - Timeline
  - Benefits
- Shows support for the law
  - Manufacturers
  - Innovation
Purchasing check list

It’s not so simple

- It’s not so simple
- Consumers need to know more
  - How much light?
  - What color of light?
  - Dimming?
  - Type of fixture?
Images & charts for download

www.energystar.gov/lightbulbs
www.energystar.gov/lightingresources
Interactive tool

Welcome to the ENERGY STAR Choose A Light Guide!

How To Choose
Which bulb do I need? Click on a light fixture — — to find out.

Where To Use
Click different bulbs along the bottom toolbar to learn where they work best.

Find the Right Light
You can also click on each light switch to sample the different color temperatures ENERGY STAR qualified bulbs are available in.

Please Click Here to continue.

- Three light color choices
- Dimmability function
- Includes important tips
- Shows where to use CFLs in common fixtures
- It’s fun
Mercury Update
Reducing Hg Content Limits

Reported Best Practice for General Service Spirals under 30 W (1.0 - 1.5 mg)

- 2.5 / 3.0 mg
  - ENERGY STAR Lamps (proposed)
- 2.5 mg / 3.5 mg
  - EU RoHS (2013)
- 3.5 mg
  - EU RoHS (2012)
  - Canada (proposed)
- 4 mg / 5 mg
  - NEMA 2010 (voluntary)
- 5 mg
  - EU RoHS (until 2012)
  - Australia/NZ
  - South Korea
- 5 mg / 6 mg
  - ENERGY STAR CFL (v.4.2)
- 5 mg
  - ENERGY STAR Luminaires (v.1.0)
  - Philippines (voluntary)
CFL Recycling Overview/update

• 2008 – Home Depot announces free CFL recycling
  – More than 75% of consumers live within 10 miles of one of the 1,972 US Home Depot stores¹

• 2010 – Lowes announces free CFL recycling
  – 1,700 US Lowe’s stores

• Other retailers/options for free CFL recycling:
  – IKEA
  – ACE Hardware
  – Local Municipalities
  – Electric Utilities

CFL Recycling Resources

- Earth911.com
- Recycleabulb.com
EPA Resources

- Energystar.gov/mercury
- Energystar.gov/CFLsandmercury
- Epa.gov/CFL
After EISA CFLs Still Reduce Mercury Emissions

Overall Mercury Impacts of Lamps Over The Lifetime of a Typical CFL (8000 hrs)

*Assumes 100% Hg loss from CFL*
Get there faster

- [www.energystar.gov](http://www.energystar.gov) – For Lighting Manufacturers and Retailers
- [/lightingresources](http://www.energystar.gov/lightingresources) – New lighting landing page
- [/lighting](http://www.energystar.gov/lighting) – For consumers
- [/lightbulbs](http://www.energystar.gov/lightbulbs) – For consumers
- [/lightfixtures](http://www.energystar.gov/lightfixtures) – For consumers
- [3rdparty](http://www.energystar.gov/3rdparty) – Information about 3rd party certification
- [/lightinglabs](http://www.energystar.gov/lightinglabs) – Information about EPA-Recognized Lighting Certification Bodies and Laboratories
- [/lightingfaqs](http://www.energystar.gov/lightingfaqs) – FAQs about 3rd party certification
- [/mercury](http://www.energystar.gov/mercury) – CFLs and mercury
- [/integrity](http://www.energystar.gov/integrity) – Maintaining the integrity of ENERGY STAR
- [/partners](http://www.energystar.gov/partners) – Partner Resources
- [/MESA](http://www.energystar.gov/MESA) – For partners to manage contact info
“Find a bulb” @ /lightbulbs

- Search by:
  - Model or retail number
  - Manufacturer
  - Brand
  - Model type
  - Light output
  - Wattage
  - Lifetime
  - Color temp
  - Application
  - Special features
“Find a bulb” 2012

- Improved search functions
  - Search ranges
  - LED bulbs
  - New special feature “shatter resistant”
  - Power factor
  - CRI
Comments, questions, suggestions

jantz-sell.taylor@epa.gov