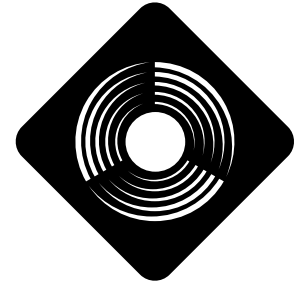


# USING ENERGY WISELY



**RENEWABLE ENERGY**  
THE INFINITE POWER  
OF TEXAS

**FACT SHEET 3** A RESOURCE FOR CLASSROOMS AND TEACHERS

## Highlights

- ◆ Almost everything uses energy
- ◆ Less energy, less pollution
- ◆ Efficiency revolution
- ◆ Energy efficiency saves money

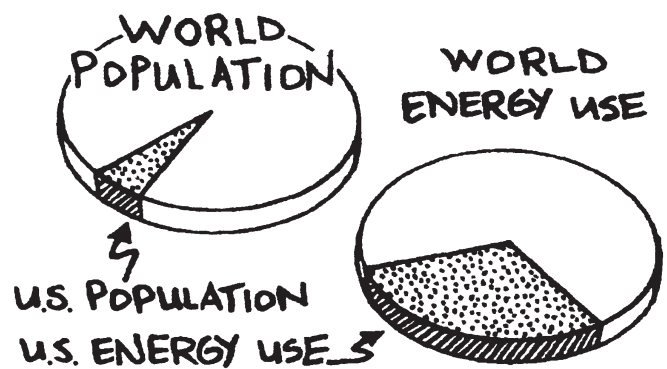
## How Much Energy Do We Use?

Imagine how much energy your family car would use in 156 years. That is how much the world uses every second. In the time it takes you to snap your fingers, the world uses the equivalent of 85,000 gallons of gasoline.

That means that you and I and every person in the United States use an equivalent of seven gallons of gasoline every day.

Everything we do requires energy:

- growing our food
- lighting our schools
- cooking our food
- driving to our offices
- manufacturing products
- keeping our homes cool or warm



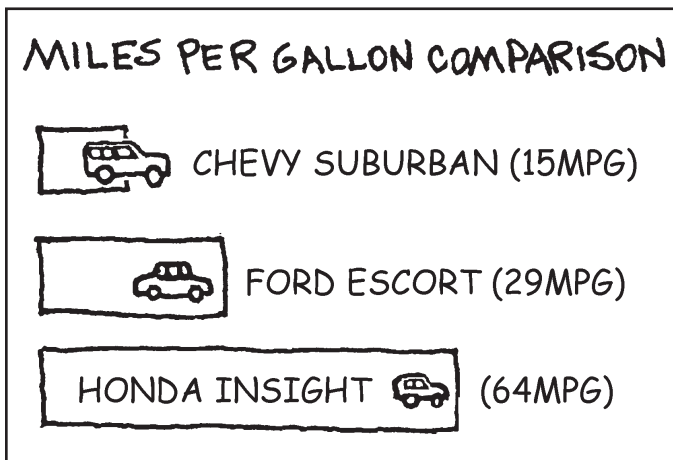
**WORLD VS. U.S.** The United States has about 5% of world's population, yet consumes about 25% of world's energy.

Energy is such a basic part of our lives, we could not make it through the day without it.

## Are We Using Energy Wisely?

In many cases, the answer is no. In the United States, we use twice as much energy per person as do countries such as Japan or Germany. The U.S. has only 5 percent of the world's population, yet consumes more than 25 percent of the world's energy.

Scientists point out that everything from cars, to light bulbs, to factories, to our homes could use energy more efficiently. We could have the same level of comfort while using one-half of the energy we now consume.



**FUEL EFFICIENCY OF DIFFERENT CARS** Some automobiles are dramatically more efficient than most cars we see on the road today. Honda's Insight is more than 4 times as efficient than a Chevy Suburban.

## Energy Creates Pollution

If you burned seven gallons of gasoline at an assembly in your school gymnasium it would make a very dramatic demonstration. It also would create a considerable amount of pollution. The air in your school would be filled with pollutants such as carbon dioxide, sulfur dioxide, nitrogen oxide and carbon monoxide.

Imagine when every person at your school and in your city uses the equivalent of seven gallons of gasoline every day. Using energy creates pollution. Saving energy prevents pollution.

## An Energy Revolution

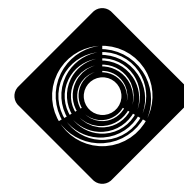
Students in school today will be the most efficient energy-using generation of Americans in history! The energy efficiency of practically every product is improving. We are starting to use energy more wisely.

New refrigerators are three times as efficient as the oldest refrigerators still found in America's kitchens. Windows are available today that have eight times more resistance to heat loss than standard single-pane windows. You can buy a car today that drives nearly 65 miles on a gallon of gasoline.

And even more efficient models of these items and others are on the way: cars that can drive from coast to coast on one tank of gas; windows that cloud up on hot days to keep the heat out; and refrigerators that use one-half the electricity of today's most efficient ones. It's truly a revolution in efficiency.

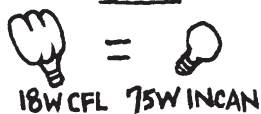
## Efficiency and Conservation Save Money

You have a choice when you use energy. Consider light bulbs. Some bulbs use much less energy than others. You also have a choice in air conditioners, most appliances and cars. Some conserve energy and save money.

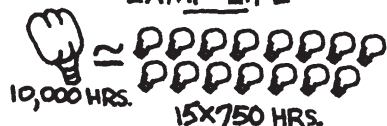


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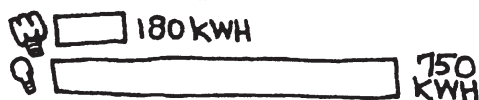
### ILLUMINATION



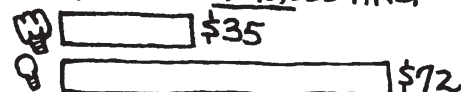
### LAMP LIFE



### POWER USED 10,000 HRS.



### TOTAL COST 10,000 HRS.



### COMPACT FLOURESCENT BULBS VS. INCANDESCENT BULBS

You have a choice when you use energy. Light bulbs and many other products are available that save energy and money.

A 75-Watt incandescent light bulb may be replaced with an 18-Watt compact fluorescent light bulb. Both produce the same amount of light, but changing bulbs will mean you save \$37 in energy costs during the 10,000-hour life of the fluorescent bulb.

When the cost of energy is included, the

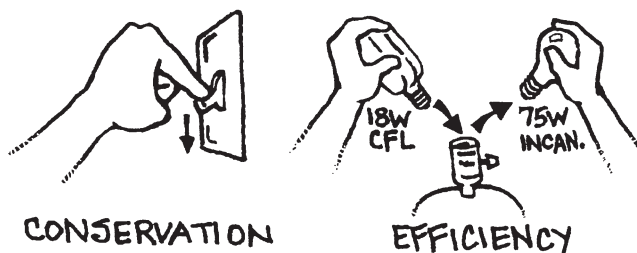
cheapest product is the one with the lowest overall cost to own and operate. Not only does the compact fluorescent light bulb save money, but it also reduces pollution. Look for efficient products and calculate how much energy they will use. Add the cost of energy over the life-time of the products to their purchase price. Choose to use energy wisely.

## WHAT IS ENERGY CONSERVATION AND ENERGY EFFICIENCY?

Energy conservation is turning off the lights when you leave the room, or setting the thermostat lower in the winter and wearing a sweater around the house. It is using energy without waste.

Energy efficiency is replacing a regular light bulb with a compact fluorescent bulb that uses one-fourth as much energy, or buying an efficient refrigerator. It is substituting improved technology for energy use.

Some people think energy conservation means keeping their house too cold in the winter or too hot in the summer. But it is never neces-



**CONSERVATION & EFFICIENCY** Conservation is using energy without waste. Efficiency is substituting improved technology for energy use.

sary to be uncomfortable when conserving energy or using it more efficiently. When applied intelligently, conservation and efficiency will not even be noticed. In fact, you will be more comfortable in most cases. Energy conservation and energy efficiency are important ways to use our energy wisely.



## A DAY WITHOUT ENERGY: TRY IT!

Imagine how you would spend a day without using any energy. When you wake up (to your wind-up alarm clock) you could mix some water with powdered milk to have with your dry cereal. (Oops. How much energy does it take to make cereal and powdered milk?) You could at least squeeze some oranges for juice.

Remember, no electricity to watch TV or use lights; read only by daylight. No gas for the car; walk or bike everywhere. It's OK to use free, natural energy like sunshine to dry your clothes, but be sure to wash them by hand in cold water.

What other ways do you use energy? What foods require energy to cook or keep fresh? (Remember, ice cream needs electricity to keep it frozen.) How will you get to school? Does your classroom have enough windows to provide light? Will the temperature be comfortable without air conditioning or heat? Would meeting outside under a tree be better?

- Think how you will get through a day without energy.
- Tell the class what you will do all day to use less energy.
- What is the smallest amount of energy you need for a day?

## Resources

### FREE TEXAS RENEWABLE ENERGY INFORMATION

For more information on how you can put Texas' abundant renewable energy resources to use in your home or business, visit our website at [www.InfinitePower.org](http://www.InfinitePower.org) or call us at 1-800-531-5441 ext 31796.

Ask about our free lesson plans and videos available to teachers and home schoolers.

### ON THE WORLD WIDE WEB:

Lighting Energy Brief  
[www.rmi.org/sitepages/pid171.asp](http://www.rmi.org/sitepages/pid171.asp)

School Energy Doctor  
[solstice.crest.org/efficiency/sed](http://solstice.crest.org/efficiency/sed)

The Home Energy Saver [hes.lbl.gov](http://hes.lbl.gov)

Texas Watt Watchers Program  
[wattwatchers.utep.edu](http://wattwatchers.utep.edu)

Sierra Club Suggestions to Reduce Global Warming  
[www.sierraclub.org/globalwarming/tenthings.asp](http://www.sierraclub.org/globalwarming/tenthings.asp)

Florida Solar Energy Center  
[www.fsec.ucf.edu](http://www.fsec.ucf.edu)

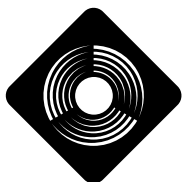
### VIDEO:

**Toast**, Bullfrog Films, 1974

**Wake Up Freddy**, Bullfrog Films, 1994

### BOOK:

**Homemade Money**, Richard Heede, Rocky Mountain Institute, 1995



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