

Town of Hollis

High Performance Lighting Upgrades

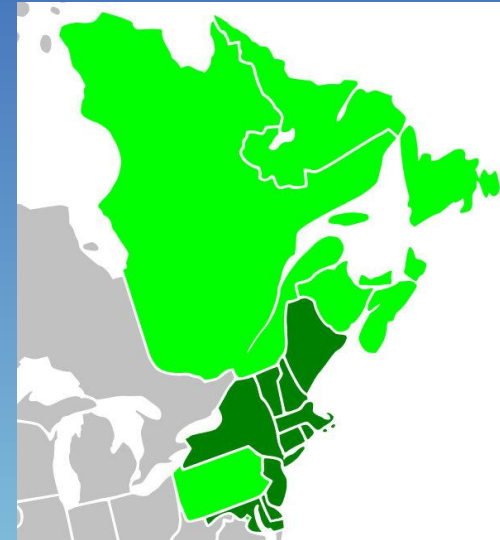


LighTec, Inc.

Designers and builders of energy efficiency retrofit projects for commercial, industrial, school and municipal buildings.

Regional Greenhouse Gas Initiative (RGGI)

- This energy-efficiency project was made possible, in part, through RGGI. Lowering bills. Conserving energy. Creating jobs.
- RGGI is a cooperative effort by ten Northeast and Mid-Atlantic states to reduce greenhouse gas emissions from the electric power sector through individual CO2 Budget Trading Programs in each of the ten participating states.
- Learn more at www.rggi.org/home



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Why Energy Efficiency?

- Keeps the cost of electricity down by reducing system wide peak demand for electricity.
- Energy efficiency is our cheapest source of electrical energy @ \$0.03 per kilo-watt hour (kWh).
- Spur economic growth through investment in our own state's economy of monies currently spent on energy imports.
- It's an uninterruptable power source.

(excerpt from the New Hampshire Climate Action Plan, March 2009)

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Why Focus on Lighting?

- Improved lighting enhances visual comfort, reduces eye fatigue, and improves performance on visual tasks.
- In a typical commercial building lighting can account for up to 35% of the electric bill. That is a big piece of the pie.
- Increasing lighting efficiency = decreased electricity cost
- Improving end-use energy efficiency means burning less fossil fuels

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Town of Hollis Project Goals

- Reduce electricity costs
- Improve lighting quality
- Take action to reduce the Towns carbon footprint



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Project Scope

LighTec, Inc. engineered and installed a high efficiency lighting and lighting controls project to replaced the 1990s vintage standard T-8 fluorescent lamps and ballast in the following locations:

School Buildings:	Town Buildings:	
Hollis-Brookline High School	Fire Station	Lawrence Barn
Middle School	Social Library	Transfer Station
Hollis Primary School	Police Station	Always Ready Engine House
Upper Elementary School	DPW Garage	Stump Dump Office
SAU Office	Town Hall	

Lighting Project Savings Summary: Hollis Schools

Annual Estimated Cost Savings:
\$55,332

Annual Estimated kWh Savings:
356,982

CO₂ Avoided: **176 metric tons**. Equivalent to:

- Carbon absorbed by **4,513** tree seedlings grown for 10 years
- Removing emissions from **34** cars and **19,731** gallons of gasoline consumed
- Removing **61** tons of trash from the landfill



Lighting Project Savings Summary: Hollis Municipal Buildings

Annual Estimated Cost Savings:
\$8,155

Annual Estimated kWh Savings:
49,566

CO₂ Avoided: **24 metric tons**. Equivalent to:

- Carbon absorbed by **616** tree seedlings grown for 10 years
- Removing emissions from **5** cars and **2,695** gallons of gasoline consumed
- Removing **8** tons of trash from the landfill



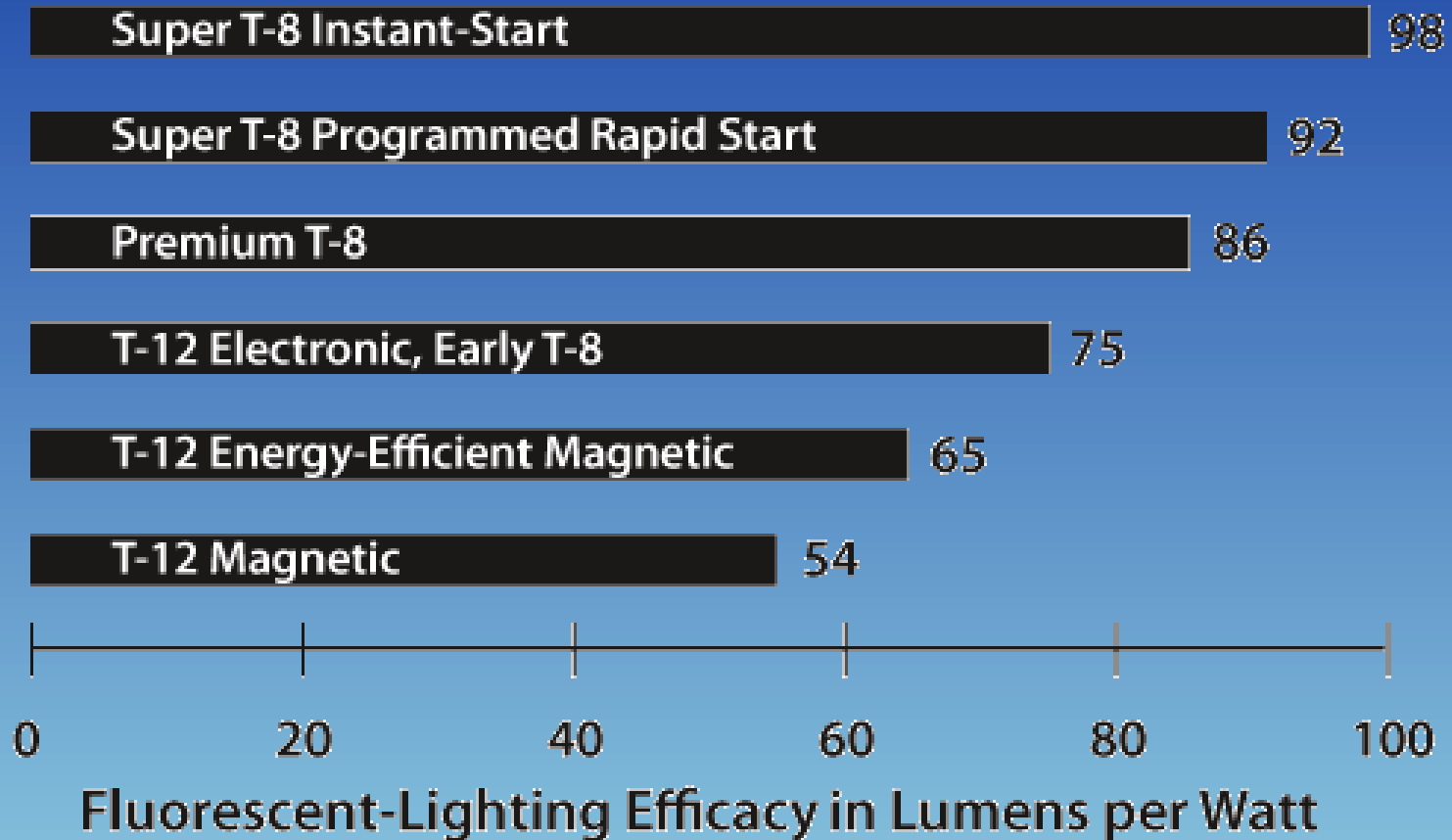
Lighting Terminology

- **Lamp (Bulb)**
- **Ballast**
- **Watt (W)**
- **Usage/Kilowatt hour (kWh)**
- **Lumens**
- **Efficacy**

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Efficacy in Lumens/Watt Fluorescent Systems



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Lighting Technologies Installed



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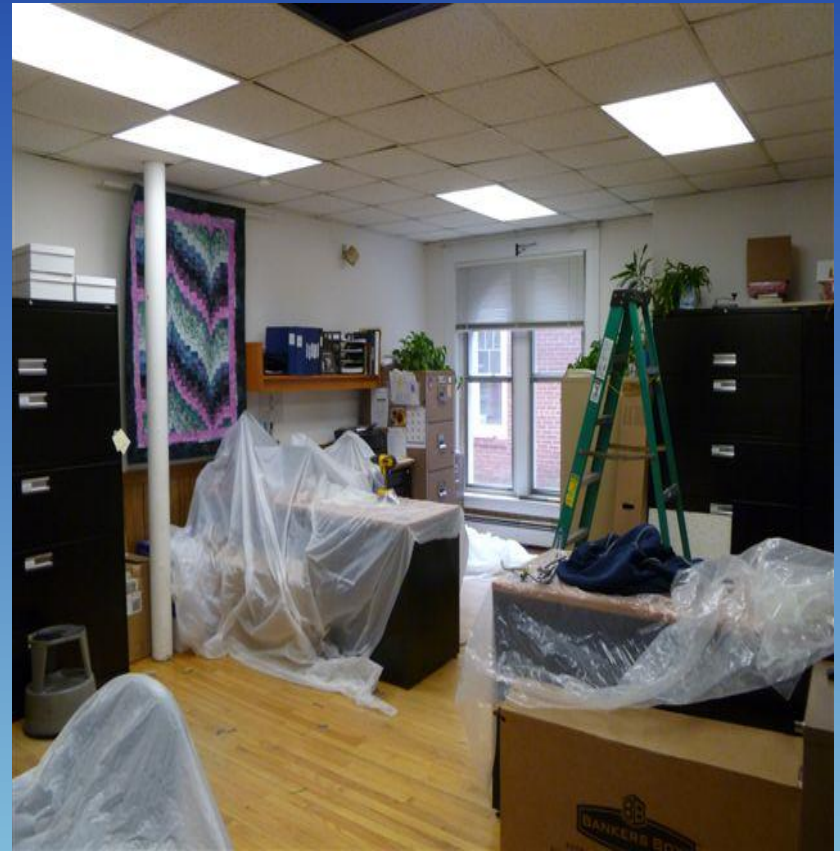


<http://www.asihome.com/images/sn-cm9r.jpg>

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Before and After



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Tips for Saving Energy at Home:

Change a Light

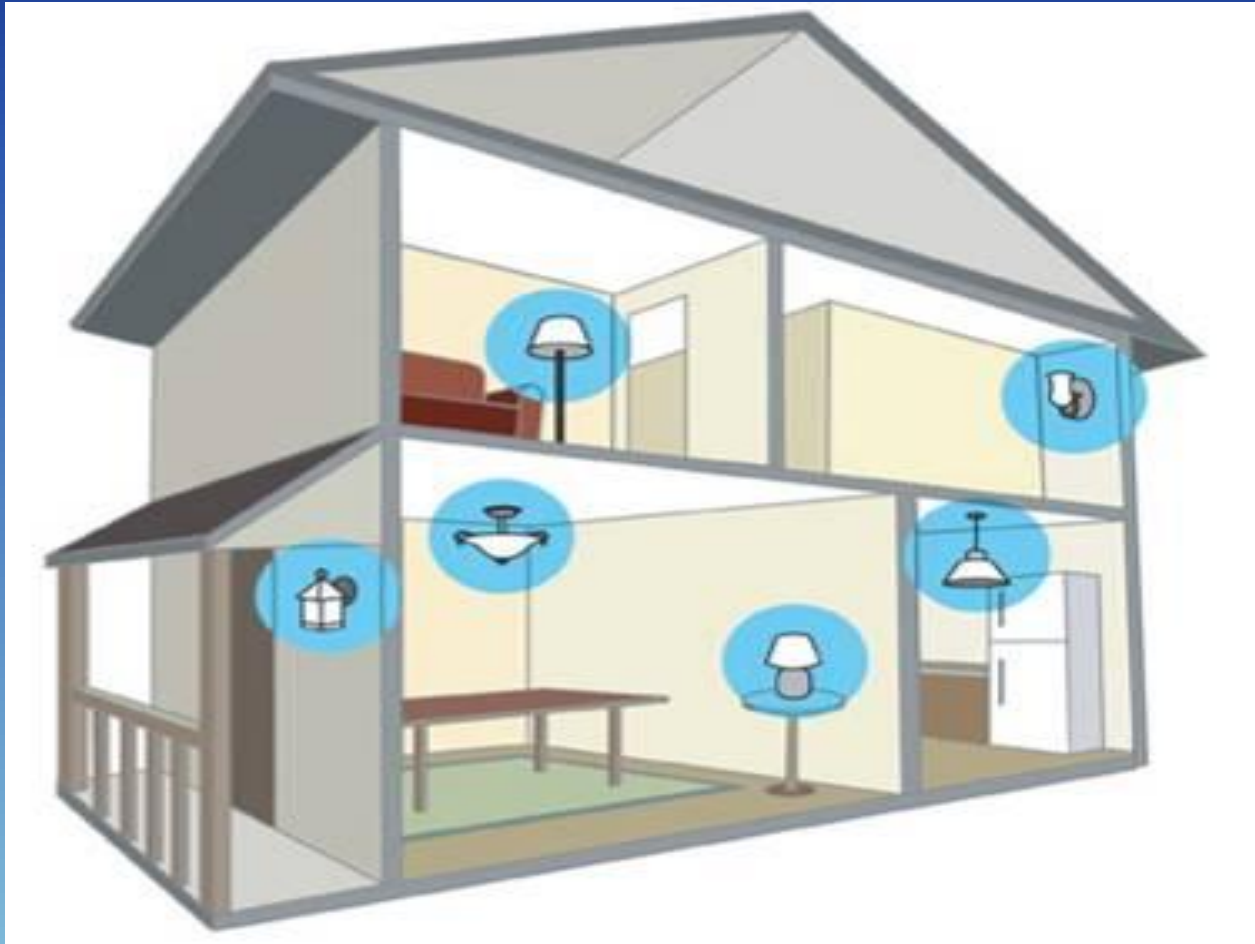
- Replace your five most frequently used light fixtures or the bulbs in them with ENERGY STAR qualified lights, and save more than \$65 a year in energy costs.



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Where to Use CFLs?



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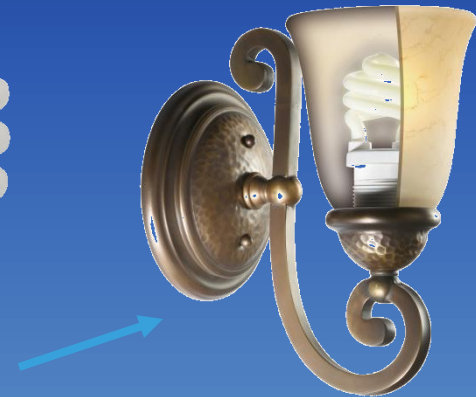
ENERGY STAR

Qualified Lighting Products



ENERGY STAR Qualified Light Bulbs

Typically purchased to replace incandescent bulbs in existing non-qualified light fixtures



ENERGY STAR Qualified Light Fixtures

Typically purchased as a complete new fixture that includes the CFL bulb

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No Cost Energy Savers

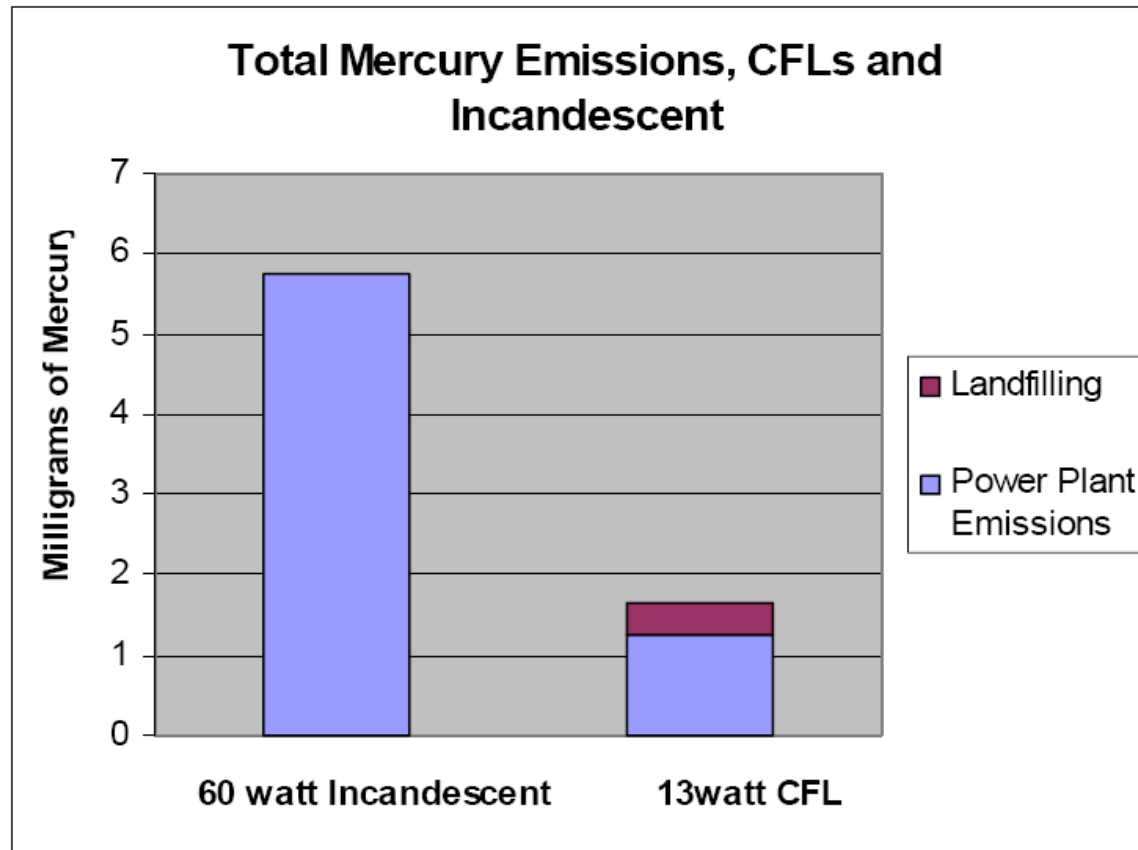


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Concerns about Mercury

Figure 1

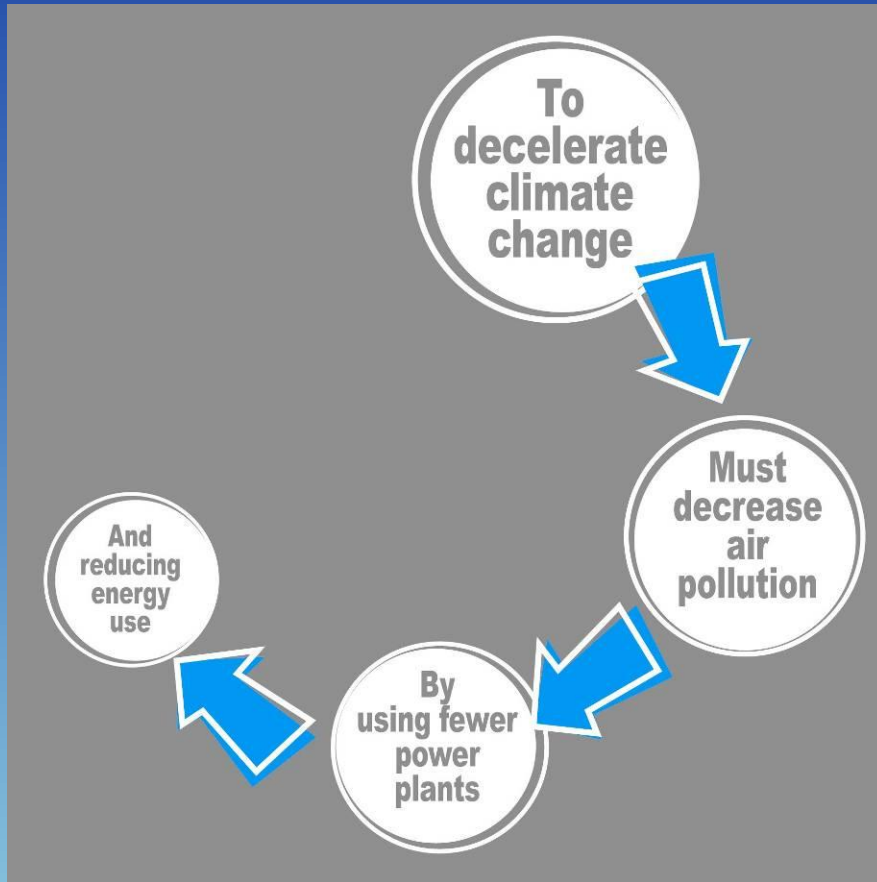


Source: http://www.energystar.gov/ia/partners/promotions/change_light/downloads/Fact_Sheet_Mercury.pdf

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Saving Energy Helps Protect the Environment



FACT:

If every American home replaced just one light bulb with an ENERGY STAR bulb, we would save enough energy to light more than 3 million homes for a year, more than \$600 million in annual energy costs, and prevent greenhouse gases equivalent to the emissions from more than 800,000 vehicles.

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Learn More

- To find out more ways you can save energy at home, visit:
www.myenergyplan.net
www.nhsaves.com
www.energystar.gov
- To learn about state, local, utility and federal incentives that promote renewable energy and energy efficiency visit: <http://www.dsireusa.org>

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