



FACT SHEET

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## WHAT IS RENEWABLE ENERGY?

### What is Renewable Energy?

- Renewable energy is generally defined as the direct use of wind, solar, biomass and geothermal resources to provide heating, cooling, electricity or fuel.
- Renewable energy resources, unlike coal, oil and natural gas, can be replenished.
- Other renewable energy options can include low impact, small-scale hydroelectric power, ocean energy, and hydrogen, which can be burned as a fuel or converted into electricity.
- Renewable energy provides jobs and strengthens the economy.
- Renewable energy is clean and has a much lower environmental impact than conventional energy technologies.
- Renewable energy will make our country and the world more secure.

### Solar Energy

- All the energy stored in the earth's reserves of coal, oil, and natural gas is equal to the energy from only 20 days of sunshine.
- Most areas of the United States receive enough energy to make solar energy practical. Capturing the sun's energy for light, heat, hot water, and electricity can be a convenient way to save money.



Warren Getz photo

This composite photo illustrates double-duty renewable energy production — simultaneous harvesting of the wind and switchgrass for use in electricity production.

### Wind Power

- The first heyday of wind power in America was from 1870 to 1930, when thousands of farmers used the wind to pump water and generate power.
- The second heyday is just beginning. Wind power is the fastest growing energy resource in the world.
- In the United States alone, over a billion dollars worth of wind turbines came on line between June 1998 and June 1999 — enough to power 350,000 homes. In theory, the wind could produce as much as six times current U.S. electricity use.



The Longfellow House in Cambridge, MA uses a GeoExchange system. The system carries heat from the building in the summer and deposits it in the ground, and collects heat from deep inside the ground in the winter for distribution throughout the building. GeoExchange systems are about 50-75% more efficient than gas and oil furnaces. In addition to providing the necessary climate control for historical preservation, the system eliminates the risks of a ignition/combustion heating source.

## Geothermal Energy

- The potential for geothermal energy-heat from the earth-is significant world wide.
- It is estimated that the uppermost six miles of the Earth's crust contains many times the energy of all oil and gas resources in the world.
- Geothermal is commonly used for direct heating and cooling and to produce electricity. Geothermal heat pumps, which exchange heat between the earth and a home or business, are useful in most areas of the West.

## Biomass Energy

- Biomass energy is produced from plants and organic wastes.
- Biomass can be burned and used directly for heating, or it can be used to produce steam to generate electricity.
- Biomass can also be converted into liquids or gases to produce electricity or transportation fuels.



Geothermal Heat Pump Consortium

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