

Name _____

Date _____

Energy Resources

List one advantage, one disadvantage and determine whether an energy resource is renewable or nonrenewable for the following energy resources.

| Energy Resource | Advantages | Disadvantages | Renewable or Nonrenewable |
|-----------------|------------|---------------|---------------------------|
| Fossil Fuels | | | |
| Nuclear | | | |
| Solar | | | |
| Water | | | |
| Wind | | | |
| Geothermal | | | |
| Biomass | | | |

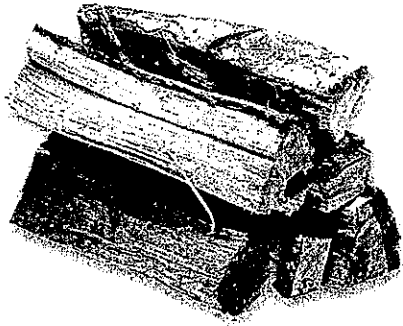


Figure 7 Plants capture the sun's energy. When wood is burned, it releases the energy it got from the sun, which can be used to generate electrical energy.

Geothermal Energy

Thermal energy caused by the heating of Earth's crust is called *geothermal energy*. Some geothermal power plants pump underground next to hot rock. The water returns to the surface as steam, which can then turn the turbine of a generator.

Reading Check Where does geothermal energy come from?

Biomass

Plants use and store energy from the sun. Organic matter, such as plants, wood, and waste, that can be burned to release energy is called *biomass*. **Figure 7** shows an example. Some countries depend on biomass for energy.

The Two Sides to Energy Resources

All energy resources have advantages and disadvantages. How can you decide which energy resource to use? **Table 1** compares several energy resources. Depending on where you live, what you need energy for, and how much energy you need, one energy resource may be a better choice than another.

renewable

| Energy Resource | Advantages | Disadvantages |
|---------------------|--|---|
| Fossil fuels | <ul style="list-style-type: none"> • provide a large amount of thermal energy per unit of mass • are easy to get and transport • can be used to generate electricity and to make products such as plastic | <ul style="list-style-type: none"> • are nonrenewable • produce smog • release substances that can cause acid precipitation • create a risk of oil spills |
| Nuclear | <ul style="list-style-type: none"> • is a very concentrated form of energy • does not produce air pollution | <ul style="list-style-type: none"> • produces radioactive waste • is nonrenewable |
| Solar | <ul style="list-style-type: none"> • is an almost limitless source of energy • does not produce pollution | <ul style="list-style-type: none"> • is expensive to use for large-scale energy production • is practical only in sunny areas |
| Water | <ul style="list-style-type: none"> • is renewable • does not produce air pollution | <ul style="list-style-type: none"> • requires dams, which disrupt a river's ecosystem • is available only where there are rivers |
| Wind | <ul style="list-style-type: none"> • is renewable • is relatively inexpensive to generate • does not produce air pollution | <ul style="list-style-type: none"> • is practical only in windy areas |
| Geothermal | <ul style="list-style-type: none"> • is an almost limitless source of energy • power plants require little land | <ul style="list-style-type: none"> • is practical only in areas near hot spots • produces wastewater, which can damage soil |
| Biomass | <ul style="list-style-type: none"> • is renewable • is inexpensive | <ul style="list-style-type: none"> • requires large areas of farmland • produces smoke |