

The world gets most of its energy from non-renewable sources of energy. This energy has taken approx. 300millions of years to make from organic matter.

A non-renewable resource is a substance that is used up more quickly than it can replace itself.

The supply of a non-renewable resource is finite, which means it cannot easily be replenished.

Non-renewable resources are extracted directly from the Earth.

Fossil Fuels like: Coal, Crude Oil, Natural Gas are examples of non-renewable sources of energy.

Uranium is another example of a non-renewable energy source.

Renewable sources of energy include: solar, wind, wave, tidal, hydroelectric, geothermal and biomass.

An **advantage** of these sources of energy are that they are non-pollutant and never run out.

A **disadvantage** of these sources of energy is that they are often expensive to install and can be quite noisy. They also can disturb habitats and wildlife.

S2 Earth's Resources



Coal, oil and gas was formed from the dead remains of trees/plants and sea creatures that were around 300million years ago. When they died, they fell to bottom of the swamps. Over time they were covered with mud and sand, which protected them from the atmosphere, and this prevented them rotting away. With heat and pressure, they turned into coal, oil and gas.



The Earth's rocks are constantly changing. They have been slowly recycled over millions of years. This is called the rock cycle.

Sedimentary rocks form when tiny particles of rock that have been weathered and eroded settle out of slow-moving water. Over time, the layers are compressed and glued together.

Metamorphic rocks are formed from other rocks, igneous or sedimentary, which are heated and compressed underground.

Igneous rocks are formed when molten rock from volcanic activity cools down either underground or on the surface. This slow but continuous cycle of rock formation is happening right now.

A rock is an aggregate of one or more minerals, or a body of undifferentiated mineral matter. Common rocks include granite, basalt, limestone, and sandstone.

A mineral is a naturally occurring inorganic element or compound having an orderly internal structure and characteristic chemical composition, crystal form, and physical properties.

Common minerals include quartz, feldspar, mica, amphibole, olivine, and calcite.



Soil is a mixture of tiny particles of rock, dead plants and animals, air and water. Different soils have different properties depending on their composition.

- Sandy soil is pale coloured and has large particles. These create lots of small air gaps. Water drains through them easily so it usually feels dry. **Humus** is the material in the soil that is formed by the decay or partial decay of plant, animals and micro-organisms.
- Clay soil is usually sticky and has small particles. They contain very few air gaps and water does not drain through it easily.
- Chalky soil is a light brown soil. Water drains through it quickly.
- Peat does not contain any rock particles. It's made from very old decayed plants and is dark, crumbly and rich in nutrients.
- Loam soil is a type of soil that is a mixture of sand, silt, and clay. Loam soil holds nutrients and has a texture that retains water long enough for plant roots to access it, yet it drains well.
- pH of soil. Soil pH = 7 (neutral). Soil pH less than 7 (acidic). Soil pH more than pH 7 (alkaline).

How does farming affect soil?

Soil drainage can be improved though farming

How does farming affect soil?

Fertilisers can be added to the soil (natural / artificial) to improve nutrients.

Lime or another alkali can be added to the soil to increase the pH

Bare soil is more easily eroded by wind/water.



Extraction of natural products.

Natural Rubber -

Extraction

Bark from the trees to extract a milky white sap which is shaped into sheets and dried in the sun.

Use

Tyres on our vehicles, soles on our shoes, it makes seals for engines and refrigerators, insulates wires and other electrical components. It is used clothing, sports balls and the humble elastic bands.

Vegetable Oil

Extraction

Plants.

Use

Cooking / biofuel

Milk / Beef

Extraction

Animal (eg. cow)

Use

Food industry