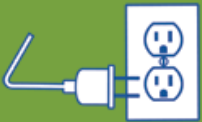




**LEARN**



**CONNECT**



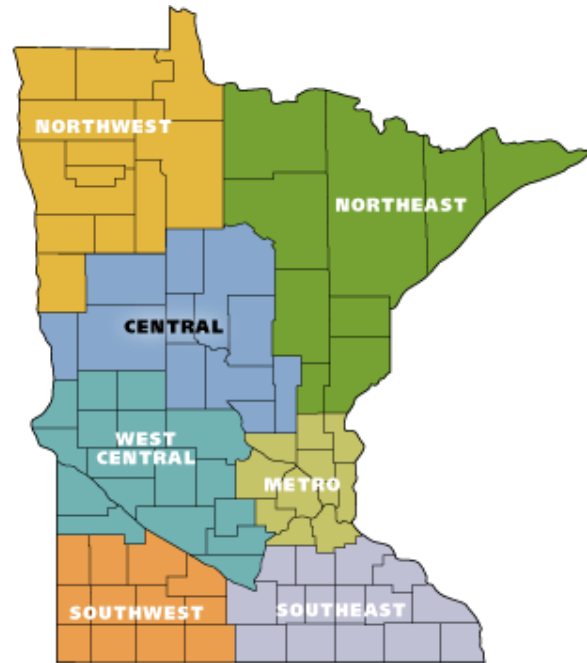
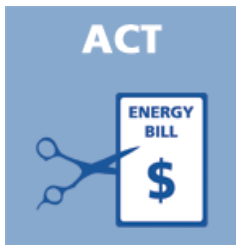
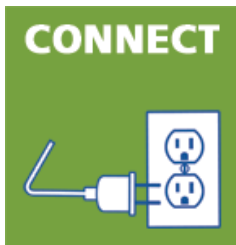
**ACT**



**UNIVERSITY OF MINNESOTA  
WEST CENTRAL RESEARCH AND  
OUTREACH CENTER  
SOLAR ENERGY WORKSHOP  
June 12th, 2012**



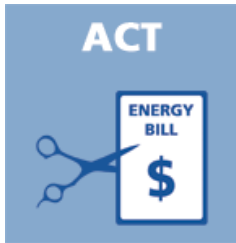
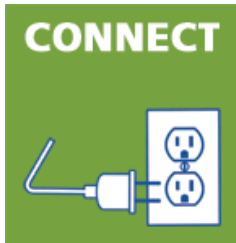
# Clean Energy Resource Teams



*“Helping Minnesotans Determine Their Clean Energy Future”*

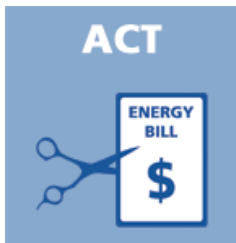
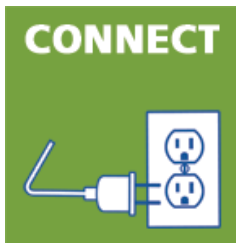


# Forums and Tours





# Seed Grants



**Deadline this round: July 2nd**

<http://www.cleanenergyresourceteams.org/rfp>



# Efficiency

**LEARN**

**CONNECT**

**ACT**

**CLEAN ENERGY RESOURCE TEAMS**

## Right Light Guide for General Use Bulbs

Today there are more lighting choices than ever before! This guide will illuminate the main differences between types of light bulbs, their brightness, and how to read new labels.

**STEP 1 Choose a New Bulb**

The main new light bulbs are LED, CFL, and halogen.

Which bulb you choose will depend on how much money you want to save, where you'll use the bulb, and other preferences.

The chart below shows the 10-year cost of the different types of bulbs, how many replacement bulbs are necessary over 10 years, and the pros and cons of each.

Bulb	10-Year Cost	Pros and Cons
LED	\$40	<ul style="list-style-type: none"> <li>Saves 85% in energy costs</li> <li>Longest lasting bulb on the market (10+ years)</li> <li>Dimmable from 10%-100%</li> <li>Not sensitive to colder temperatures</li> <li>Instant-on</li> <li>Mercury Free</li> <li>Greater upfront cost</li> <li>100W brightness equivalent pending</li> </ul>
CFL	\$43	<ul style="list-style-type: none"> <li>Saves 75% in energy costs</li> <li>Lasts 8 times as long as the incandescent</li> <li>Comparable cost to the incandescent</li> <li>Sensitive to colder temperatures</li> <li>Lesser dimmable range of 20%-90%</li> <li>Contains mercury-recycling required</li> </ul>
Halogen	\$110	<ul style="list-style-type: none"> <li>Same color quality as incandescent</li> <li>Mercury Free</li> <li>Comparable cost to the incandescent</li> <li>Saves 30% in energy costs</li> <li>Short life span like the incandescent</li> </ul>
Incandescent	\$160	

**Hint: Buy Quality Bulbs**  
With so many new bulbs on the market, quality can vary. Look for the ENERGY STAR label when you're buying efficient bulbs to ensure the quality of the light produced by the bulb and make sure it will have a long life.

**same as the old one.**  
...incandescent bulb, then convert to lumens. ... is the measurement of brightness. ... bulb that matches in lumens, not watts. ... nce, you'll replace an old 60W bulb with ... emits 800 lumens, such as a 13-16W CFL.

CFLs	LEDs
9-13W	4-5W
13-16W	6-8W
17-23W	9-11W
23-30W	11-15W

Most efficient →

**to the store.**

**Soft White or Warm**  
...idential general-use lighting, ... or a soft white or warm bulb, ... will most closely match the color ... tional incandescent bulbs.

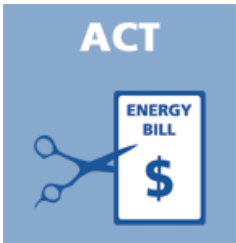
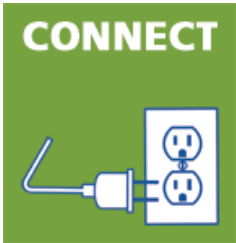
**Real People**  
...out lighting support they offer.

10-Year Cost Assumptions: 60W incandescent and efficient equivalents; use 3 hours/day; \$0.1158 kWh; \$5 labor time, travel, cost/replacement.  
Note: Non-residential energy rates are generally lower than residential.

... Minnesota communities determine their clean energy future



# Rural Minnesota Solar Initiative



Helping Minnesota farmers and small businesses learn more about how solar can work for them, and providing assistance to catalyze projects.

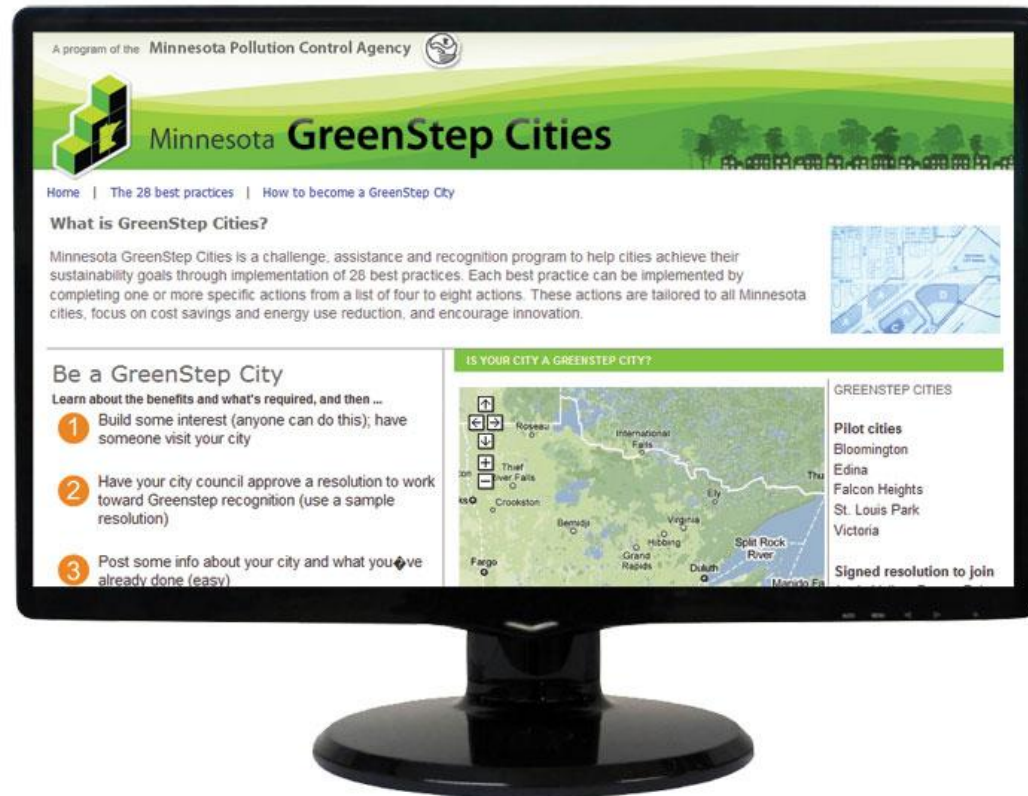
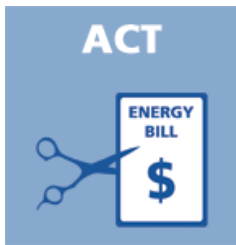
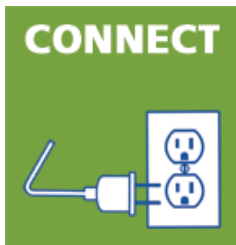


Committed to the future of rural communities.

[www.cleanenergyresourceteams.org/rural-minnesota-solar-initiative](http://www.cleanenergyresourceteams.org/rural-minnesota-solar-initiative)



# Minnesota GreenStep Cities





# FAMILY ENERGY FACE-OFF

**LEARN**

A white incandescent lightbulb icon on a yellow background.

**CONNECT**

An icon of a power outlet and a plug on a green background.

**ACT**

An icon of scissors cutting an energy bill with a dollar sign on a blue background.

The Mill Pond Minimizers  
[Meet the Team](#) | [Join the Team](#)



**MILL POND MINIMIZERS**

**SCORE: 28,505**

Jeff, Anne, Henry, and Hazel from New London, MN think this contest is going to be a cake walk!

The Prairie Penny Pinchers  
[Meet the Team](#) | [Join the Team](#)



**PRAIRIE PENNY PINCHERS**

**SCORE: 73,035**

Troy, Jenn, and Ely from Morris, MN aren't just saving the planet, they're saving for college!

<http://www.cleanenergyresourceteams.org/faceoff>