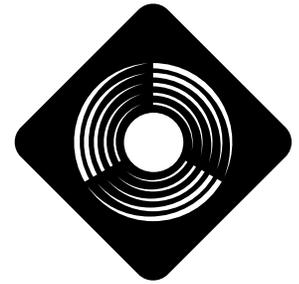


THE ADVANTAGES OF RENEWABLE ENERGY

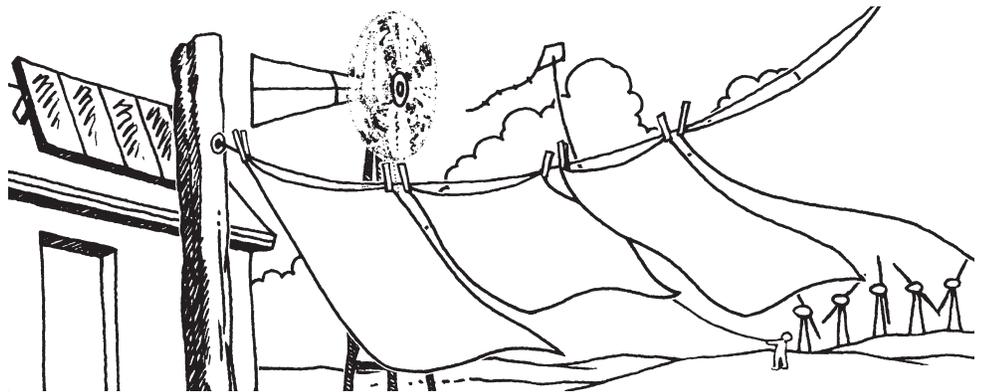


RENEWABLE ENERGY
THE INFINITE POWER
OF TEXAS

FACT SHEET 2 A RESOURCE FOR CLASSROOMS AND TEACHERS

Highlights

- ◆ The sun always rises; the wind always blows
- ◆ Sunshine and wind don't pollute
- ◆ Texas tops in renewable energy



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

Sunshine and Wind are Renewable Energy

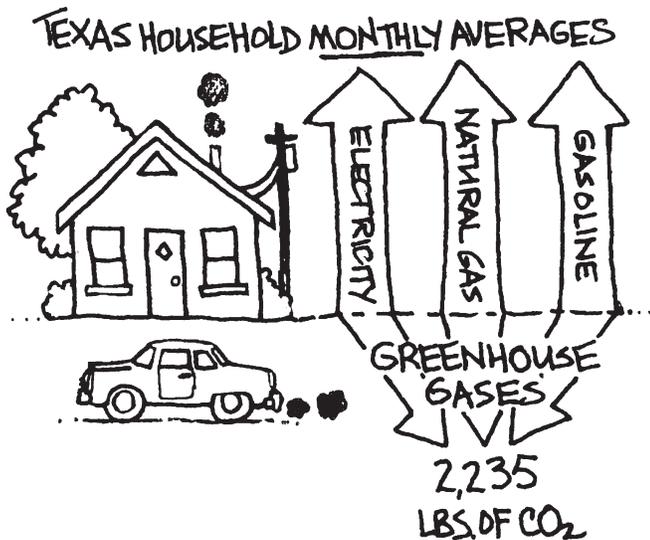
If you have ever flown a kite or hung your clothes out to dry, you have used two renewable energy sources – the wind and the sun.

Why are these energy sources renewable? Because our supply of sunshine and wind won't run out. Every morning, the sun rises. And every day the wind blows. Even if it is a calm, cloudy day where you live, 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.

On the other hand, fossil fuels, such as coal, oil and natural gas, take millions of years and just the right conditions to create. This is why they are called nonrenewable energy sources. Once they are used, they are gone forever.

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



HOUSEHOLD CARBON DIOXIDE PRODUCTION In Texas 96% of the energy we use results in the production of greenhouse gases - the cause of global warming.

Texas Has Plenty of Renewable Energy

Renewable energy is abundant in the United States and especially in Texas. Scientists estimate that Texas could meet half of its electrical energy needs with efficiency and renewable energy by 2010. That's a lot of energy efficient washing machines, computers, street lights and TVs running off wind and solar power!

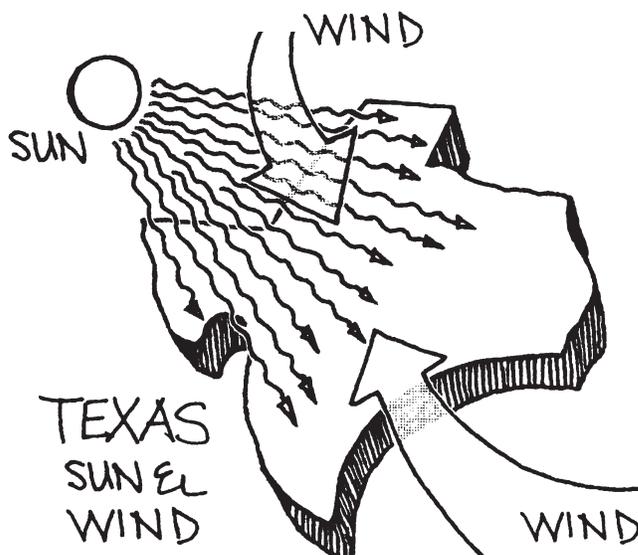
Renewable Energy is Free

The sun shines for all of us, free of charge. And the wind blows for free. But nonrenewable energy sources can cost a great deal. We must remove fossil fuels from the earth and ship

Renewable Energy Doesn't Pollute

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 contributes to the pollution problems.

Some renewable energy sources, such as wind and sunshine, don't emit smoke or create pollution when they are used. Others, such as biomass, almost always cause less pollution than fossil or nuclear alternatives.



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



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them long distances. 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 resources become more scarce, their prices increase.

The equipment to collect and use solar and wind energy, such as solar panels and wind turbines, costs money. But when you consider that the resource is free for the taking, the overall cost of using solar and wind energy can make them smart choices. Especially since solar and wind energy do not pollute our planet.

**“ONE STATISTIC MAKES CLEAR THE DEMAND
PLACED UPON OUR ECONOMIC SYSTEM:
EVERY DAY THE WORLD WIDE ECONOMY
BURNS AN AMOUNT OF ENERGY THE PLANET
REQUIRED 10,000 DAYS TO CREATE.”**

-PAUL HAWKEN, THE ECOLOGY OF COMMERCE

HOW MUCH POLLUTION DO YOU MAKE?

AN ECOLOGICAL FOOTPRINT FOR A TEXAS FAMILY

Families use energy directly, by burning gasoline in their cars and cooking dinner in their ovens. They can also use energy indirectly, by purchasing something, such as a sofa, that took energy to produce. Working this exercise will give you a simplified estimate of the amount of carbon dioxide air pollution your family produces by using energy directly.

An average Texas home uses about 1,000 kilowatt hours (kWh) of electricity per month. An average kWh produced in Texas creates 1.54 pounds of carbon dioxide (CO₂).

An average Texas home uses 12 therms of natural gas per month. Burning one therm of natural gas releases 39 pounds of CO₂.

An average new car gets 27.5 miles per gallon and travels 15,000 miles per year. Each gallon of gasoline burned emits 5 pounds of CO₂.

Add up the total pollution created by an average Texas home and car. Or work this problem using your own family's energy use. Look at your family's utility bills to see how much electricity and natural gas your family uses. Find out the fuel mileage of your family's cars and how many miles each is driven per year.

Could you replace any of this energy with clean, renewable energy resources? How much less pollution would you produce?

Work this exercise using the interactive calculators on the web at:
www.InfinitePower.org

Helpful Organizations

Comprehensive educational source for renewables:

CENTER FOR RENEWABLE ENERGY AND SUSTAINABLE TECHNOLOGY (CREST)

1612 K St. NW
Ste. 102
Washington, D.C. 20006
(202) 293-2898
solstice.crest.org

Good source for detailed information on renewables:

NATIONAL RENEWABLE ENERGY LABORATORY

1617 Cole Blvd.
Golden, CO 80401-3393
(303) 275-3000
www.nrel.gov

National group for renewable energy education:

AMERICAN SOLAR ENERGY SOCIETY

2400 Central Avenue, G-1
Boulder, CO 80301
(303) 443-3130
www.ases.org

Educational resources on Texas renewable energy:

TEXAS SOLAR ENERGY SOCIETY

P.O. Box 1447
Austin, TX 78767-1447
(512) 326-3391
e-mail: info@txses.org
www.txses.org

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 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:

www.ucsusa.org
www/eia.doe.gov/kids
www.eren.doe.gov/kids.html
edugreen.teri.res.in/explore/renew/renew.html

BOOKS:

RENEWABLES ARE READY. Nancy Cole, P.J. Skerrett, Chelsea Green Publishing, 1995

AMAZING SUN FUN ACTIVITIES. Michael Daley, Buckley Smith (Illustrator), McGraw Hill, 1997

DONE IN THE SUN - SOLAR PROJECTS FOR CHILDREN. Anne Hillerman et al, Sunstone Press, 1983

POSTER:

Our Energy Sources Are Outstanding in the Field. VERA, 1997 (Available from State Energy Conservation Office at 800-531-5441 ext 31796 or from the web at www.InfinitePower.org)

BOOK:

Texas Renewable Energy Resource Assessment: Project Summary. VERA, 1995 (Available from State Energy Conservation Office at 800-531-5441 ext 31796)



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