

Energy for Life

by ReadWorks

ENERGY IS THE KEY

We use a lot of energy to live. Whether we're playing, studying or eating, energy makes these activities possible. We also use energy for production-to run machines, for instance. Much of this energy comes from fuels like oil, coal or natural gas. These fuels are used to make the blacktop and basketballs at recess, as well as generate the electricity for the lights all around you. Think of all the energy required to plant, grow, harvest, transport and cook your lunch, and you can start to understand that energy is a key to life!

NATURAL, BUT NOT FOREVER

Fuels like natural gas, oil and coal are important natural resources. They are known as fossil fuels and take millions of years to form. We've used them for hundreds of years, and they've powered everything from planes and trains to cars and computers. Unfortunately, fossil fuels are non-renewable forms of energy. Our power plants burn them faster than nature makes them, and when they are burned, power plants create emissions harmful to the environment.

To use fossil fuels, we first need to get them out of the earth with technologies like oil rigs, coal mines and natural gas wells. The drilling, mining and pumping of these natural resources often requires very large operations. These procedures result in producing the important energy we need, but they need fossil fuels themselves to operate and can often negatively impact the land where these fuels are found.

POWERING THE FUTURE

Fortunately, there are forms of renewable energy out there. They also come from nature and don't harm the environment as much as fossil fuels. Furthermore, they aren't consumed to produce energy, so we can use them again and again. One form of renewable energy is solar energy. Solar energy uses solar panels, which collect sunlight and convert it directly into electricity.

Another form of renewable energy is wind energy. Like an extremely large pinwheel, wind turbines have blades that rotate when the wind blows, and this movement generates electricity. Some solar and wind energy power plants are connected to batteries so they can supply electricity even when the sun isn't shining or the wind isn't blowing.

One form of renewable energy that has been around for a very long time is hydropower. Hydropower is energy produced by falling and running water. Hydropower technologies can be as simple as a watermill on a stream or as complex as a hydroelectricity dam. Hydropower is a great source of renewable energy: in Washington state (in the USA), for instance, it produces approximately 75% of the entire state's energy!

THE RIGHT PLAN

Using renewable energy is a good way to reduce our dependence on fossil fuels, though renewable energies have some negative impacts on the earth as well. Solar power plants are usually built in deserts where sunshine is reliable and strong, but the desert land that is disrupted for the construction and operation of these power plants is actually rich with plant and animal life.

Wind energy power plants are called wind farms and require a lot of land. Though each turbine only takes up a small area of land, wind farms can easily have hundreds or thousands of turbines. With that many turbines together, their presence can easily affect birds, bats and other wildlife in the area.

Hydropower plants can generate a lot of energy and electricity, but their existence can dramatically alter the environment around them. Many hydropower plants use dams to create the electricity. Fish can be easily blocked by a dam and prevented from swimming to important spawning grounds. Dams can also fail and cause massive flooding. Also, in the event of a drought, the electricity produced could truly be limited to a trickle!

However, by carefully planning the locations of renewable energy power plants, their harmful impact to the planet can be minimized and their renewable and sustainable benefits maximized.

LOOKING FORWARD

Almost everything we do requires some sort of energy. It's important to understand where our energy comes from, how it is produced and what effect each type has on our environment. As technology improves, we can balance the use of non-renewable fossil fuels with renewable energy for a healthier planet.