

Read through the following information about energy resources

Our planet requires a constant supply of energy, from a variety of renewable and non-renewable energy resources, every day. Eventually, as deposits of gas, oil and coal become rarer they will become too expensive to extract, making them an unviable source of energy. The Earth will, in effect, run out of non-renewable resources and so it will be necessary to make more use of renewable energy resources. This activity addresses the key questions that need to be considered in the development and use of energy resources as well as environmental issues surrounding pollution and disposal.

Some of the energy resources that we use on Earth are renewable, which means that they will not run out for as long we inhabit the Earth. This is expected to be a time period of a few million years. However, non-renewable energy resources will run out because they are being used at a greater rate than the rate at which they are being formed.

The fuels we use to power our homes and transport can come from renewable sources such as biofuels – living materials or ethanol, wood, methane or sugar. Alternatively, non-renewable fuels such as nuclear fuel (uranium or plutonium) and fossil fuels (coal, oil, and gas) can be used as fuels. These are especially useful in power stations for the generation of electrical energy. Nuclear fuels were formed in stars and became part of the Earth's fuel supply after the occurrence of a supernova. Fossil fuels are formed from the effects of heating and high pressure on the remains of wood, animals, and sea creatures over many millions of years. There is not much non-renewable energy left as fossil fuels – although nuclear fuels will last for a much longer time.

Energy sources, whether renewable or non-renewable are used for heating, transportation and for the generation of electrical energy. There has been an exponential increase in the demand for energy resources since the late 1800s. Prior to this, the world's energy source use was fairly constant at around 20 exojoules per year. Since 1860, the use of coal has developed, since around 1910 there has been a greater use of coal and gas and since the 1960s, more and more nuclear fuel and hydroelectricity have been used to meet the energy demands of people.

Questions

1. State the meaning of

a. a non-renewable energy resource,

.....
.....

(2marks)

b. a renewable energy resource.

.....
.....

(1 mark)

2.a.Explain what is meant by a fuel.

.....
.....

(1 mark)

b. State 3 examples of fossil fuels

.....
.....

(1 mark)

c. What is a biofuel?

.....
.....

(1 mark)

d. Explain how we access the energy store from fuels.

.....
.....

(2marks)

3.State, with examples, which fuels will eventually run out.

.....
.....

(1 mark)

4. Use the text to answer the following:

a.Which resource has been used since 1820 to the modern day?

.....
.....

(1 mark)

b. Which resource has been discovered and used most recently?

.....
(1 mark)

c. Why would a graph of energy usage against time be flat at first before getting much steeper?

.....
(1 mark)