Read the following articles.

Facing the Challenge: Nonrenewable and Renewable Resources

Nonrenewable

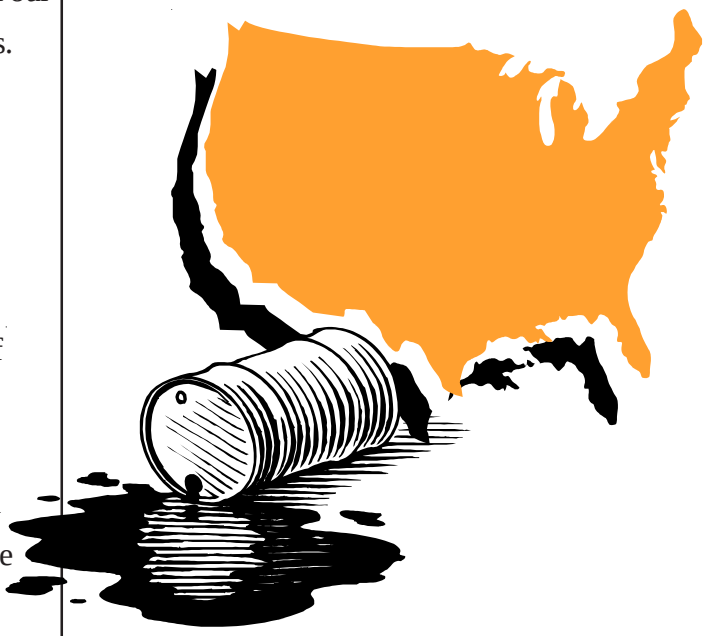
Fossil fuels are nonrenewable, which means that their supplies are limited. Coal, oil, and natural gas are examples of fossil fuels. Most of the energy we use today for industry, transportation, and in our homes, about ninety percent of our total use, comes from the burning of fossil fuels.

Fossil fuels are highly effective sources of energy because they are rich in hydrocarbons. When fossil fuels are burned, hydrocarbons combine with oxygen at high temperatures and significant amounts of energy are released. The amount of energy produced by burning oil and natural gas is three times greater than the energy produced by burning wood. In addition, fossil fuels are easier to transport, store, and use than most other fuel sources.

Many of the products we use everyday are made from fossil fuels. Petrochemicals are derived from oil or natural gas and are used to make plastics, fabrics, and building materials.

Despite these advantages, the use of fossil fuels presents several problems. The burning of fossil fuels for energy is a major cause of pollution. When burned, fossil fuels pollute our air with chemicals like carbon dioxide. When released, carbon dioxide traps dust and heat in our atmosphere, which contributes to global warming.

Fossil fuels are also subject to dramatic price changes due to varying supply and demand. Relying on fossil fuels also perpetuates our dependency on imported energy.



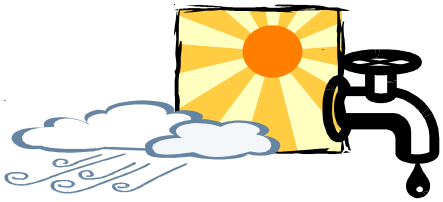
The United States, which is home to only five percent of the world's population, now uses more than thirty percent of all the energy produced globally today. Fossil fuel resources in the Earth are severely limited. At the present rate of use, the United States may run out of fossil fuels as soon as the year 2060.

Geologists are hard at work trying to find new sources of fossil fuels. Alternative energy sources are also being developed, but the conservation of current fossil fuel resources is still the best way to provide energy for the future.

Renewable

Renewable energy is generated from sources that are derived from, and quickly replenished by, the natural movements and mechanisms of the Earth.

The sun, wind, and water are major sources of renewable energy. Solar cells, wind farms, and hydroelectric power have been used successfully to generate electricity for industry, transportation, and for use in homes.



Renewable energy usually does not pollute the environment. However, renewable energy is difficult to harness. Energy from the sun and wind disperse throughout a very wide area . Since this energy is not concentrated in one place, it must be collected before it can be used. In addition, solar and wind energy must be converted into other viable forms of energy, such as heat and electricity. Finally, solar and wind energy must also be stored for use when the sun is not shining or the wind is not blowing.

Biomass is another form of renewable energy, that is derived from plants or animals. The solar energy stored in the chemical compounds of biomass can make liquid fuels like ethanol for cars, gaseous fuels like methane that can be burned in place of natural gas, and solid fuels like wood chips that can be burned instead of coal.

Scientists estimate that the solar energy received by the Earth in a single day is enough to meet the world's energy needs. The key in using renewable energy resources lies in our ability to develop affordable and reliable technology that can tap this immense nonpolluting resource. Furthermore, an incentive structure needs to be established that makes the investment in such technology viable.

The question is not whether there is enough renewable energy, but rather when will the technology be available that will allow renewable energy to emerge as a reliable and affordable source of energy.