KUNI Radio Series "Unplugged"
Show #4: Compact Fluorescent Bulb Basics

From the Center for Energy & Environmental Education at the University of Northern Iowa, this is Pat Higby with a series of programs on KUNI to help you save energy.

Most Americans comparison shop, and look for bargains. But for true savings we need to take a long, not short-term look at the products we purchase. A life cycle analysis can reveal the hidden costs of items such as light bulbs. A compact fluorescent light bulb, or CFL, costs about four dollars and fifty cents, quite a bit more than a common incandescent, which costs about a quarter. But the CFL will burn for about 10,000 hours, and the incandescent for only about 1,000 hours, so their costs are getting closer, with one CFL at four fifty comparing with 10 incandescents at a total of two dollars and fifty cents.

Now for the hidden costs! You know incandescent bulbs get really hot. In fact, for every 100 units of energy put in an incandescent, only 25 units result in light, the rest is heat! A CFL is just reversed, with 75 units of light and 25 units of heat. So you get more light for fewer Watts with a CFL. That's why you can replace a 100 Watt incandescent with a 25 Watt CFL. In the 10,000 hours the CFL burns, the energy it uses is 25 x 10,000, or 250,00 Watt hours. The ten incandescents use 100 x 10,000, or one million Watt hours! At the national average cost of eight cents per kWh, the cost of burning the CFL is twenty dollars. The incandescents cost $80 to operate!

So the total lifetime costs turns out to be $24.50 for the CFL, and $82.50 for the incandescents. The up-front cost of the CFL is higher, but in the long run it is going to save you fifty-eight dollars per bulb! According to the U.S. Department of Energy, the average family can save more than $60 per year by changing their 5 highest-use fixtures to CFLs. Nationwide that would result in savings of $6 billion per year and the energy savings would be equivalent to the annual output of more than 20 power plants. No wonder the project to promote CFLs is called Change a Light, Change the World! It is a simple, relatively inexpensive way to achieve significant savings of energy and money.

I'm Pat Higby, Energy Educator at the Center for Energy and Environmental Education at the University of Northern Iowa.