



# What to Do with the “Incandescent Phase-Out”

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# Agenda

- What's in the Law
- Labeling
- Lots of New Choices
- Halogen Infrared Reflecting Lamps
- Guides to Choosing the Best Bulbs
- National Energy Saving Consequences
- Hoarding
- What's a Utility to Do?
- Resources for More Info

# What's in the Law

## What The Law Says

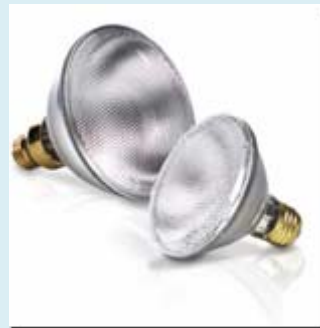
Current	Rated Lumen Ranges	Maximum Rated Wattage	Minimum Rated Lifetime	Effective Date
100	1490-2600	72	1,000 hours	1/1/2012
75	1050-1489	53	1,000 hours	1/1/2013
60	750-1049	43	1,000 hours	1/1/2014
40	310-749	29	1,000 hours	1/1/2014



General Service Lamps or A-Lamps

## Reflector Rules

Nominal Bulb Wattage	Minimum Average Bulb Efficacy (LPW)
40-50	10.5
51-66	11.0
67-85	12.5
86-115	14.0
116-155	14.5
156-205	15.0



Reflectorized Lamps

## Bulb types NOT affected by the new law include:

- Appliance;
- Blacklight;
- Bug;
- Colored;
- Infrared;
- Left-hand thread;
- Marine and marine signal service;
- Mine service;
- Plant;
- Reflector;
- Rough service;
- Shatter-resistant, shatter-proof, and shatter-protected;
- Sign service;
- Silver bowl,
- Showcase,
- 3-way;
- Traffic signal;
- Vibration service;
- G-shape with a diameter of 5 inches or more;
- T-shape bulb of 40 watts or less and a length of greater than 10 inches; and
- B, BA, CA, F, G16-1/2, G25, G30, S or M14 shaped bulbs of  $\leq$  40 watts.

# Labeling is Required

**Brightness**

**800**  
lumens

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**Estimated Energy Cost**

**\$1.69**  
per year

**Lighting Facts** Per Bulb

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**Brightness** 800 lumens

**Estimated Yearly Energy Cost** \$1.69  
Based on 3 hrs/day, 11¢/kWh.  
Cost depends on rates and use.

**Life**  
Based on 3 hrs/day **7 years**

**Light Appearance**  
Warm \_\_\_\_\_ Cool  
▲  
2700 K

**Energy Used** 14 watts

**Contains Mercury**  
For more on clean up and safe disposal, visit [epa.gov/cfl](http://epa.gov/cfl)

- 1
- 2
- 3

**ENERGY STAR Logo** – Indicates which CFLs and LEDs meet ENERGY STAR requirements for efficiency, lifetime and quality.

**Life** – Estimates in years how long the bulb will last. Long life bulbs save you the hassle of frequent bulb changes.

**Light Appearance** – Tells you the shade of light. Incandescents produce warm white light—between 2,700 and 3,000 K. Bulbs that produce cooler or more bluish light will have a higher rating, such as 4,000 to 6,500 K.

**Energy Used (watts)** – Measures bulb energy use, not brightness.

**Contains Mercury** – CFLs contain extremely low levels of mercury, <5 mg, and are completely safe to use in normal operation. In fact, the amount of mercury inside a CFL is equal to the size of the period at the end of this sentence. Should a CFL break in your home, use common sense clean-up procedures – keep kids away, open the window and carefully clean up the pieces and place them in a zip lock bag for proper disposal. To put this concern in context, mercury emissions from power plants present a much more serious threat to human health and the environment than a broken CFL. Also note, retailers such as Home Depot and Lowes offer free CFL recycling.

# New Choices Spring Up

**SYLVANIA SUPERSAVER**  
\$7 for four; 100-watt equivalent  
A compact halogen, suited for small chandeliers.

**SYLVANIA ULTRA A-LINE L.E.D.**  
\$40; 60-watt equiv.  
A dimmable bulb, good for one-direction lighting.

**PHILIPS DECOLED**  
\$15; 15-watt equiv.  
A decorative L.E.D., good for sconces.

**SYLVANIA LIVING SPACES**  
\$12.50 for two; 60-watt equiv.  
One of the smallest compact fluorescents at this brightness.

**G.E. CRISP LIGHT HALOGEN**  
\$4 for two; 100-watt equiv.  
A dimmable bulb, with clear glass for brighter light.

**LIGHTS OF AMERICA ENERGY SAVING**  
\$1; 100-watt equiv.  
A compact fluorescent small enough for many closed fixtures.

**ECOSMART R20 INDOOR FLOOD**  
\$9; 50-watt equiv.  
A dimmable compact fluorescent, good for track lights.

**PHILIPS AMBIENTLED A21**  
\$40; 75-watt equiv.  
The brightest L.E.D. omnidirectional on the market.

**PHILIPS EDOVANTAGE**  
\$3 for two; 100-watt equiv.  
A soft-white halogen with a dimmable light, good for chandeliers.

**SYLVANIA SOFT WHITE**  
\$7.50; 15-watt equivalent  
A decorative, dimmable compact fluorescent, good for sconces.

**G.E. BRIGHT FROM THE START ENERGY SMART**  
\$10; 75-watt equiv.  
A compact fluorescent with a mini-halogen for quick illumination.

**PHILIPS R30 REFLECTOR FLOOD**  
\$12; 65-watt equiv.  
A dimmable compact fluorescent in soft white, good for recessed lights.

**EARTHMATE CANDLE**  
\$8; 25-watt equiv.  
A dimmable compact fluorescent, for chandeliers or ceiling fans.

**ECOSMART SOFT WHITE**  
\$6 for four; 40-watt equiv.  
A compact fluorescent good for closets and other small, enclosed spots.

**PHILIPS AMBIENTLED INDOOR FLOOD BR30**  
\$40; 65-watt equiv.  
A dimmable L.E.D. for recessed fixtures, good for kitchens.

**G.E. ENERGY SMART L.E.D.**  
\$35; 40-watt equiv.  
One of the few L.E.D.s that cast light in all directions.

**THE PRAGMATIST**

A primer, before the house goes dark.



Model ECS 19 V2  
WW 120

**\$23.97/EA-  
Each**  
*Ships FREE  
with \$45.00 Order*



Model 409904

**\$39.97/EA-  
Each**

12-Watt A19 Ambient  
LED Soft-White Light  
Bulb (E)\*



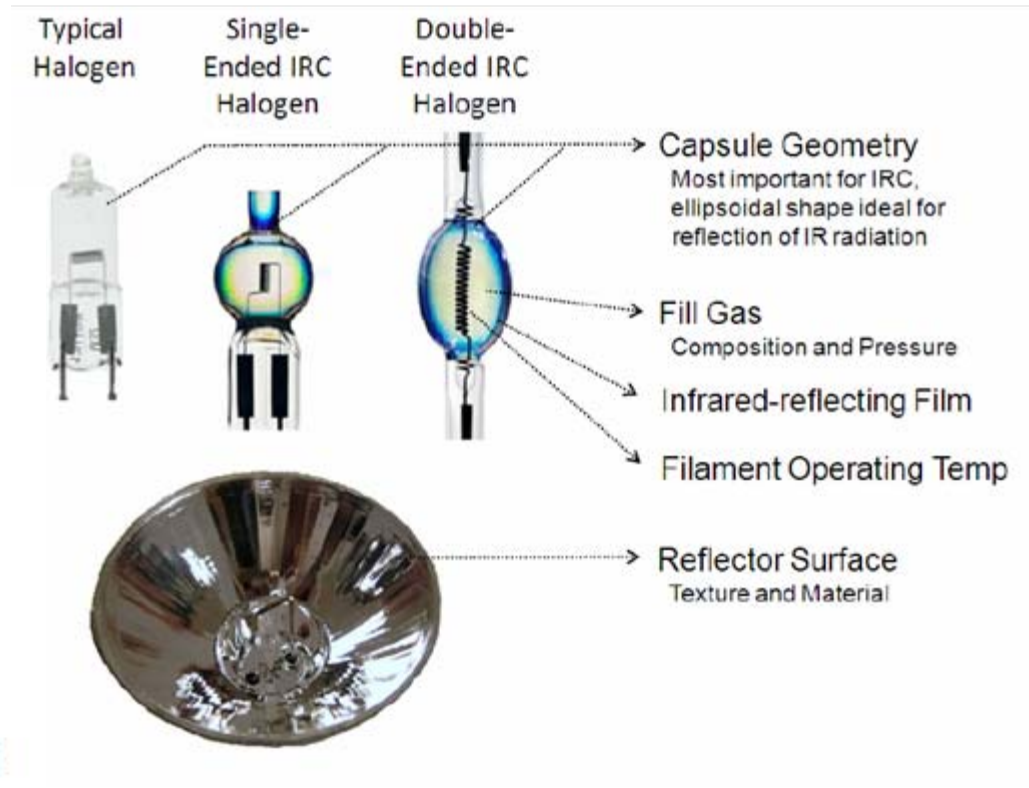
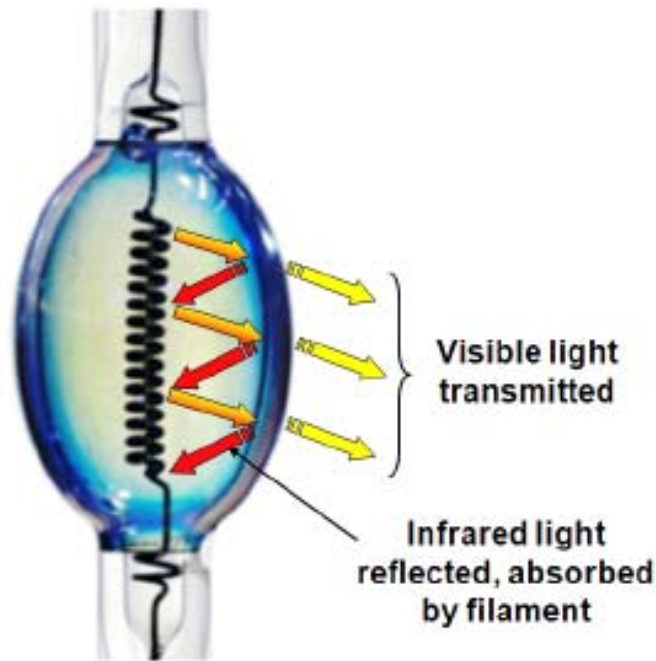
# The Incandescent/Halogen Contenders

Manufacturer	Product #	Watt	Lumens	Bulb shape	Base Type	Description	Rated Life(Hrs)
Philips	21354-6	40	800	T-60	Med	White	3000
Philips	21356-1	50	1100	T-60	Med	White	3000
Philips	21358-7	70	1600	T-60	Med	White	3000
General Electric	78795	29	310	A19	Med(E26)	Clear	1000
General Electric	78796	43	750	A19	Med(E26)	Clear	1000
General Electric	79797	53	1050	A19	Med(E26)	Clear	1000
General Electric	78798	72	1490	A19	Med(E26)	Clear	1000
Osram Sylvania	19008	28	455	A17	Med	Soft White	1000
Osram Sylvania	19009	43	785	A17	Med	Soft White	1000
Osram Sylvania	19010	72	1490	A17	Med	Soft White	1000

Watts	Base	Order Number	Domestic Code	Master Carton/ Inner Pack	Volts	Incand. Equiv.	Pack Type	Finish	Lumens	Average Rated Hours	MOL	MOD
<b>A19</b>												
42	Med.	36800	42A19/SW/ECO/H/2	30/6	120	60	Box (2)	Soft White	785	1000	4¼"	2 <sup>5</sup> / <sub>16</sub> "
72	Med.	36801	72A19/SW/ECO/H/2	30/6	120	100	Box (2)	Soft White	1500	1000	4¼"	2 <sup>5</sup> / <sub>16</sub> "
<b>R20</b>												
35	Med.	36802	35R20/ECO/H/FL	36/6	120	45	Box	Flood	310	2500	3 <sup>7</sup> / <sub>8</sub> "	2 <sup>11</sup> / <sub>16</sub> "
<b>BR30</b>												
50	Med.	36803	50BR30/ECO/H/FL	36/6	120	65	Box	Flood	590	2500	5 <sup>5</sup> / <sub>16</sub> "	3 <sup>3</sup> / <sub>4</sub> "
<b>BR40</b>												
50	Med.	36804	50BR40/ECO/H/FL	6	120	65	Box	Flood	590	2500	6 <sup>1</sup> / <sub>2</sub> "	5"
80	Med.	36805	80BR40/ECO/H/FL	6	120	100	Box	Flood	1080	2500	6 <sup>1</sup> / <sub>2</sub> "	5"

*This assortment supports current government legislation by providing efficient lighting alternatives to traditional lighting sources.*

# Improving Incandescent Efficiency by Recycling the Wasted Heat

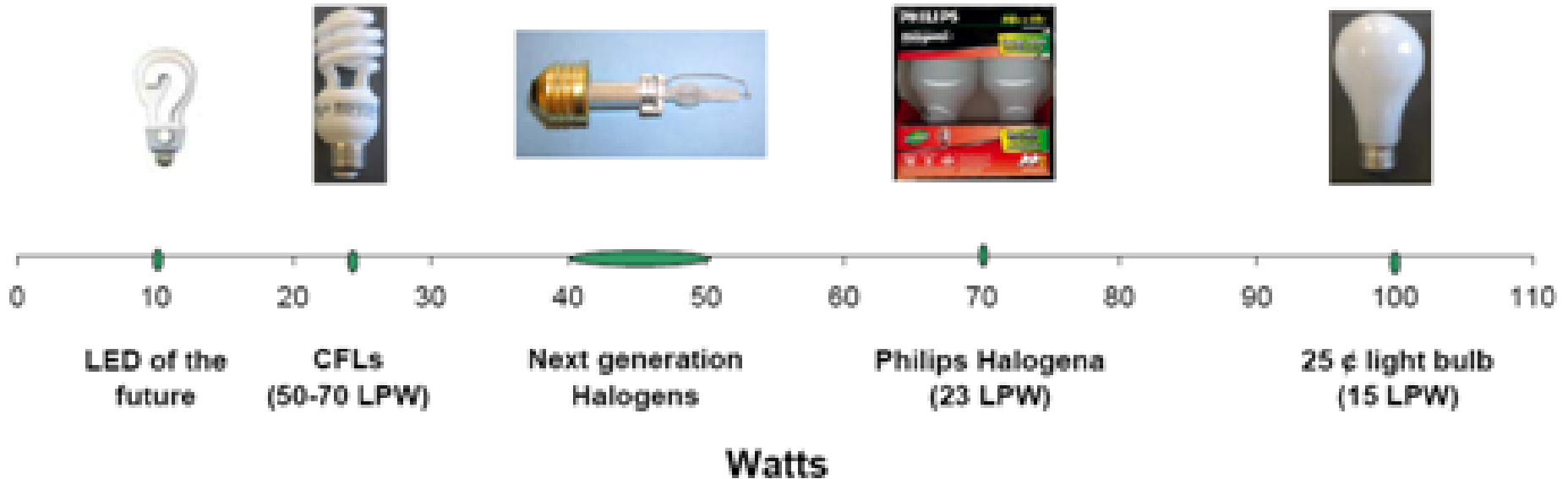


*CoGen in a Bottle*

Halogen Infrared Reflecting lamps are about 30% more efficient than standard incandescents. Deposition Sciences has technology to go to 50% savings.

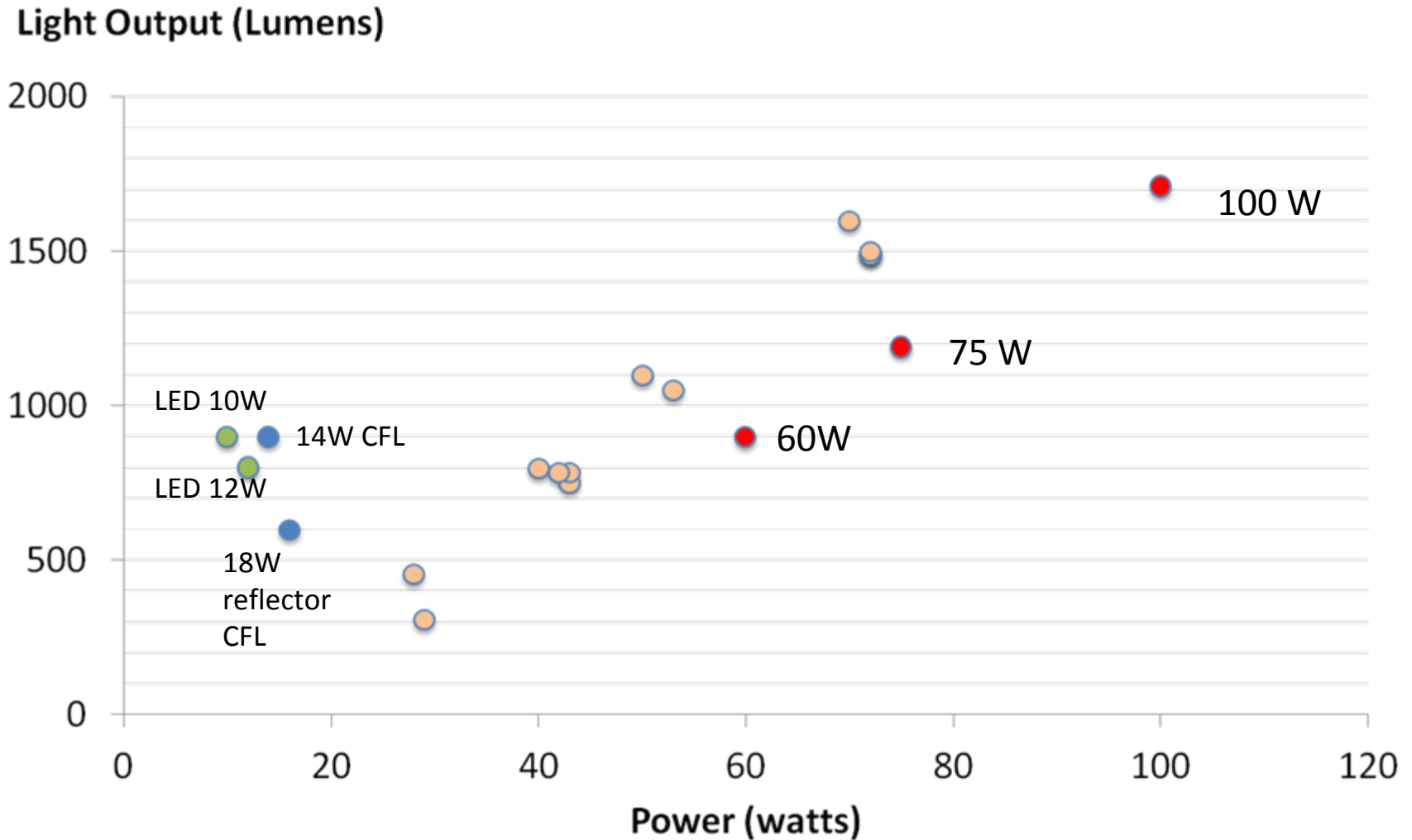
# How Low Can We Go?

## The 100 watt Replacement

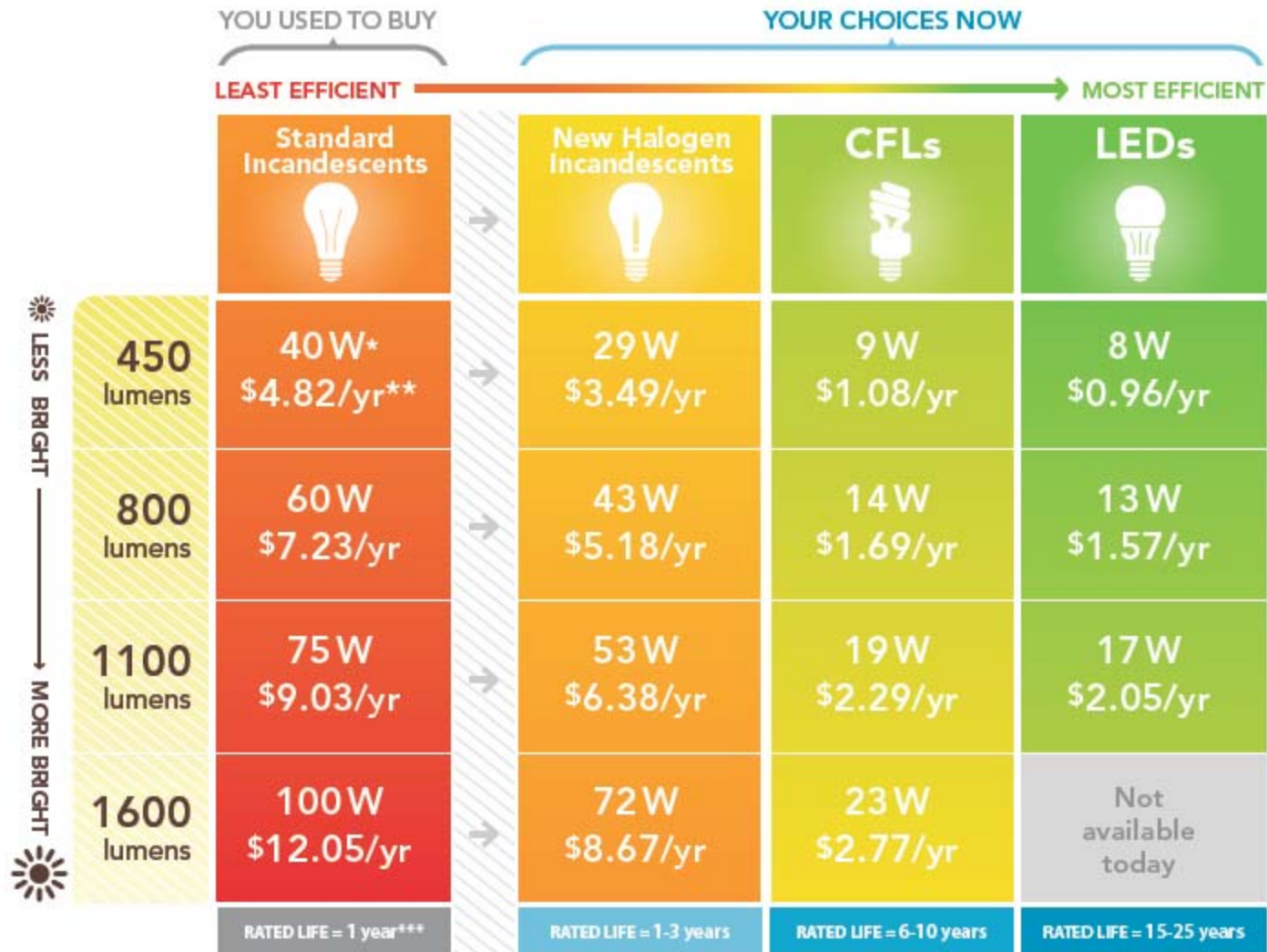




# Efficacies of Various Lamps



# Guide for Choosing the Best Bulb






\* energy use \*\* estimated energy cost per year \*\*\* rated life is based on 3 hours of use per day

# Long Term Cost Analysis

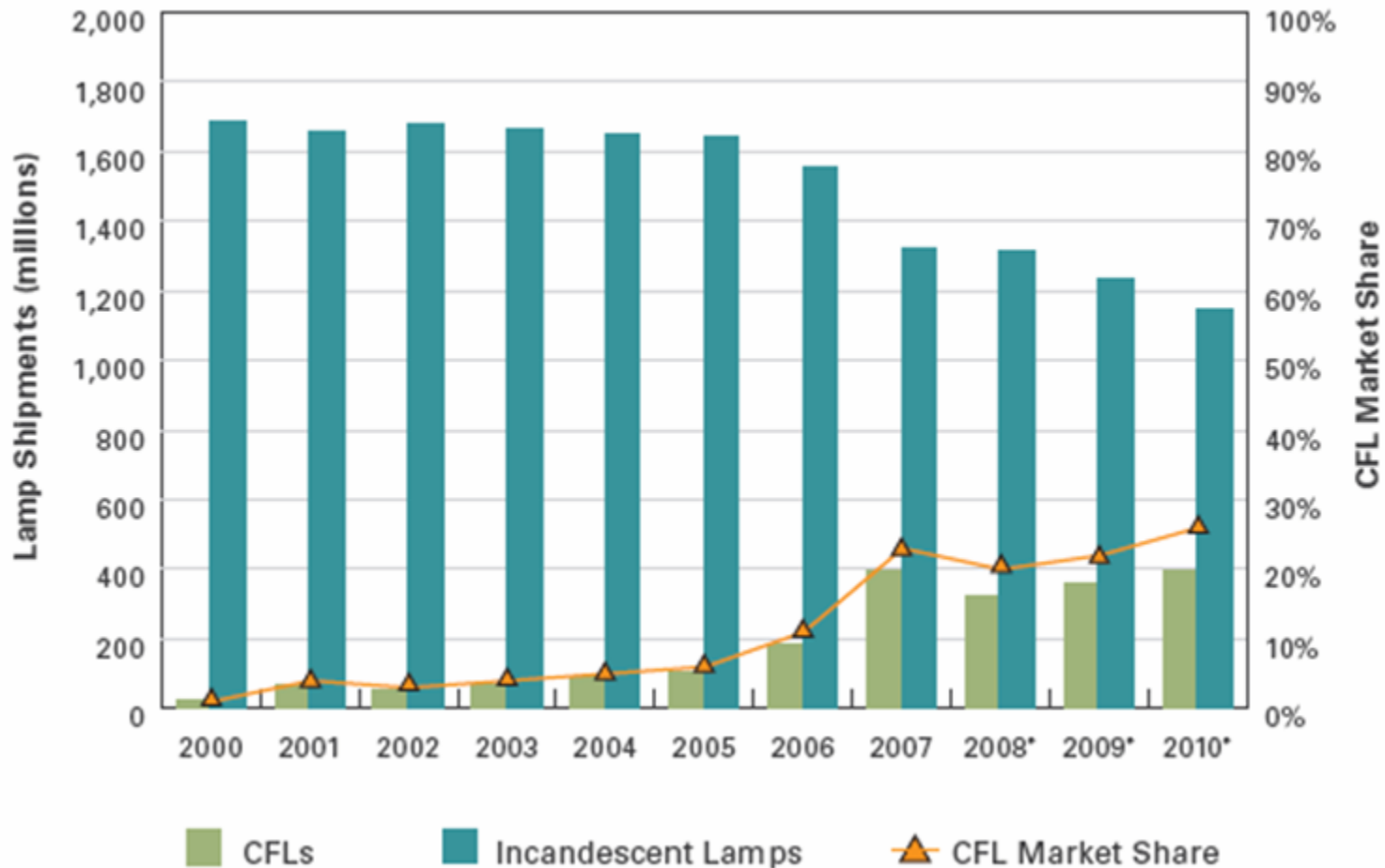
## Some bulbs last for 1 year and others last for 10 or more. Which bulbs cost the least in the long run?

While a traditional incandescent bulb may be the cheapest to buy, the overall cost of both purchasing and powering the bulb will be nearly four times higher than a CFL. And over the longer life of a CFL those savings can approach 50 dollars. The following table makes plain why more energy efficient bulbs are the best bargain overall.

Bulb Types (all approx. 1600 lumens)	Life	Costs	Year 1	Cost Annually	Total Costs over 6 years
<b>Standard Incandescent</b> <b>100 W</b> 	1 yr*	Bulb Cost	\$0.50	\$0.50	\$3.00
		Energy Cost	\$12.05	\$12.05	\$72.30
		<b>Total Cost</b>	<b>\$12.55</b>	<b>\$12.55</b>	<b>\$75.30</b>
<b>Halogen Incandescent</b> <b>72 W</b> 	1 yr	Bulb Cost	\$1.50	\$1.50	\$9.00
		Energy Cost	\$8.67	\$8.67	\$52.02
		<b>Total Cost</b>	<b>\$10.17</b>	<b>\$10.17</b>	<b>\$61.02</b>
<b>CFL</b> <b>23 W</b> 	6 yrs	Bulb Cost	\$3.00	\$0.00	\$3.00
		Energy Cost	\$2.77	\$2.77	\$16.62
		<b>Total Cost</b>	<b>\$5.77</b>	<b>\$2.77</b>	<b>\$19.62</b>

\* rated life is based on 3 hours of use per day

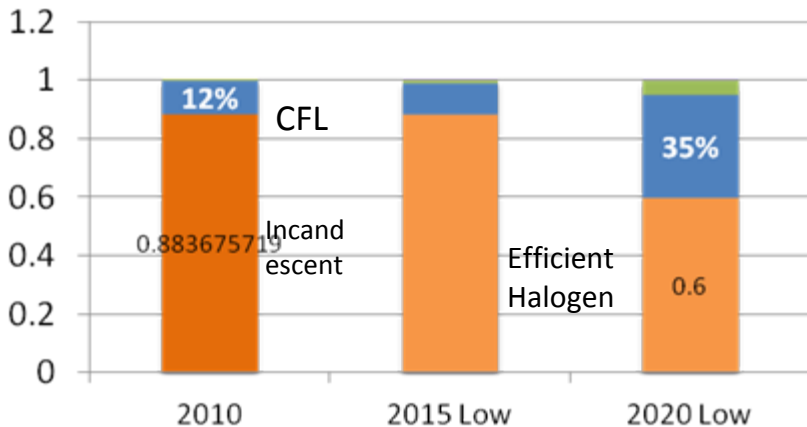
# Compact Fluorescent and Incandescent Lamp Shipments



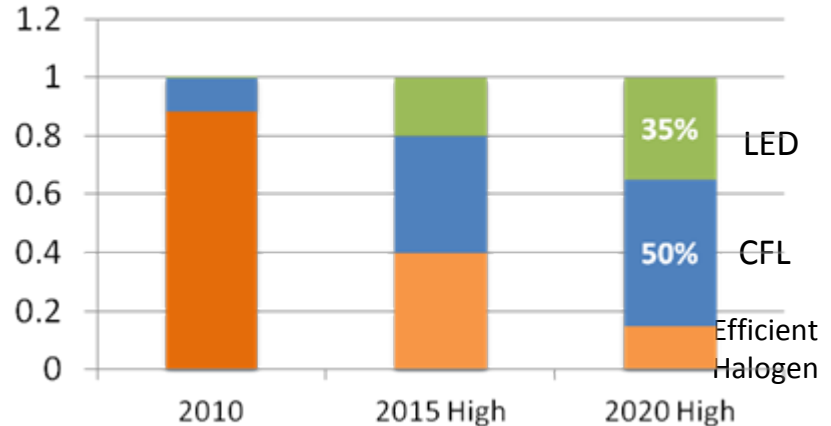
# Projected Energy Savings from EISA 2007

## 4.7 Billion A-Lamp Sockets in 2010

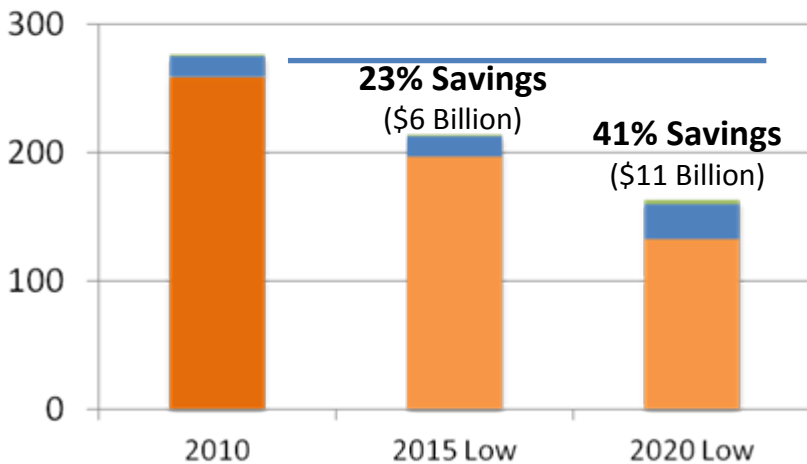
Number of Lamps (Relative to 2010)



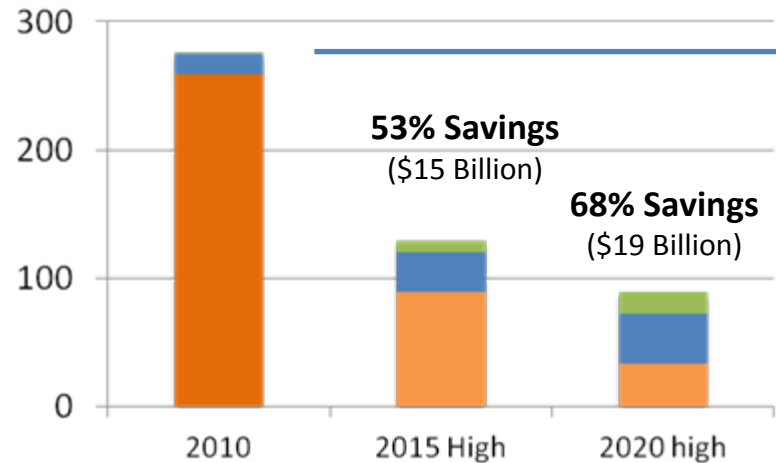
Number of Lamps (Relative to 2010)



Energy (Billions kWh)



Energy (Billions kWh)



**Low Penetration Scenario**

**High Penetration Scenario**



# Reports of Hoarding



Amy Ridenour, said she hoped to have several hundred by the time the new standards go into effect on Jan. 1. Her middle child, a 10-year-old son, is autistic, Ms. Ridenour said. “He’s knocked over quite a few lamps,” she said, and broken plenty of light bulbs in the process.



Karen De Coster  
Karen De Coster stands with the traditional incandescent light bulbs she has hoarded.

“I despise fluorescents; it’s too bright of a light, too obnoxious,” DeCoster said in an interview with msnbc.com. “These edicts [are] an attack on civilization. It’s a condemnation on our standard of living.”

# What's a Utility to Do?

- “Manufacturers have indicated that new incandescent lamps will be ready when the standards take effect, but it is unknown how the costs for new incandescent lamps will compare to CFLs. If prices for incandescent lamps remain sufficiently low, there may be a continued need for CFL promotions. If prices for incandescent lamps become level with CFL prices, no further CFL promotions may be needed.”

# More Information

- The new LUMEN Coalition website (nice animated file by FTC)
  - <http://lumennow.org/>
- FTC's website
  - <http://www.ftc.gov/bcp/edu/microsites/lightbulbs/index.shtm>
- DOE's website on "*Buy lumens not watts*"
  - [http://www.energysavers.gov/your\\_home/lighting\\_daylighting/index.cfm/mytopic=11976](http://www.energysavers.gov/your_home/lighting_daylighting/index.cfm/mytopic=11976)
- NRDC's Light Bulb Guide
  - <http://www.nrdc.org/energy/lightbulbs/files/lightbulbguide.pdf>
- DOE's CFL Market Profile, March 2009