Nonrenewable energy

The modern world uses a lot of energy to power everything from cars and planes to the gadgets in our homes. Most of our energy comes from nonrenewable resources (resources that will run out one day), such as fossil fuels.

Key facts

- ✓ **Nonrenewable energy comes from energy resources that will run out.**
- ✓ **Most of our energy comes from nonrenewable sources.**
- ✓ **Burning fossil fuels pollutes the atmosphere and causes climate change.**

Fossil fuels

Fossil fuels formed from the remains of plants and algae that lived in the distant past. For millions of years, these organisms transferred energy from sunlight to stored chemical energy. These fuels are very useful because a small mass of fossil fuel stores a large quantity of energy. However, burning fossil fuels pollutes the atmosphere with carbon dioxide and is the main cause of climate change.

Oil
Oil (petroleum) comes from tiny fossilized sea organisms. Crude oil obtained from underground is used to make gasoline, diesel, and kerosene (a liquid fuel used to power jet engines in aircraft). These fuels are very convenient to store, transport, refill tanks, and burn in engines.

Coal
This solid fuel formed from the fossilized remains of trees and other plants. Coal is burned in power stations and generates much of the world's electricity. As well as producing carbon dioxide when it burns, it produces a pollutant called sulfur dioxide, which causes acid rain.

Natural gas
Natural gas is burned in power stations to make electricity and in homes to power central heating systems or cook food. It transfers about twice as much energy per kilogram as coal, which means it releases only half as much carbon dioxide when burned, causing less pollution.

Nuclear power

Nuclear power stations use the energy stored in the atomic nuclei of radioactive elements such as uranium. Nuclear fuels are nonrenewable, but they store huge amounts of energy and do not emit greenhouse gases such as carbon dioxide. Disadvantages of nuclear power include the production of radioactive waste that remains harmful for thousands of years and requires burial deep underground and the risk of widespread contamination of the environment if there is an accident.