

## Resources for Educating Consumers on Energy Efficient Lighting

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



# 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



Home > Products > Lighting

### 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**



How to Choose: The ABCs of Efficient Lighting

#### 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.

#### Recourses

- » Get the Facts on the new light bulb legislation (336KB)
- > Purchasing checklist 17 /4
- » Savings calculator
- » Special Offers
- » The value of ENERGY STAR qualified lighting
- » Learn more about CFLs
- » Learn more about LED lighting
- Double 1181
- » FAQs about Lighting
- » CFL recycling and clean up

### Related Products

- » Decorative Light Strings
- » Fans, Ceiling
- » Fans, Ventilating
- » Light Bulbs
- » Light Fixtures

### Related Sites

- » Lumennow.org EXIT ➪
- » DOE Energy Savers- Lighting Choices EXIT < □</p>





# A = Appearance & Tips



### Liahtina

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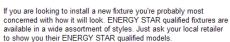
### How to Choose: The ABCs of Efficient Lighting

Appearance

Brightness

Cost

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





### 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 Click to see the options 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

Lighting Facts Per Bulb		
870 lumens		
gy Cost \$1.57		
5.5years		
Cool		
13 watts		

### Resources

- Get the Facts on the new light bulb legislation (336KB)
- Purchasing checklist
- Savings calculator
- » Special Offers
- The value of ENERGY STAR qualified lighting
- » Learn more about CFLs
- » Learn more about LED lighting
- » Partner list.
- FAQs about Lighting
- " CFL recycling and clean up

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#### **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 controls 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.



# **B** = Brightness



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

Appearance

**Brightness** 

Cost

### How to Choose - I ook for the Lumens (not watts)

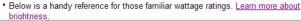


About lumens and the lighting facts label: From www.ftc.gov

- · 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 You can find the brightness in lumens to produce the same amount of light as traditional right on the front of the package. 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
- 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 bulb packaging and will be printed on bulbs by 2012.

· Light bulbs of a variety of technologies, including incandescent, compact fluorescent and LED can already meet the new standard.







HOW MUCH LIGHT DO I NEED?		
INCANDESCENT BULBS (WATTS)	MINIMUM LIGHT OUTPUT (LUMENS)	COMMON ENERGY STAR QUALIFIED BULBS (WATTS)
25	250	4 to 9
40	450	9 to 13
60	800	13 to 15
75	1,100	18 to 25
100	1,600	23 to 30
125	2,000	22 to 40
150	2,600	40 to 45

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.



### C = Cost

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

Appearance

Brightness

Cost

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 rest 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



### Related Products

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43W Incandescent halogen







12.5W ENERGY STAR qualified LED bulb

60W Incandescent







# **EISA Background**



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

Energy Independence and Security Act of 2007 (EISA) US EPA Backgrounder – Spring 2011

### ENERGY INDEPENDENCE AND SECURITY ACT OF 2007 (EISA)

### FREQUENTLY ASKED QUESTIONS

What is this "light bulb" law?

The Energy independence and Security Act of 2007 (the "Energy Bill"), signed by President George W. Bush on December 18, 2007 is an energy policy intended to make better use of our resources and help the United States become energy independent. The law provides important benefits to consumers, industry, our country and our environment.

Part of the law sets energy efficiency standards for light bulbs; the first phase goes into effect January 2012. This document addresses frequent questions and some common misconceptions about the law.

What does the law require?

Under the new law, screw-based light bulbs will use fewer watts for a similar lumen output. The standards are technology neutral, which means any type of bulb can be sold as long as it meets the efficiency requirements. Common household light bulbs that traditionally use between 40 and 100 watts will use at least 27% less energy by 2014. The law applies to the manufacturer date and will begin affecting 100-watt bulbs in January 2012 and end with 40-watt bulbs in January 2014. California began the transition one year earlier.

The law is being phased in over the next three years:

Today's	After the	Standard
Bulbs	Standard	Effective Date
100 watt	≤ 72 watts	January 1, 2012
75 watt	≤ 53 watts	January 1, 2013
60 watt	≤ 43 watts	January 1, 2014
40 watt	≤ 29 watts	January 1, 2014

Efficiency is measured by the number of lumens per watt a bulb provides. *Lumens* tell us how bright a light bulb is. *Watts* tell us how much energy the light bulb uses.

How do light bulbs compare?

- The standard 60 watt incandescent light bulb provides 13 to 14 lumens per watt.
- An equivalent CFL provides between 55 and 70 lumens per watt.
- 70 lumens per watt.

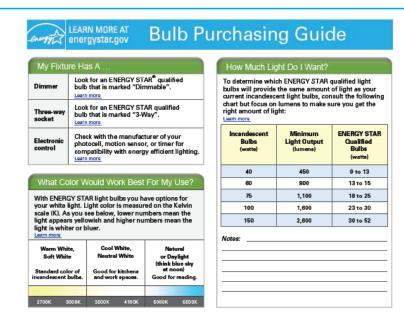
   An equivalent LED can range between 60 and 100 lumens per watt.

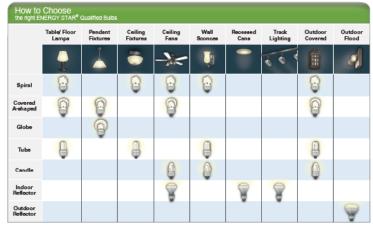
The second part of the law requires that most light bulbs be 60-70% more efficient than the standard incandescent today; this will go into effect in 2020. Many compact fluorescent light bulbs (CFLs) and many Light Emitting Diodes (LEDs) can meet this requirement today, shaving energy usage compared to standard incandescents by 75%.

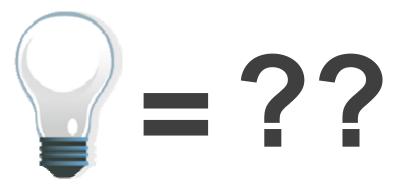


# Purchasing check list







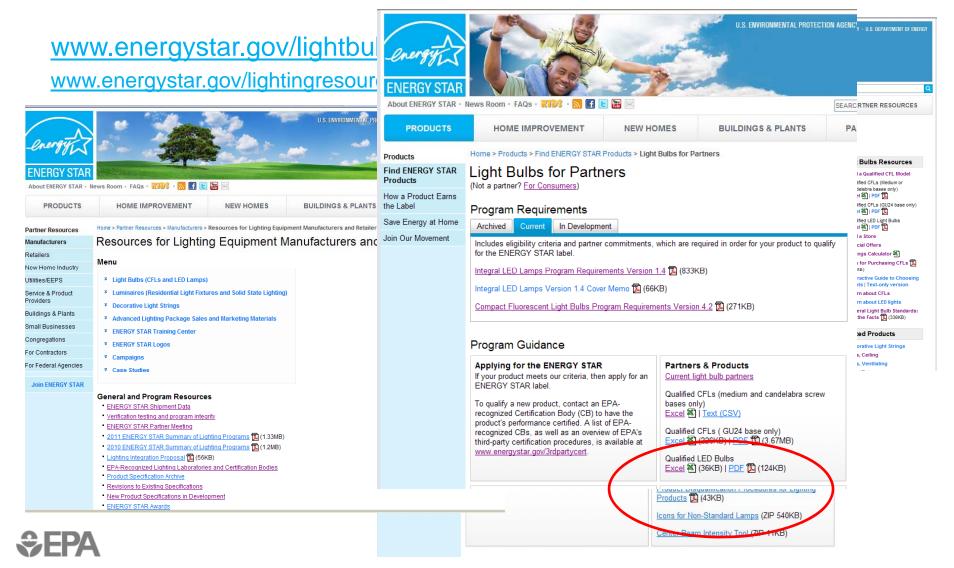


- It's not so simple
- Consumers need to know more
  - How much light?
  - What color of light?
  - Dimming?
  - Type of fixture?



# Images & charts for download





### Interactive tool







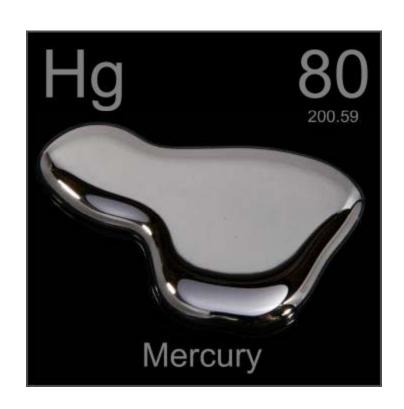


- Three light color choices
- Dimmability function
- Includes important tips
- Shows where to use CFLs in common fixtures
- It's fun



# **Mercury Update**

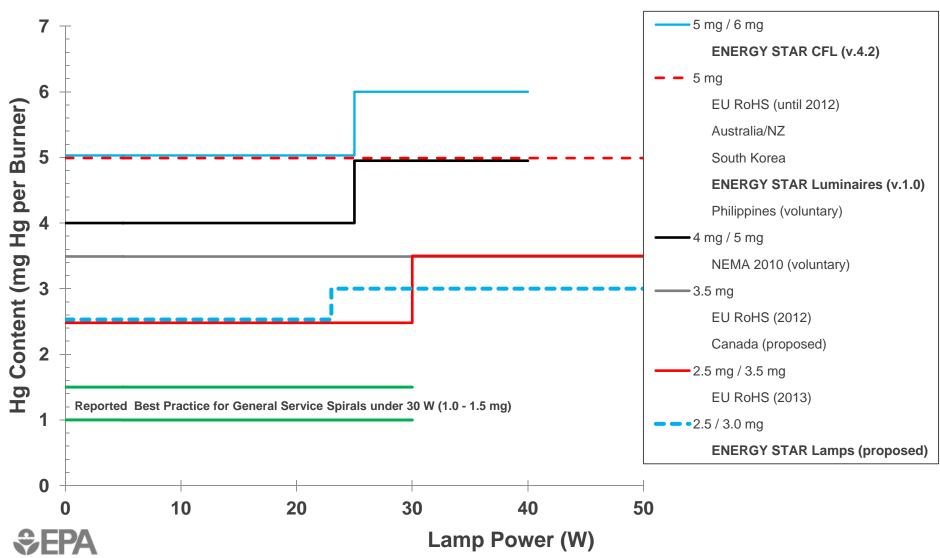






# **Reducing Hg Content Limits**





## **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 stores<sup>1</sup>
- 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

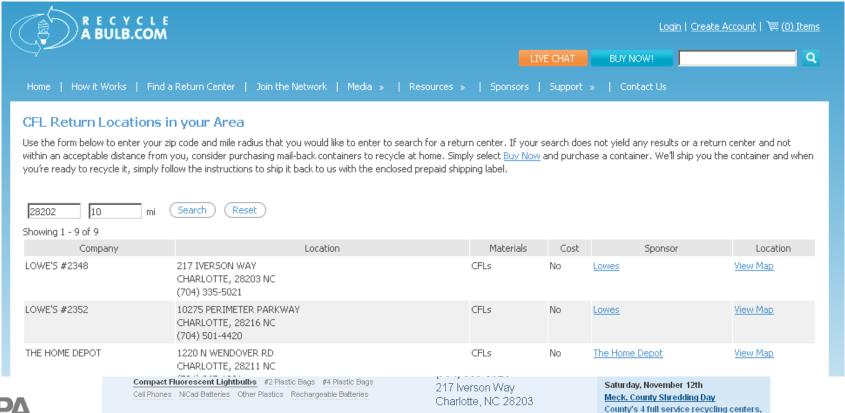
estimates
that more
than 80% of
consumers
have access
to free CFL
disposal
within 10
miles of
home



# **CFL Recycling Resources**



- Earth911.com
- Recycleabulb.com

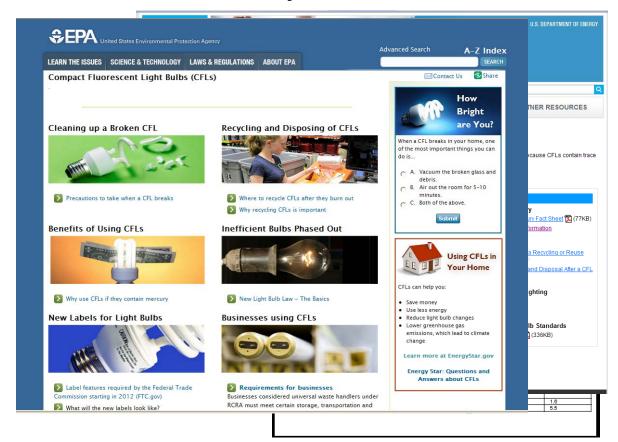




### **EPA Resources**



- Energystar.gov/mercury
- Energystar.gov/CFLsandmercury
- Epa.gov/CFL

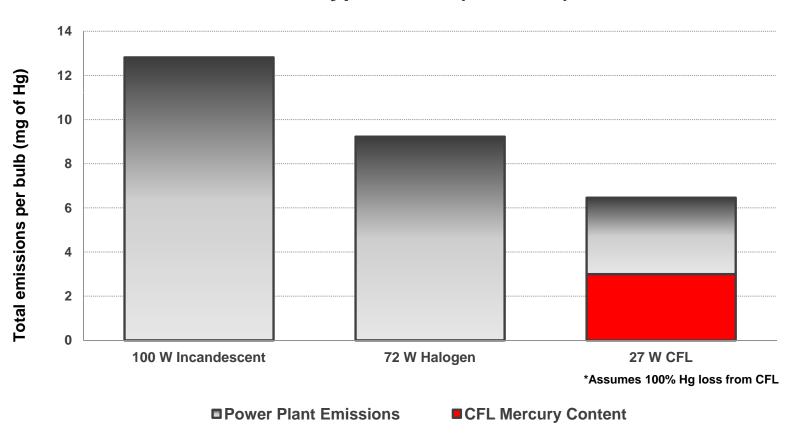




# After EISA CFLs Still Reduce Mercury Emissions



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





### **Get there faster**



### www.energystar.gov

- /lightingresources For Lighting Manufacturers and Retailers
- /lighting New lighting landing page
- /lightbulbs For consumers
- /lightfixtures For consumers
- 3rdpartycert Information about 3<sup>rd</sup> party certification
- <u>/lightinglabs</u> Information about EPA-Recognized Lighting Certification Bodies and Laboratories
- /lightingfaqs FAQs about 3<sup>rd</sup> party certification
- /mercury CFLs and mercury
- <u>/integrity</u> Maintaining the integrity of ENERGY STAR
- <u>/partners</u> Partner Resources
- <u>/MESA</u> For partners to manage contact info

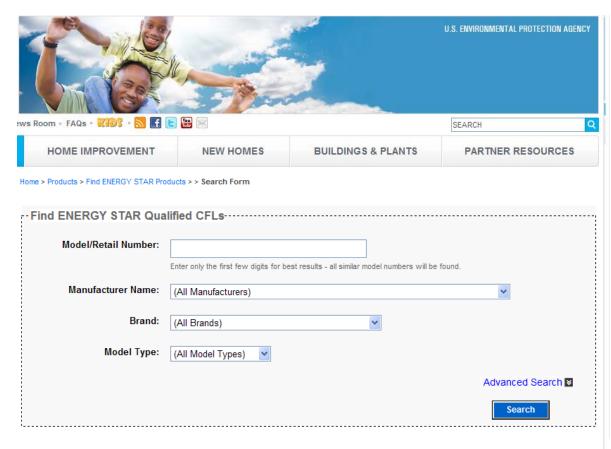


# "Find a bulb" @ /lightbulbs



### 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

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