

CLASS: X

SUBJECT: GEOGRAPHY

CHAPTER: NON- CONVENTIONAL SOURCES OF ENERGY {Chapter 14} - 2nd term

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1. The other name of non-conventional sources of energy is called Renewable sources of energy.

**2. Meaning of Non- Conventional sources of energy**

Non-Conventional sources of energy are those which are renewable, in exhaustible, eco-friendly, less expensive and easy to maintain.

*Examples-*

- ❖ Solar energy
- ❖ Wind energy
- ❖ Bio gas energy
- ❖ Tidal energy
- ❖ Geothermal energy

**3. Solar Energy:**

- Sun is the primary source of energy. It provides us enormous amounts of energy in the form of solar radiation reaching the surface of the earth.
- *Three devices used to harness solar energy:* Solar cells, solar cooker, and solar water heater.
- Advantages of Solar energy:
  - ❖ Solar energy is a renewable source of energy.
  - ❖ It does not cause any pollution.
  - ❖ It requires less maintenance.
- Disadvantages of solar energy:
  - ❖ Solar energy cannot be generated during the night and cloudy days.
  - ❖ Installing solar panels is quite expensive.

**4. Wind Energy:**

- Wind is an inexpensive reliable and non polluting source of energy.
- Advantages of Wind energy:
  - ❖ Wind energy is a renewable source of energy.
  - ❖ It does not cause any pollution.
  - ❖ It is an inexpensive source of energy.
- Disadvantages of Wind energy:
  - ❖ Wind energy cannot be always generated.
  - ❖ Cyclonic wind may destruct the windmill.

### **5. Biogas Energy:**

- Biogas is based on the use of garbage and dung to produce gas.
- Advantages of Biogas:
  - ❖ Biogas is a clean, non- polluting source of energy
  - ❖ Biogas plant solves the garbage problem.
  - ❖ The sludge left behind is used as rich manure.
- Disadvantage of Biogas:
  - ❖ Higher cost of production.
  - ❖ Biogas plant requires a large area for its installation.

### **6. Tidal Energy:**

- The rise and fall of water produces energy called Tidal energy.
- Gulf of Kutch in India provides ideal conditions for generating tidal energy.
- Advantages of Tidal energy:
  - ❖ Tidal energy is renewable sources of energy.
  - ❖ It is environmental friendly
  - ❖ It can be generated even if the water moves at low speed.

### **7. Geothermal Energy:**

- Energy that exists in the form of heat inside the earth is called Geothermal.
- Advantages of Geothermal Energy:-
  - ❖ It can be stored.
  - ❖ It is endless.
  - ❖ It does not need fuel to generate.
- Disadvantages of Geothermal Energy:-
  - ❖ Installation of Geothermal energy plant is expensive.
  - ❖ Emission of poisonous gases may be harmful.
  - ❖ It causes pollution.