

LESSON 5 - COAL AND PETROLEUM

Subject: Science

Class: VIII

MODULE -3/3

HANDOUT

Natural Gas

Natural gas is a fossil fuel found naturally as a hydrocarbon gas mixture in the oil wells. Its main component is methane but it may also contain varying amounts of other higher alkanes (a group of elements). Gases like carbon di-oxide, helium, nitrogen and hydrogen sulphide are also found in natural gas in small percentages.

Why is Natural gas important as a fossil fuel?

Natural gas is considered important as this fossil fuel can easily be transported through pipes. It is stored as CNG, which is used for several purposes and is also used as a starting material for manufacturing many chemicals and fertilisers.

Natural Gas does not cause pollution and has high calorific value. Compressed Natural Gas (CNG) is the natural gas stored under high pressure.

Why is CNG useful?

CNG is used as:

- Fuel to generate power
- Cleaner fuel for transport vehicles (less polluting than petrol and diesel)
- Fuel in homes and industries which can be supplied through pipes.

CNG pipeline network already exists in Vadodara in Gujarat, some parts of Delhi and some other places.

Why is CNG considered a cleaner fuel?

Natural gas is considered a better fuel than coal and petroleum because it is cleaner.

Consequences of the burning of fossil fuels

- ❖ **Increase in air pollution:** The burning of fossil fuels results in the release of un-burnt carbon particles in the air. These particles act as pollutants and increase air pollution. Fossil fuels release poisonous gases such as carbon monoxide and sulphur di-oxide into the atmosphere.
- ❖ **Global warming:** When burnt, fossil fuels release large amounts of carbon di-oxide into the air. As the amount of carbon di-oxide increases, it results in an increase in the global temperature of the earth and leads to global warming.

Why should we use fossil fuels economically?

- They are available in limited quantities.
- Burning these fuels also causes air pollution, as well as global warming.

Hence, we should use these fuels economically to make sure that we can use them for a longer time. The risk of global warming gets reduced and we can live in a cleaner environment.

How can we save petrol or diesel while driving?

According to the Petroleum Conservation Research Association (PCRA) in India, we can save petrol or diesel while driving by:

- Driving at a constant and moderate speed
- Maintaining tyre pressure at correct levels
- Switching off the engine when you are waiting(such as at traffic lights)
- Servicing the vehicle periodically

Why is it that fossil fuels can last only for 100 years?

1. Fossil fuels are exhaustible resources. This means that they are not present in abundant quantities on earth.
2. They take hundreds and thousands of years to replenish .The rate at which they are being consumed today is increasing at a rapid pace.
3. It means that more amounts of fossil fuels are being used than are being replenished.



Can coal, petroleum and natural gas be prepared in the laboratory from dead organisms?



No. Their formation is a very slow process and conditions for their formation cannot be created in the laboratory.

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