NON-CONVENTIONAL SOURCES OF ENERGY

An inevitable way of life

GROWING NEED TO USE NON-CONVENTIONAL SOURCES OF ENERGY

- Increasing consumption of energy has resulted in energy crisis because of dependence on fossil fuels, which are going to be exhausted
-  Rising prices of oil and gas and their potential shortage 
- Use of fossil fuels causes serious environmental problems
- Solar, wind, tide, biomass and energy from waste material are renewable sources

NUCLEAR OR ATOMIC ENERGY

- Though not renewable completely, it is going to revolutionise the energy sector of India.
- HOW?

✓ With the alteration of atoms, much energy is released

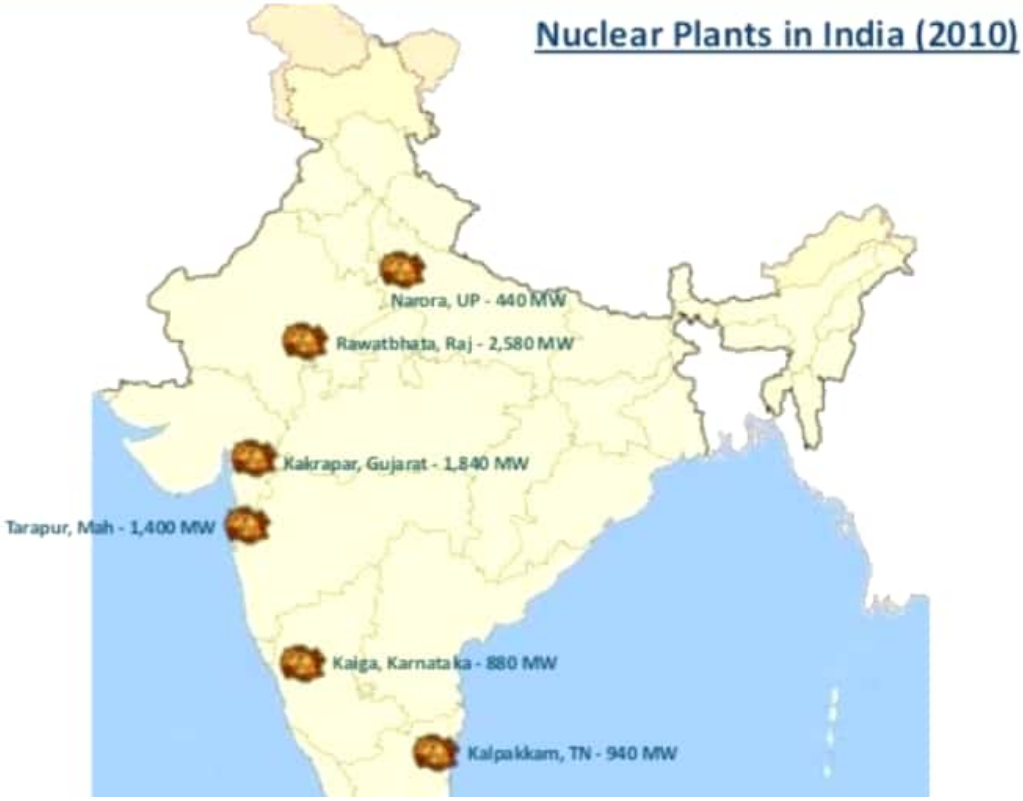
✓ Reserves in India-

❑ Uranium and Thorium, in Jharkhand and Aravalli ranges of Rajasthan

❑ Monazite sands in Kerala

MAP- NUCLEAR POWER PLANTS

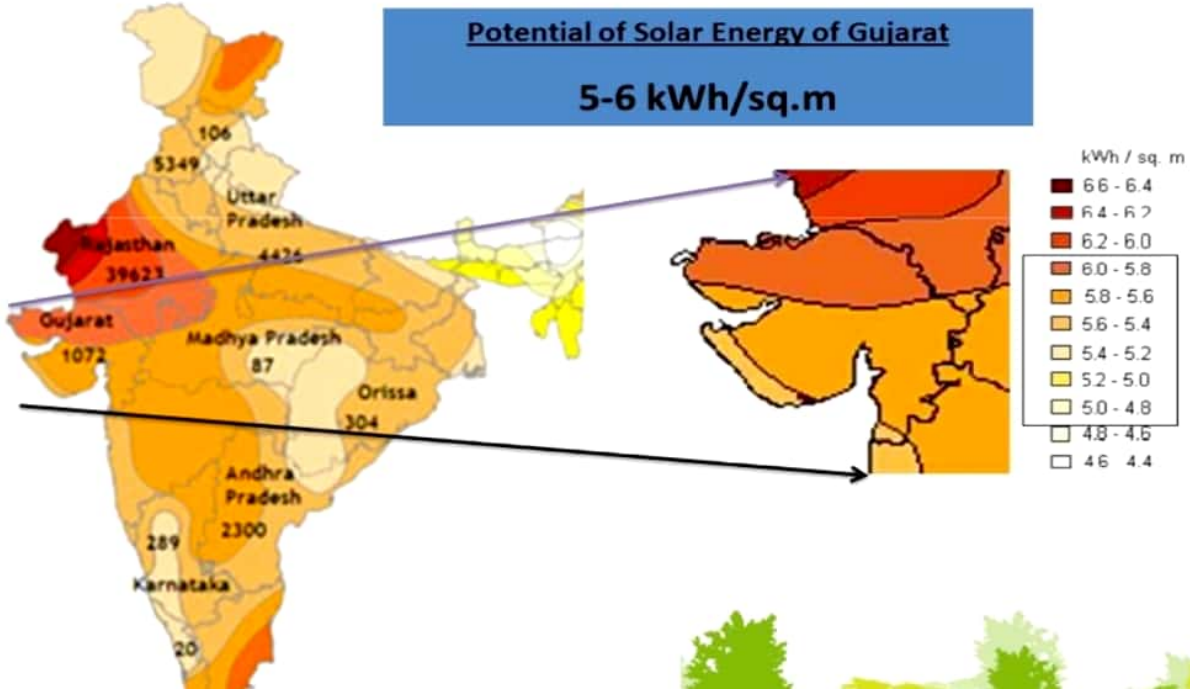
(Source- internet)



SOLAR ENERGY

- Photovoltaic technology is used to convert solar energy into electricity.
- The largest solar plant of India is located at Madhapur near Bhuj.
- Solar energy holds great promises for the future.
- It can help in minimizing the dependence on firewood and animal dung cakes in rural areas.
- This will also help in conservation of fossil fuels.
- Rapidly solar cookers and solar heaters have become popular in various parts of India.

Solar Potential Map of India Resources

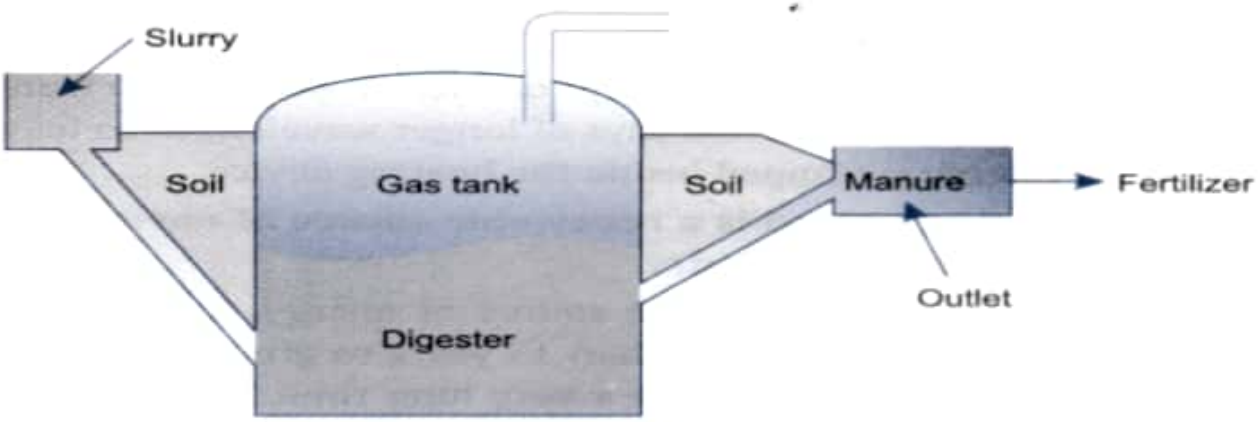


WIND ENERGY- A RELIABLE SOURCE

- India now ranks as a "Wind Super Power" in the world.
- The wind farm cluster in Tamil Nadu (from Nagarcoil to Madurai) is the largest cluster in India.
- Andhra Pradesh, Karnataka, Gujarat, Kerala, Maharashtra and Lakshadweep are also important centres of wind power production.

BIO GAS- EVER AVAILABLE

- Biogas can be produced from shrubs, farm waste, and animal and human waste. Biogas is more efficient than kerosene, dung cake and charcoal.
- Biogas plants can be set up at municipal, cooperative and individual levels.
- The gobar gas plants provide energy and also manure.

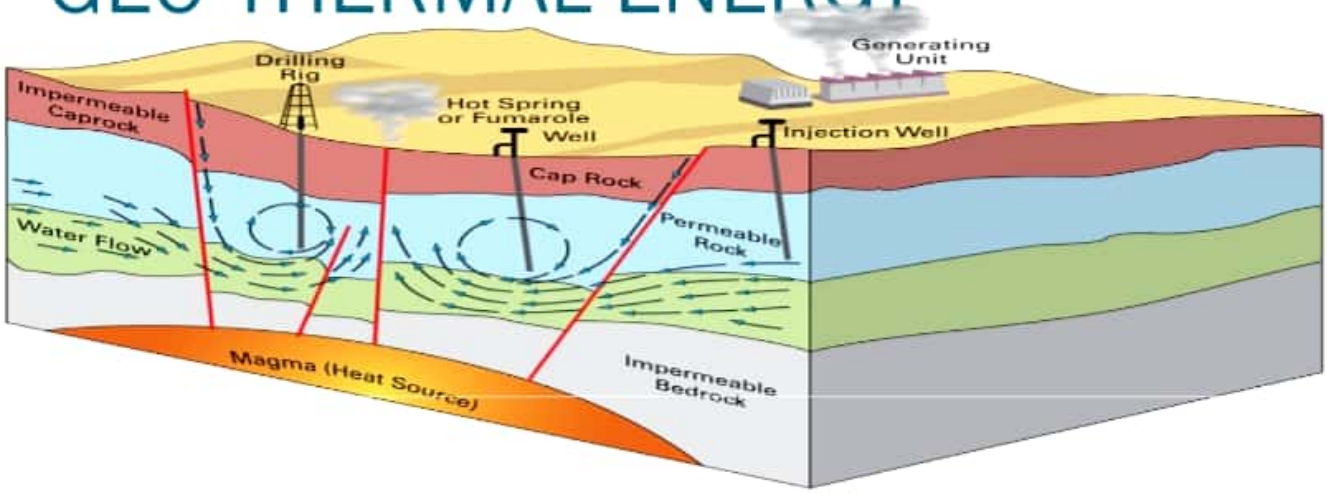


Fixed dome type biogas plant

TIDAL ENERGY- COASTAL LOCATION

- Floodgate dams are built across inlets.
- The water flows into the inlet during high tide and gets trapped when the gate is closed.
- Once the tide recedes, the gates are opened so that water can flow back to the sea.
- The flow of water is used to run the turbine to generate electricity.
- A 900 mw tidal energy power plant is set up by the National Hydropower Corporation in the Gulf of Kuchchh.

GEO THERMAL ENERGY



- We know that the inside of the earth is very hot.
- At some places, this heat is released on the surface through fissures.
- Groundwater in such areas becomes hot and rises up in the form of steam.
- This steam is used to drive turbines.
- Two experimental projects have been set up in India to harness geothermal energy.
- They are- the Parvati valley near Manikarn in Himachal Pradesh and the Puga Valley in Ladakh.