



Nuclear Energy

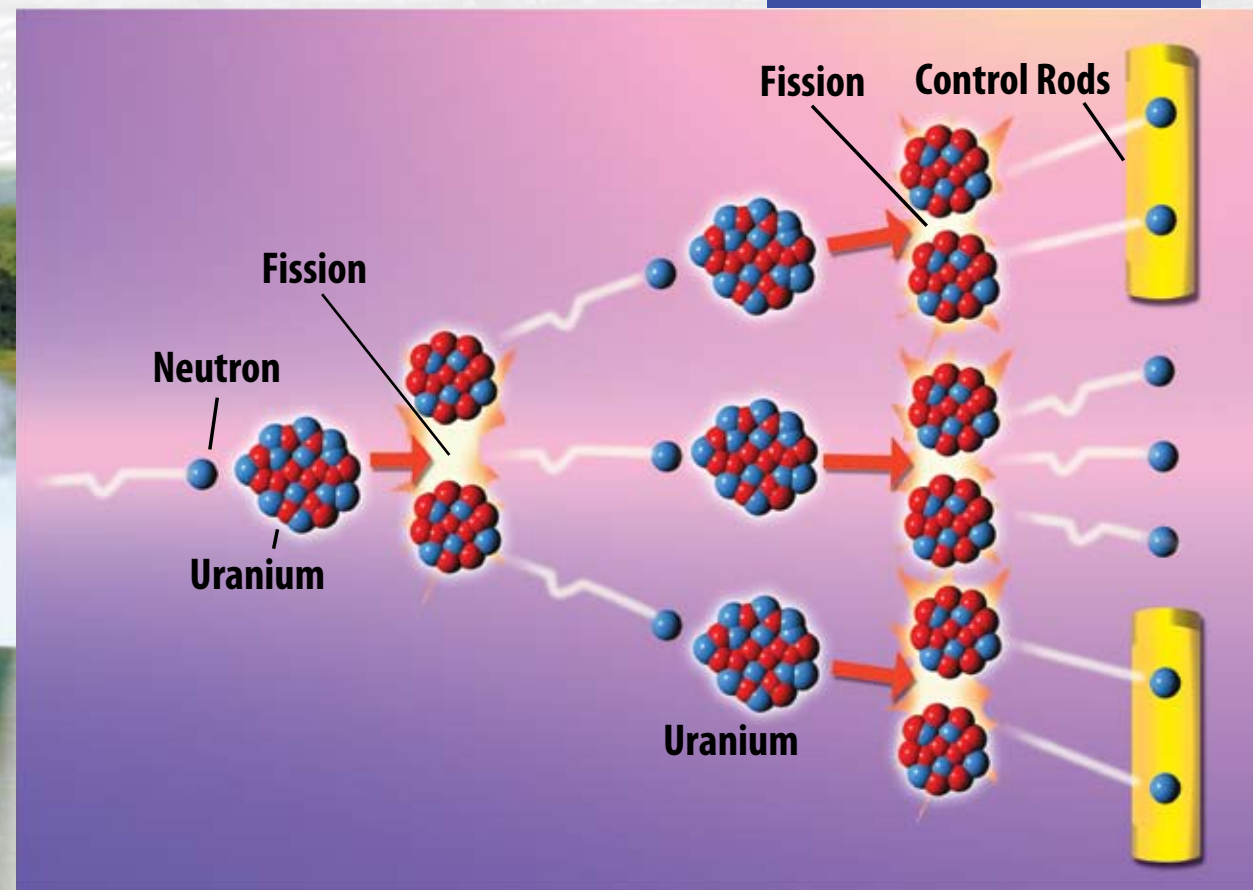
Nuclear energy is made by splitting atoms of **uranium** (yoo-RAY-nee-uhm). This is called **fission** (FISH-uhn). Nuclear power plants shoot neutrons into the atoms. The atoms break apart, releasing energy and more neutrons. Those neutrons hit other atoms. They break apart, too. This is called a **chain reaction**. Control rods absorb some of the neutrons. That way, the chain reaction doesn't get out of control.

Nuclear power makes about 11 percent of the world's energy. It makes a great deal of energy from a very small amount

of fuel. Nuclear power costs about the same as coal power, but it makes less air pollution. Nuclear pollution is **radioactive** (ray-dee-oh-AK-tiv) and very dangerous. It takes special care and handling. It needs to be sealed and buried for many years to let the radioactivity go away.

Don't Break the Chain

In 1942, a nuclear chain reaction was achieved for the first time. It made enough energy to light up a small flashlight. That was a small but important beginning. Today, nuclear energy provides power for entire cities and more.



← A nuclear power generating facility

↗ Nuclear chain reaction

Solar Energy

The sun gives energy in the form of **solar power**. To use solar power, solar cells change light into electricity. Or, solar water heating can use the sun's heat to warm water in glass panels. Water is pumped through pipes in the panels. Solar power works best where there is a lot of sunshine.

A good thing about solar energy is that sunlight is free. Unfortunately, the solar panels are not. The cost of building solar power stations is very high. After the stations are built, solar power is one of the cheapest energy sources available.

The drawback is that solar power doesn't work at night or when it rains. Energy needs to be stored for when the sun is not shining. In areas with a lot of sunshine, solar power is a good option.



↑ This home has solar panels on the roof to provide power.

← Large fields of solar panels are used to gather power that can then be distributed to local cities.

How to Help

Want to know how you can make a difference in energy use? Start with your school. Schools in large cities waste up to 25 percent of their energy. You can help by talking with your teacher, counselor, or principal about an energy audit. In an energy audit, students review the energy used. They do it by walking through the school and making notes. You look for lights left on when not needed. You look for windows and doors left open or not sealed, letting heat or air-conditioned cold escape. You look for appliances or lights that waste energy through age or design. Do this as a service project and make a big difference!

Sunburn

Have you ever used a magnifying glass to make something melt or burn? You were using solar power! (Don't try this without adult supervision!)

