

# Consumer Light Bulb Changes: Briefing and Resources for Media and Retailers



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- Briefing:
  - To schedule interviews, please contact DOE Public Affairs at 202-586-4940
- Terms:
  - Lumens: Commonly a measure of brightness (technically “luminous flux”)
  - CFL: Compact Fluorescent Lamp: The curly fluorescent bulbs
  - LED: Light Emitting Diode: more recently emerging technology, also called “solid state lighting” as it is light produced by a solid-state (chip) device
  - General Service Incandescent Lamp: The most common residential light bulb in use, with a medium screw base, and a lumen range of 310 to 2,600 lumens
  - Medium screw base: The most common light bulb base in use – found on most household lamps and fixtures
  - A-19 bulbs: The most common size of pear shaped bulb

# Lighting Choices: Energy-Saving Incandescents

- Energy-Saving Incandescent light bulbs
  - Use about 25% less energy than traditional incandescents
  - Typically have the same life span as traditional incandescent bulbs, but there are models that can last up to three times longer
  - Are available in a wide range of shapes and colors, and can be used with dimmers
  - Also called “halogen” incandescents

These incandescent bulbs are presently available in retail outlets and meet the new standards that take effect from 2012-2014



Source: Department of Energy, Energy Savers Website – Lighting Choices, 2011, from [www.energysavers.gov/lighting](http://www.energysavers.gov/lighting)

- ENERGY STAR-qualified CFLs use about 75% less energy and last ten times longer than comparable traditional incandescent bulbs
- CFL bulbs are available in a range of light colors, including warm (white to yellow) tones that were not available when CFLs were first introduced

These CFL bulbs are presently available in retail outlets and meet the new standards that take effect from 2012-2014



Source: Department of Energy, Energy Savers Website – Lighting Choices, 2011, from [www.energysavers.gov/lighting](http://www.energysavers.gov/lighting)

- ENERGY STAR-qualified LEDs use about 75 - 80% less energy and last about 25 times longer than the traditional incandescent bulbs they replace
- While LEDs are more expensive at this early stage, they still save money over the long term, because of their long life span and low cost to operate
- The dramatically lower energy use, means lower electricity bills every month
- As with other electronics, prices are expected to come down as more products enter the market and the technology begins to mature

These LED bulbs are presently available in retail outlets and meet the new standards that take effect from 2012-2014



Source: Department of Energy, Energy Savers Website – Lighting Choices, 2011, from [www.energysavers.gov/lighting](http://www.energysavers.gov/lighting)

- Energy Efficiency Standards

- As directed by law, DOE establishes energy efficiency or maximum allowable energy use standards for most major household appliances and certain commercial and industrial equipment
- Standards were set initially by the National Appliance Energy Conservation Act of 1987 (NAECA 1987). The law has been amended several times, most recently by the Energy Independence and Security Act (EISA) 2007.
- Products must meet the standards in order to be imported or manufactured in the US market

- Energy Efficiency Standards (cont.)
  - The first standards went into effect in 1990
    - For example, the initial standards for refrigerator-freezers went into effect in 1990 and have been updated three times since then
  - Today's products are much more energy efficient
    - Today's refrigerator-freezers use about 1/3 the amount of energy than what was used by refrigerator-freezers before the first standards went into effect. They are also typically larger and have more features than the older models
    - Compared to refrigerators of the 1970s, today's refrigerators save the nation about \$20 billion per year in energy costs, or \$150 per year for the average American family

- The Energy Independence and Security Act (EISA) 2007
  - Bipartisan energy legislation, signed into law on Dec. 19, 2007 by President Bush
- Lighting efficiency standards in EISA 2007:
  - The first efficiency standards for common light bulbs (called “general service incandescent lamps”)
    - The law sets a performance standard of light output (lumens) for energy used (watts) – it does not ban any specific technologies
    - A number of light bulbs meet the standards, including:
      - Energy-saving incandescents, CFLs, and LEDs
    - Traditional incandescent 40, 60, 75, and 100 W bulbs are less efficient and will no longer meet these standards
      - Give off 90% heat and 10% light
    - Standards apply to manufacture or import (not retail sale)
    - National standards provide a consistent approach for manufacturers so that they don’t have to meet a patchwork of state standards
    - There are ***many exceptions***: 3-way bulbs, appliance bulbs, others

- Lighting efficiency standards in EISA 2007 (cont.)
  - New Label:
    - The legislation also requires the Federal Trade Commission (FTC) to develop a new label, which is already appearing, and will be required on all retail packaging in January 2012
  - This presentation covers the changes / replacements for traditional incandescent bulbs
  - The law has other provisions, in other lighting categories (reflector lamps and metal halide lamp fixtures for example)

Excerpt from the law (EISA 2007):

“GENERAL SERVICE INCANDESCENT LAMPS

Rated Lumen Ranges	Maximum Rate Wattage	Minimum Rate Life-time	Effective Date	Current Typical Incandescent Wattage
1490–2600	72	1,000 hrs	1/1/2012	100
1050–1489	53	1,000 hrs	1/1/2013	75
750–1049	43	1,000 hrs	1/1/2014	60
310–749	29	1,000 hrs	1/1/2014	40

Typically requires ~25% less energy

Note: Reference only, not in the law.

- Every bulb on this page meets the EISA 2007 standards that take effect from 2012-2014
- Upgrading 15 inefficient incandescent bulbs in your home could save you about \$50 per year
- Save more by using the most efficient bulbs
- Nationally, this will save consumers ~\$6 billion annually



# Lumens: A new way to shop for light

We buy fruit by the pound, milk by the gallon,



Why should light be any different?

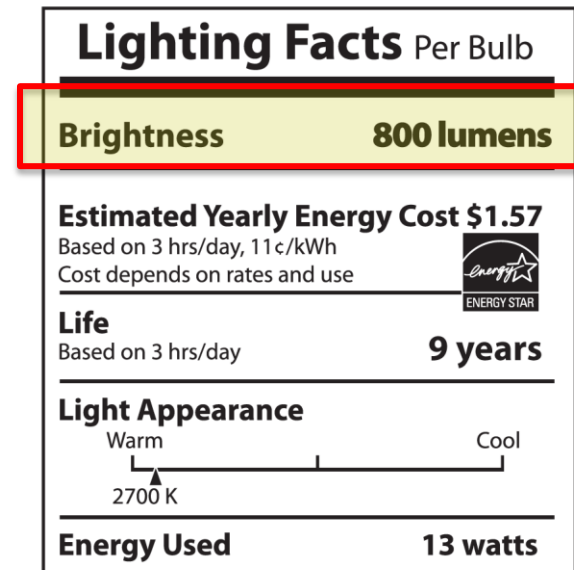
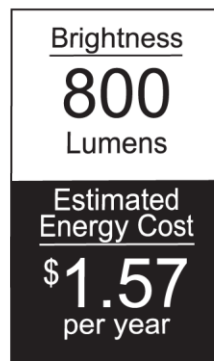


For years, we have been buying light by the amount of energy consumed, *not* the amount of light we are getting.

*Lumens changes that.*

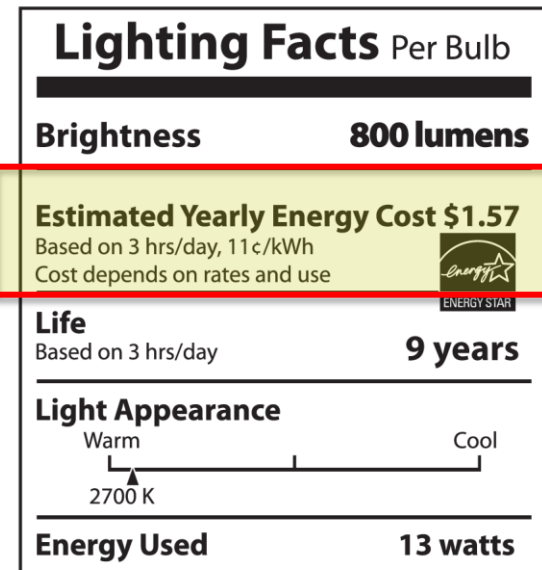
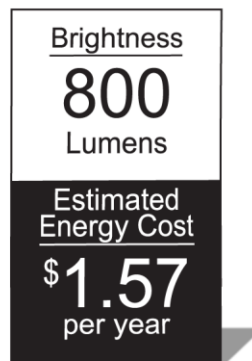


- Starting in January 2012, all bulbs will carry a new package label from the Federal Trade Commission (FTC)
- The label will help consumers compare the brightness and estimated energy costs of various types of light bulbs



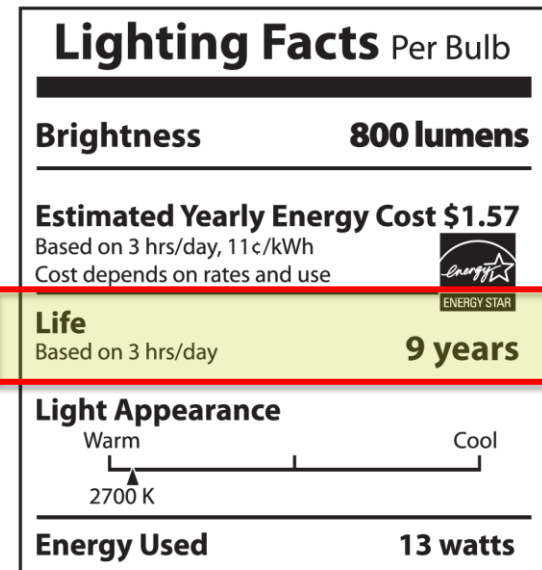
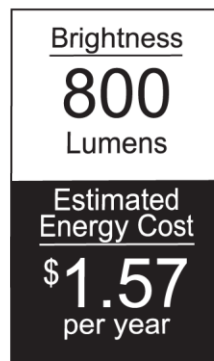


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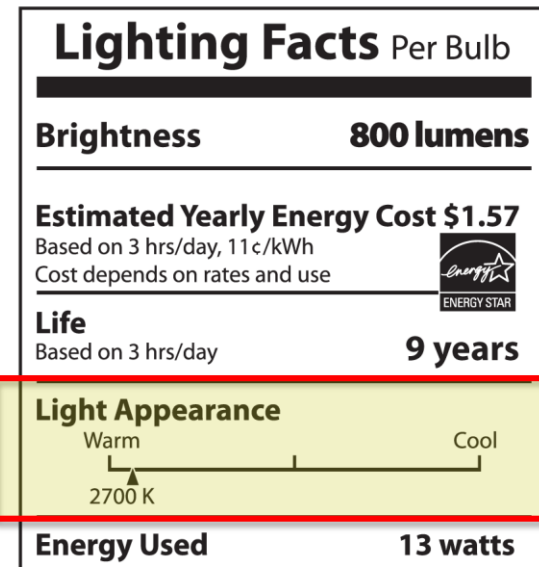
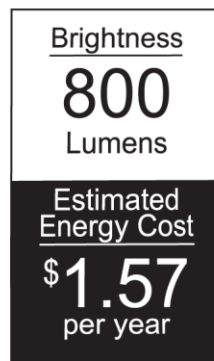


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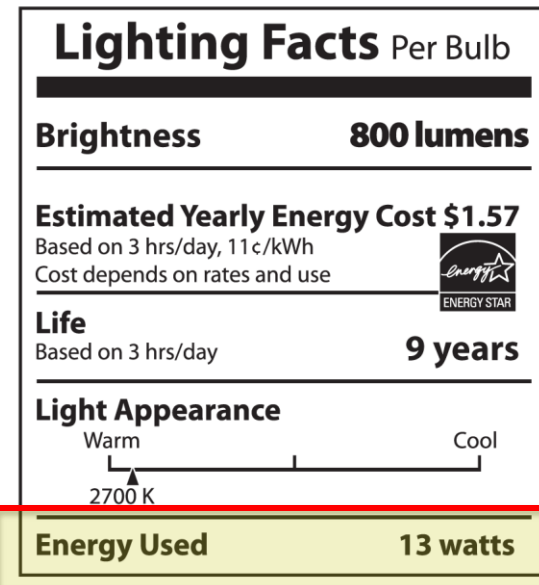
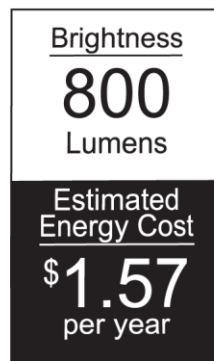


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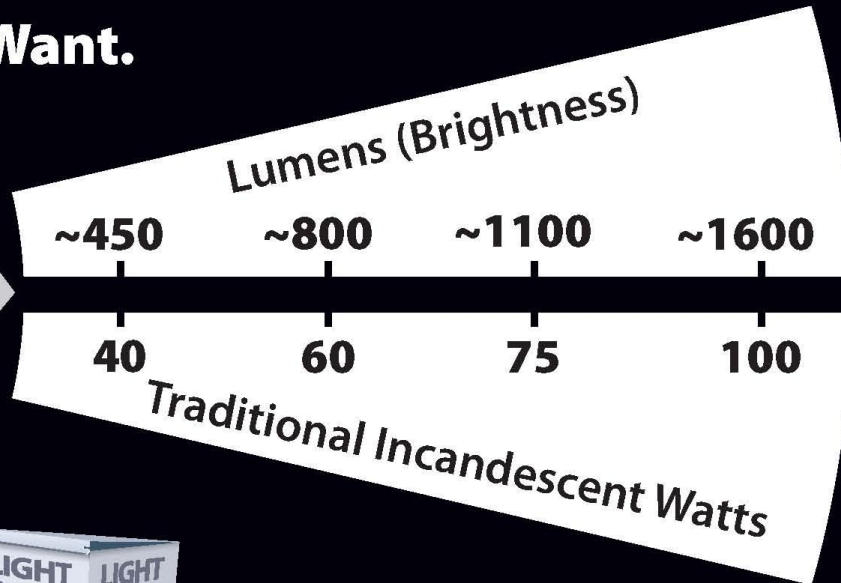
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## LUMENS: THE NEW WAY TO SHOP FOR LIGHT

**Choose** Your Next Light Bulb  
for **the Brightness You Want.**

Lighting Facts Per Bulb	
<b>Brightness</b>	<b>800 lumens</b>
<b>Estimated Yearly Energy Cost \$1.57</b> Based on 3 hrs/day, 11¢/kWh Cost depends on rates and use	
<b>Life</b> Based on 3 hrs/day	<b>9 years</b>
<b>Light Appearance</b> Warm ————— Cool 2700 K	
<b>Energy Used</b>	<b>13 watts</b>



For the greatest savings,  
choose ENERGY STAR® light bulbs.

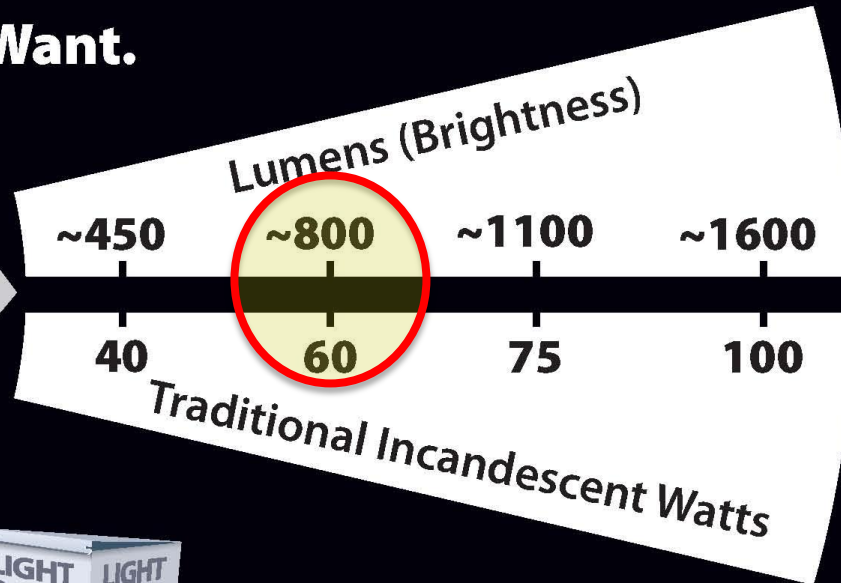
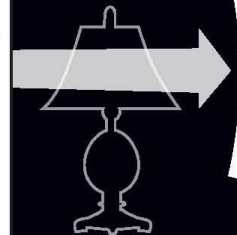
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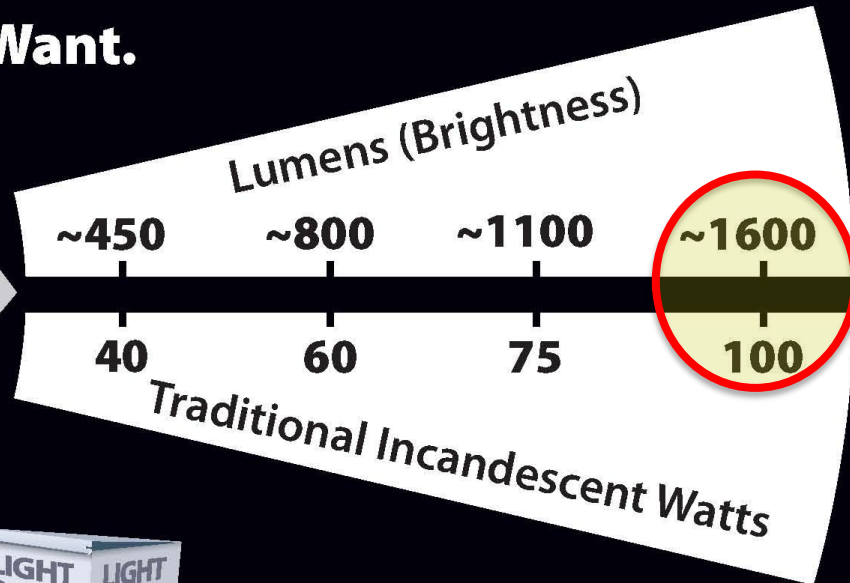
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12/05/2011

- energysavers.gov/lighting
  - information on lighting choices, lumens, and EISA 2007 standards, as well as FAQs and resources for media

The screenshot displays the EnergySavers.gov website interface. At the top, the U.S. Department of Energy logo is visible alongside the text 'Energy Efficiency & Renewable Energy'. A navigation bar includes links for HOME, TIPS, YOUR HOME (highlighted), RENEWABLE ENERGY, YOUR VEHICLE, YOUR WORKPLACE, REBATES, TAX CREDITS, & FINANCING, PRODUCTS & SERVICES, and INFORMATION RESOURCES. A search bar is located on the right. Below the navigation bar, a sidebar on the left lists various energy-saving topics, with 'Lighting Choices' selected. The main content area features a large image of various light bulbs. Above the bulbs, three boxes highlight energy savings: '25% The energy \$ you'll save with energy-saving incandescent bulbs', '75% The energy \$ you'll save with CFL bulbs', and '75%+ The energy \$ you'll save with LED bulbs'. Below the image, the heading 'Lighting Choices SAVE YOU MONEY' is followed by a paragraph explaining the benefits of energy-efficient bulbs. A small inset box on the right shows a single bulb and states, 'You'll save about \$6 in energy costs each year if you replace one traditional 100W incandescent with an ENERGY STAR CFL.\*'.

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Information for Retailers  
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Daylighting  
Space Heating & Cooling  
Water Heating  
Windows, Doors & Skylights

**25%** The energy \$ you'll save with energy-saving incandescent bulbs

**75%** The energy \$ you'll save with CFL bulbs

**75%+** The energy \$ you'll save with LED bulbs

### Lighting Choices SAVE YOU MONEY

All of these light bulbs meet the new energy standards that take effect from 2012-2014. The energy-saving incandescent bulbs use about 25% less energy than traditional varieties. To save even more, choose CFLs and LEDs, which offer many choices that typically use 75% less energy.

#### Lighting Choices to Save You Money

Light your home using the *same amount of light for less money*. Upgrading 15 of the inefficient incandescent light bulbs in your home could **save you about \$50 per year**. **New lighting standards** take effect in 2012, and money-saving options such as energy-saving incandescent, CFL, and LED light bulbs are available today. For high-quality products with the greatest energy savings, choose bulbs that have earned the ENERGY STAR.

You'll save about \$6 in energy costs each year if you replace one traditional 100W incandescent with an ENERGY STAR CFL.\*

\* Savings based on 2 hours per day usage and 11¢/kWh energy cost.

- Information for Media:
  - B-roll shows different light bulbs in common residential fixtures
  - High resolution images of energy-saving lighting choices
  - FAQs to help address consumer questions

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**Lighting Choices**

**SAVE YOU MONEY**

All of these light bulbs—CFLs, LEDs, and energy-saving incandescents—meet the new energy standards that take effect from 2012-2014.

**Information for Media**

These lighting images and video are available for use by media organizations. The still images and video B-roll are copyright-free, and you are welcome to cite the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy as the source of this material.

**Videos**

A residential home is shown with newer lighting choices that save energy and money. All of the light bulbs in this video meet the new energy standards that take effect from 2012-2014. The energy-saving incandescent bulbs use about 25% less energy, and CFLs and LEDs typically use 75% less energy than traditional varieties.

You'll save about \$6 in energy costs each year if you replace one traditional 100W incandescent with an ENERGY STAR CFL.\*

\* Savings based on 2 hours per day usage and 11¢/kWh energy cost.

**Did you know?**

CFLs and LEDs are available in warm white.

Lighting Choices Save You Money — B-Roll	Format	Length	File Size
<a href="#">Preview reel</a>	.WMV	3:10	17 MB
<a href="#">Full-length HD video</a>	.WMV	3:10	119 MB
<a href="#">Full-length HD video</a>	.MOV	3:10	199 MB

**Images**

- Frequently Asked Questions address topics such as lighting choices, EISA 2007 standards, lumens, and mercury

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### Lighting Choices SAVE YOU MONEY


All of these light bulbs—CFLs, LEDs, and energy-saving incandescents—meet the new energy standards that take effect from 2012-2014.

### Frequently Asked Questions: Lighting Choices to Save You Money

Below are some of the most frequently asked questions and answers about the new lighting efficiency standards. Learn more about your [lighting choices](#) and find out how to [shop for lights by lumens, not watts](#).

- [Why are my lighting choices changing?](#)
- [What is the Energy Independence and Security Act of 2007 \(EISA 2007\)?](#)
- [When will the new bulbs be phased in?](#)
- [What will the lighting standards mandated by EISA 2007 mean to consumers?](#)
- [Does this affect all light bulbs? What about specialty bulbs?](#)
- [What is a lumen? How does it relate to watts?](#)
- [How do I choose which lights to buy?](#)
- [Will all older lighting fixtures accept the newer, more efficient bulbs? What if my lampshade connects right to the bulb?](#)
- [How exactly are these new bulbs "better" than traditional incandescent bulbs?](#)
- [What is the cost difference between the new lights and my incandescent bulbs? How much money will I save when I switch to these new bulbs?](#)
- [How many times longer does a CFL or LED last vs. an incandescent?](#)
- [I understand CFLs contain mercury. What should I do if a CFL breaks?](#)
- [What is the recommended proper disposal of CFLs?](#)

**Q: Why are my lighting choices changing?**  
**A:** For many years, researchers have been working on new lighting options that produce the same light, with less energy. Many of those designs are now on the market. ENERGY STAR-qualified compact fluorescent lights (CFLs) and light emitting diodes (LEDs), as well as halogen incandescent bulbs provide the range of choices consumers expect from more traditional bulbs, including a variety of colors, bulb tunings, and light levels — all while using less energy and



You'll save about \$6 in energy costs each year if you replace one traditional 100W incandescent with an ENERGY STAR CFL.\*

\* Savings based on 2 hours per day usage and 11¢/kWh energy cost.

### Did you know?

CFLs and LEDs are available in warm white.

For interviews or follow-up questions:

U.S. Department of Energy Public Affairs  
202-586-4940