

## **DAY 9**

### **TOPIC: CARBON AND FUELS.**

#### **Non- Renewable sources of energy**

##### **Aim:**

- Explain meaning of “Non- renewable” sources of energy.
- Name some examples of Non- renewable sources of energy.
- List disadvantages of using Non-renewable sources of energy.

##### **Activity 1:**

- Read page 6 & 11 below.
  - Watch video V. 13 & V.12, V. 10, V.14
  - Answer question 6 – 10 on pages 6.
  - Answer Q. 12, 13 on p. 11
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*Q2. List the fuels used in your school and village. Describe how each is used.*

*Q3. a. Which fuel is used the most?  
b. Which fuel is used the least?*

*Q4. Find the cost of as many of these fuels as you can.*

*Q5. Coal, oil and gas are often called “fossil fuels”. Try to find out why.*

#### **RENEWABLE AND NON-RENEWABLE SOURCES OF ENERGY**

How long will the world’s energy sources last? We can only make rough estimates. However we do know that the world’s coal, oil and gas (the “fossil fuels”) took millions of years to form. Now we are using them up much faster than that. These fuels and uranium, which is the source of nuclear energy, will eventually be exhausted. They are called **non-renewable** energy sources.

*Q6. Which energy source will run out first?*

*Q7. How many years are left until all our oil will have run out?*

*Q8. Which energy source will last the longest?*

*Q9. After each of these resources has run out, how long will it take for it to renew itself?*

*Q10. Write down ways we can make these energy sources last longer.*

## POLLUTION

There is another problem when burning non-renewable fuels. The problem is **pollution**. Pollution means spoiling the world around us with our waste products. Pollution often harms living things, including ourselves, and can even change the climate.

Burning fuels releases carbon dioxide ( $\text{CO}_2$ ). We are releasing more and more carbon dioxide into the atmosphere. This could cause an increase in something called the “Greenhouse Effect” which may raise the earth’s temperature. The gases sulphur dioxide ( $\text{SO}_2$ ) and nitrogen dioxide ( $\text{NO}_2$ ) are also released when fossil fuels such as gas, oil or coal are burnt. These gases dissolve in water in the atmosphere and fall to earth as acid rain. The acid rain can kill trees, fish and even slowly destroy stone.

Nuclear power stations also produce waste. Most of this waste is “radioactive”. Radio-active materials give off rays which are dangerous to living things. Some of the waste takes many years to lose its radio-activity. Nuclear waste has sometimes been dumped in the sea to dispose of it but this is dangerous. Safer methods are now being developed.

*Q12. What effects of pollution have you seen in Vanuatu? Which of these come from our use of petroleum products like petrol, diesel or kerosene?*

*Q13. Why should we try to stop pollution?*