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RSE

BY RAHUL SIR



BASIC

ENERGY: It is capacity to produce an effect.

Energy can be:

- (i) Stored within a system
- (ii) Can be transferred from one system to another

Oil Crisis of 1973:

This year brought an end to the era of secure and cheap oil. In October of that year, OPEC (Organisation of petroleum Exporting countries) put ban on oil production and started oil-pricing control strategy. The year "1973" is called as year of oil shock.

Government of all countries took this matter very seriously and for the first time, a need for developing source of energy was felt.

Classification of energy Resources:

1. Based on Usability of Energy:

a) Primary energy resource:

These are resources already present in nature prior to undergone any human made transformations. E.g., Coal, crude oil, sunlight, wind, vegetation, uranium.

These are located, explored, extracted, processed and are converted to a form as required by the consumer. These resources are generally available in raw form (i.e., cannot be used as such) and are, therefore known as raw energy resource.

b) Secondary energy resource:

The form of energy which is finally supplied to a consumer for utilization is called as secondary energy resource.

E.g., Electrical energy, thermal energy (in the form of steam or hot water), chemical energy (in the form of hydrogen), oil

2. Based on traditional use:

a) Conventional energy resource:

Energy resources which are being traditionally used for many decades and were in common use around the oil crisis, are called as conventional energy resource.

E.g., Fossil fuel, Nuclear and hydro resources.

b) Non-conventional energy:

Energy resources which are considered for large scale use after oil crisis. E.g., Solar, wind, biomass, etc.

3. Based on long-term availability:

a) Non-renewable energy resource:

Resources which are finite and do not get replenished (fill up again) after their consumption are called as non-renewable energy resource. E.g., Fossil fuel, uranium. These are also called as brown energy, because produces pollution.

b) Renewable energy resource:

Resources which are renewed by nature again and again and their supply is not affected by the rate of their consumption are called as renewable energy resource.

These are also called as green energy as produces very less or no pollution.

E.g., Solar, wind, Geothermal, Ocean (tide, wave, thermal), biomass, Hydro

Difficulties in harnessing renewable energy:

- It is present in dilute form (useful energy is very less).
- It is highly fluctuating type of energy. It depends on weather conditions. Hence, continuous supply of such energy can't be ensured always.
- Large area of land is required to produce energy for commercial applications.

Aim of subject:

To find replacement of fossil fuel.

Syllabus:

1. SOLAR RADIATION
2. SOLAR COLLECTOR
3. SOLAR APPLICATION
4. ENERGY STORAGE
5. BIOMASS ENERGY
6. WIND ENERGY
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