

### 1. What is Renewable Energy?

Renewable energy is energy derived from natural processes that are replenished at a rate that is equal to or faster than the rate at which they are consumed. There are various forms of renewable energy, deriving directly or indirectly from the sun, or from heat generated deep within the earth. They include energy generated from solar, wind, geothermal, hydropower and ocean resources, solid biomass, biogas and liquid biofuels.

### 2. What are Fossil Fuels? What are the Three Types of Fossil Fuels?

Fossil fuels are made from decomposing plants and animals. These fuels are found in the Earth's crust and contain carbon and hydrogen, which can be burned for energy. This is the energy that is used to heat and provide electricity to homes and businesses and to run cars and factories. Unfortunately, fossil fuels are a non-renewable resource and waiting millions of years for new coal, oil, and natural gas deposits to form is not a realistic solution.

There are three major types of fossil fuels:

- Coal is formed from ferns, plants and trees which hardened due to pressure and heat
- Oil is formed from smaller organisms, like zooplankton and algae. Intense amounts of pressure caused this complex organic matter to decompose into oil.
- Natural Gas undergoes the same process as oil as they are found in pockets above oil deposits; however the process is longer and subject to higher amounts of heat and pressure, causing further decomposition.

### 3. Energy production and consumption rates in India and world.

#### • Energy consumption in India

India is the world's third-largest energy consuming country, thanks to rising incomes and improving standards of living. Energy use has doubled since 2000, with 80% of demand still being met by coal, oil and solid biomass. On a per capita basis, India's energy use and emissions are less than half the world average, as are other key indicators such as vehicle ownership, steel and cement output.

#### • Energy Production in India

India is among the five largest producers of electricity in the world. In recent years, India has brought electricity connections to hundreds of millions of its citizens; promoted the adoption of highly-efficient LED lighting by most households; and prompted a massive expansion in renewable sources of energy, led by solar power. India's electricity sector is dominated by fossil fuels, in particular, coal.

#### • Energy consumption in world

World energy supply and consumption is It is a basic part of economic activity. It does not include energy from food. Energy consumption per person in North America is very high while in developing countries it is low and more renewable. IEA expects that worldwide energy

## ENERGY PRODUCTION AND FOSSIL FUEL

consumption in 2040 will have increased more than a quarter and that the goal, set in the Paris Agreement to limit climate change, will not nearly be reached.

- Energy production in world

Energy production is 80% fossil. Half of that is produced by China, the United States and the Arab states of the Persian Gulf. Energy production is usually classified as:

fossil, using coal, crude oil, and natural gas;

nuclear, using uranium;

renewable, using biomass, geothermal, hydropower, solar, tidal, wave, wind, and others.