

ACTIVITY LIBRARY — MIDDLE SCHOOL

Renewable vs. Nonrenewable Energy

Compares renewable and nonrenewable energy sources, and why the switch to renewable energy is still a work in progress.

Renewable Energy: Energy which is generated from natural processes and comes from sources that we cannot run out of.

For example:

- Solar Power ⇒ A common example is solar panels, which convert sunlight into electricity for our homes.
- Wind Energy ⇒ Wind turbines capture wind energy and convert it to electricity.
- Hydropower ⇒ Using the power of moving water, structures like dams use this type of renewable energy to turn generators.
- Geothermal ⇒ Heat from beneath the Earth's surface can be used to provide heat for buildings or generate electricity.

Nonrenewable Energy: This is the primary type of energy that we use, which comes from sources that will eventually run out. The most common type is fossil fuels.

For example:

- Coal ⇒ A solid fossil fuel which we burn to create energy.
- Petroleum (Oil) ⇒ A liquid fossil fuel that is commonly used for things like gasoline.
- Natural Gas ⇒ A type of fossil fuel trapped underground, used for heating and cooking.
- Nuclear Energy ⇒ The material used in nuclear power plants, Uranium, is nonrenewable. Nuclear energy is often used to generate electricity.

Making the Switch

Think about 2 reasons why nonrenewable energy is still more popular.

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Check Your Answers

Although renewable energy is better for our environment, nonrenewable energy still remains the dominant source.

This is because nonrenewable energy sources are:

- Relatively cheaper
- Energy-rich
- More convenient to use
- Well-established

The transition costs from nonrenewable to renewable energy can be high as well, which is why we still mostly use fossil fuels and other nonrenewable energy sources in our daily lives.

In the previous activity, if you listed any of these reasons above, then you are correct! However, even if you didn't, that doesn't necessarily mean you're wrong.

There are also many other factors to think about when considering why the complete switch to renewable energy still hasn't been made, so feel free to go online and check those out as well!

Reflect & Think Ahead

Imagine the year is 2060. What type of energy (nonrenewable vs. renewable) do you think will be the most popular, and why? Write 1-2 sentences explaining your choice.

BONUS: Include the specific nonrenewable or renewable energy source (eg. nuclear energy, solar power) that you think will be the most popular!