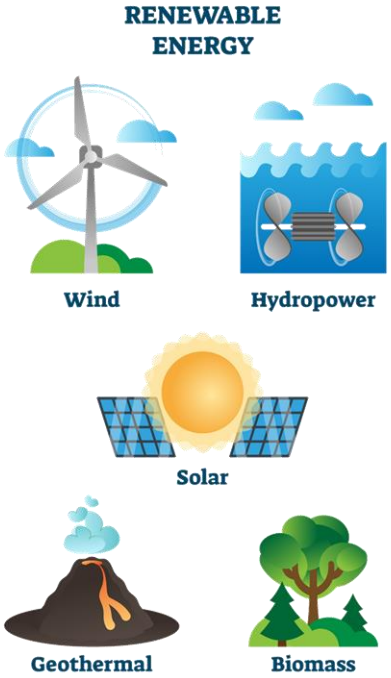
Natural Resources

Section 2: Renewable Energy Resources



Renewable energy resources come from natural processes that have been happening for billions of years and will continue to occur. Sun, wind, water, and geothermal energy are considered **inexhaustible energy resources** since they can never run out. There are advantages and disadvantages to each type of energy source.

Solar energy is energy we harvest from the sun. Solar cells actively collect the sun's energy and convert it to electricity. South-facing windows act as solar collectors that some people use to warm their homes. Solar cells are quite expensive and require a large surface area to collect and produce energy on a large scale. They are also not useable on cloudy days or at night.

Wind farms use large numbers of windmills to generate electricity. Wind energy is nonpolluting and relatively inexpensive. Unfortunately, few regions in the world have winds that are strong and steady enough to harness as much as they'd like. It's also an unreliable energy source since wind doesn't always blow.

Water energy is flowing water that is used to generate electricity. Hydroelectric energy is electricity that is generated from running water flowing over dams. Tidal energy is produced when the differences between high and low tides is used to turn turbines and create electricity. It harnesses energy due to the rise and fall of water. **Geothermal energy** is energy obtained from hot magma or dry, hot rocks inside the Earth. It can be used to heat homes and generate electricity in power plants.

Biofuels or **biomass energy** is energy that is produced by burning organic matter, such as wood, food scraps, and alcohol. Burning wood is the most common biomass fuel, but it can cause pollution and disrupt natural habitats when trees are cut down. Trash burning power plants can burn garbage to generate electricity, but pollution and toxic ash present a problem. Corn can be distilled into an alcohol, such as ethanol, but this process uses more energy than the ethanol produces.

Review:

1. What is a renewable energy resource?
2. List one advantage and one disadvantage to wind energy.
3. What is biomass energy?