Reading Passage

The Rewards of Renewable Energy

RENEWABLE ENERGY
THE INFINITE POWER OF TEXAS

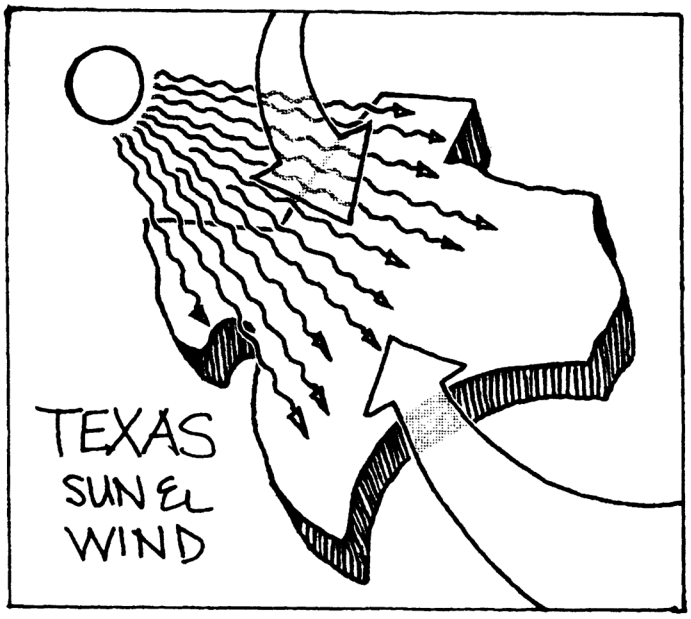
HIGHLIGHTS

- **The sun always rises; the wind always blows**
- **Sunshine and wind do not pollute**
- **Texas has lots of renewable energy**

SUNSHINE AND WIND ARE RENEWABLE ENERGY

Every time you fly a kite or hang your swimsuit out to dry, you are using two renewable energy sources – the wind and the sun.

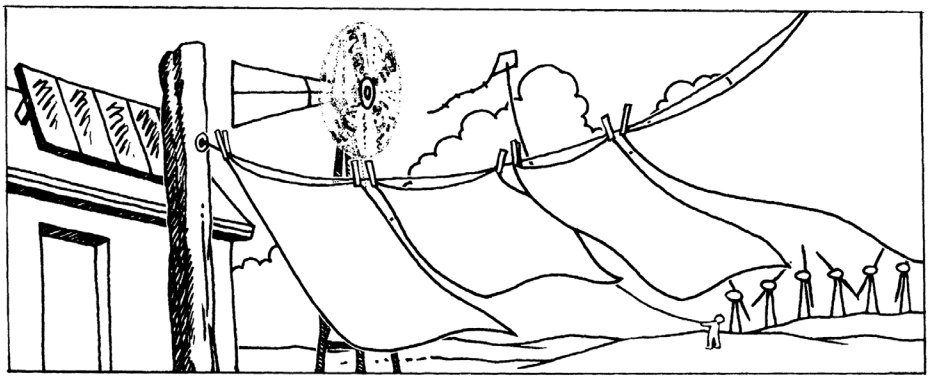
Why are these energy sources renewable? Because sunshine and wind are always around us. These energy sources will not run out. Every morning, the sun rises. And every day the wind blows. It may be a calm, cloudy day where you live, but the sun is shining and the wind is blowing other places in Texas and in the world. The sun and wind provide huge amounts of energy, more than enough to meet all of our needs.



TEXAS TOPS IN RENEWABLE ENERGY *Bright sunshine and steady winds could create more renewable energy in Texas than in any other state.*

On the other hand, fossil fuels, such as coal, oil and natural gas, need the right conditions in order to be made. It took millions of years for heat and pressure to turn layers of dead plants, animals, sand and mud into these fuels. This is why fossil fuels are called non-renewable energy sources. Once they are used, they are gone forever.

There are many good reasons to use renewable energy sources. If we are clever enough to use the energy in sunshine and wind, we can use it to heat our homes or run our cars, computers and TVs. When each day begins, it brings with it a new supply of renewable energy that cannot be used up!



FREE FUEL: SUNLIGHT AND WIND *If we are clever enough to capture the energy in sunshine and wind, we can use it in many ways.*

THE REWARDS OF RENEWABLE ENERGY

RENEWABLE ENERGY DOES NOT POLLUTE

Fossil fuel power plants that make electricity can pollute the air and water. Coal emits smoke and chemicals when it is burned to make electricity. Nuclear power plants create radioactive waste that is dangerous for thousands of years. Gasoline burned in our cars causes smog. Even natural gas adds to our pollution problems.

Some renewable energy sources, such as wind and sunshine, do not emit smoke or create pollution when they are used. Other renewable energy sources almost always cause less pollution than fossil fuels or nuclear power plants. Biomass, for example, is a fuel that comes from things that were once living, like wood or garbage. It is one of the renewable energy sources that makes less pollution.

TEXAS HAS PLENTY OF RENEWABLE ENERGY

Renewable energy is found in many places in the United States. There are many types of renewable energy in Texas alone such as solar, wind and biomass. Scientists estimate that Texas could meet half of its needs for electricity by not wasting any and with renewable energy. That is a lot of efficient washing machines, computers, streetlights and TVs that use wind and solar power!

RENEWABLE ENERGY IS FREE

The sun shines every day for all of us, free of charge. And the wind blows for free. But non-renewable energy sources can cost a lot of money to find and move. We must take the fossil fuels from the ground and ship them long distances to places where they can be used. Oil must be refined before it can be used. This is expensive. We also have to pay to clean up the pollution they cause. And as coal and oil supplies get used up, their prices get higher.

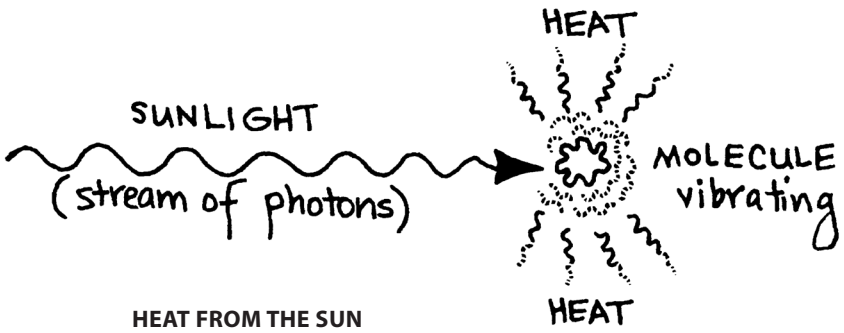
The equipment to collect and use solar and wind energy, such as solar panels and wind turbines, also costs money. But when you think about the resource being free, the total cost of using solar and wind energy can make them smart choices. The rewards are greater since solar and wind energy do not pollute our planet.

WHAT CAN THE SUN DO FOR YOU? *This could be your house and backyard. Draw yourself in your backyard and draw all the things the sun could be doing for you.*

HIGHLIGHTS

What can the sun do for you?

- heat your house
- cook your food
- make the plants grow
- dry your clothes
- what else can you think of?



HEAT FROM THE SUN
The sun's rays warm things by making molecules move around faster.

PHOTONS AND MOLECULES

The sun's rays are made up of photons. They are the smallest pieces of light that exist. Photons travel from the sun across space at a little over 186,000 miles a second. They keep moving until they hit something. If there is nothing in the way, they hit things on earth.

Everything in the universe – you, your school, the food you eat – is made up of tiny molecules.

When a photon hits a molecule, it gives it a shove. The molecule moves faster and heat is produced. The faster molecules move, the more heat they produce.