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# "CONSERVATION OF ENERGY"

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***ABSTRACT***
*Energy is the ability to do work. Energy can be founding various forms. It can be chemical, heat, light, mechanical, nuclear etc. At an energy resource is something that can produce heat, power life or produce electricity.The development of any country is measured by it's energy consumption. The energy resources are used in various spaces. The necessacity of energy is increasing rapidly in the world. So the energy should be conserved. There are many sources which provides us energy as coal, petroleum, natural gas, wind energy, bio mass, bio gas, solar energy, thermal energy, tidal energy, wave energy etc. The main energy sources are renewable and non-renewable. Energy conservation means to reduce the quantity of energy. Energy conservation reduces the energy consumption and energy demand. This reduces the rise in energy costs. Energy consumption is an important method to prevent climate change. In such a way we can protect environment and also protect our next generation by provide them a healthy life.*

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## INTRODUCTION

Energy is the ability to do work. In Physics energy is a property of objects which can be transferred to other objects or converted in to different forms but cannot be created of destroyed. Energy can be found in various forms. It can be chemical, heat, light, mechanical, nuclear, sound etc. The energy resource can produce heat, power or electricity. They are used in many space. In the world the necessity of energy in increasing very rapidly. So the energy should be conserved. Energy conservation refers to reducing energy consumption by using less energy service. It differs from efficient energy use. Energy conservation and efficiency are both energy reduction techniques. By the conservation of energy we can increase environmental quality, national security and human comfort. We can prevent future resource depletion. The goal with energy conservation techniques to reduce demand, protect and replenish supplies, develop and use alternative energy sources and to clean up the damage from the prior energy processes. Energy conservation is an important element of **energy policy.** Energy conservation reduces the energy consumption and energy demand per capita. This reduces the rise in energy costs and can reduce the need for new power plants and energy imports by reducing emission energy conservation in an important method to prevent climate change. Petroleum Conservation Research Association PCRA is an Indian government body created in 1977 and engaged in promoting energy efficiency and conservation in every field of life. Due to the mega campaigns by PCRA overall awareness level have gon up leading to saving of fossil fuel besides reducing pollution.

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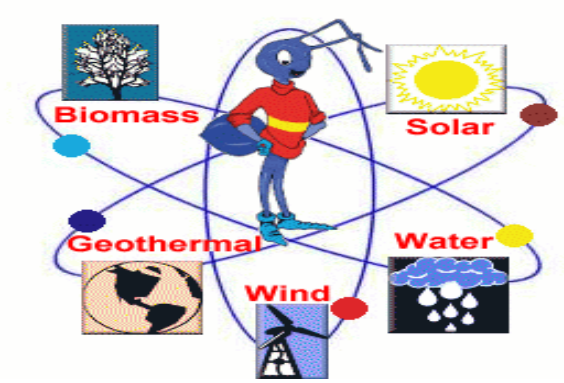
**SOURCES OF ENERGY :-**

Our major source of energy today is the combustion of fossil fuels such as coal, natural gas and petroleum. They are used directly by us.

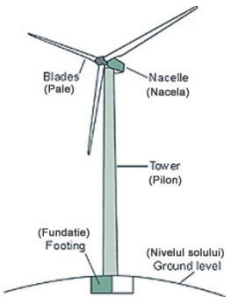
- **Renewable sources of Energy: -** Wood, wind energy, solar energy, tidal energy, hydel power, bio mass, nuclear fusion, ocean currents, geo thermal energy, vegetable refuse etc. are some of the examples of renewable sources of energy.




- **Non renewable sources of Energy: -** Coal, ores, petroleum, timbers, natural gas, uranium etc. are some of the examples of non renewable sources of energy.

- **Solar Energy: -** It in the form of solar radiation. Solar power use the Sun's energy and light to provide heat, light and electricity for homes. In the latest research technology the internet can be processed by light energy. It is the primary source of all energy forms on the earth. It helps in maintaining the ecological balance through the process of photosynthesis and green house effect. We have been using some to dry cloths and cooking food for generations. But now number of techno powers which have been develop to make full use of solar energy such as –
  - **Photo voltaic systems –** By the system the electricity to be produce directly from the Sun.
  - **Solar process space heating and cooling –** It is the commercial and industrial use of Sun's heat.
  - **Solar power plants –** Producing electricity by using the Sun's heat.
  - **Solar hot water –** It is the process to heat water with the solar energy.
  - **Passive or active solar heating and day lighting –** It use solar energy to heat buildings by selecting materials with favorable thermal mass. Natural day lighting increases productivity of workers while reducing energy consumption.

- **Wind energy -** Wind energy if often use to generate the mechanical power of the electricity. In India there are many large hilly, coastal and desert areas so wind energy held the great importance. In the rural areas it used to pump water and grind grain. It is fully pollution free and eco friendly too. It costs very low and the generation of power is



*UDGAM VIGYATI, Volume 2, 2015, (November)*
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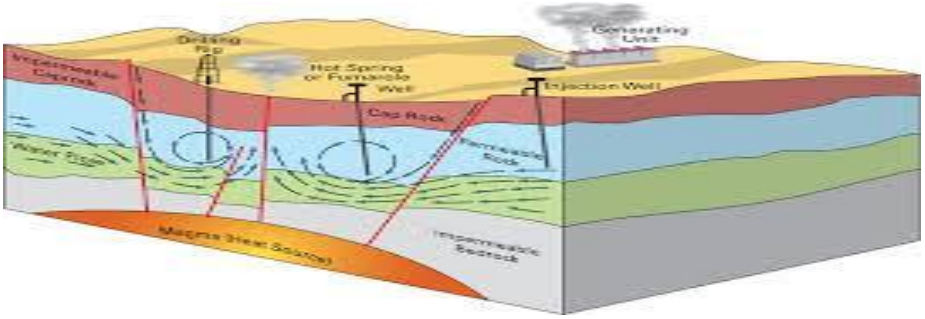
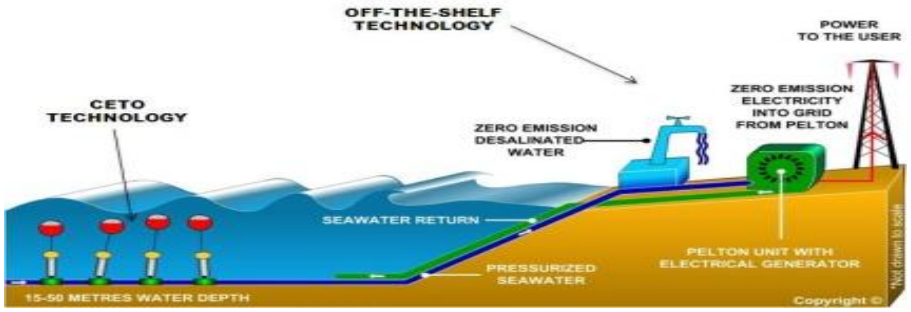
*Page No. 221-224*

continues. It is the most effective way to conserve the energy and prevent the environment.

- **Geo thermal energy -** Geo thermal energy is used in the form of thermal energy, electrical energy, nuclear energy, mechanical energy, chemical energy and light energy. It uses heat energy from beneath the surface of the Earth. It was first use to produce electricity in Italy in 1903. Geothermal energy has the major environment benefits. It is particularly important in the Island nations such an Indian Ocens and the Pacific regions.

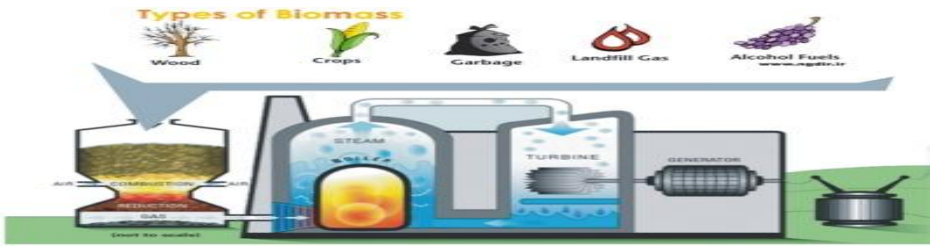



- **Wave energy –** Ocean waves contains large amount of energy which can be extracted through ocean winds, ocean currents, ocean geothermal etc. Electricity can be obtained by the flow of water through turbines as the tide rise and falls.




- **Hydro electric energy –** The hydro electric energy is produce from fast flowing water. This process is totally pollution free. It is another renewable source of energy.

- **Bio mass energy –** Bio mass is the plant and animal west which is used as the energy. Biomass energy like manure from live stock, plant waste etc. It can be used to generate electricity, fuel, light and heat. We can get biomass energy directly from plants and indirectly from the animal waste.



*UDGAM VIGYATI, Volume 2, 2015, (November)*
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**PRACTICAL METHODS OF ENERGY CONSERVATION –**

- **Installing of LED bulbs –** The use of LED bulbs can save energy and money. The price of LED's has also been steadily decreasing due to improvement of the semiconductor technology.
- **Use of efficient appliances –** We should prefer to buy energy star rating appliances. Energy efficient appliances with energy star rating consume less energy and save money.
- **Use of maximum Sun light –** At the day time we should turn of light and use Sun light as much as possible. It will reduce the burden on local power grid and save cost.
- **Switch of Appliances when not in use –** Electrical appliances like coffee machine, printer, scanner, oven, range/cooker, hot plate, microwave, toaster, blender/mixer, kettle, floor polisher, vacuum cleaner, dryer/blower, iron, television, video, radio/stereo, washing machine, photocopier, cash machine, paper shedder, desktop computer etc. keep on using electricity even when not in use. We must switch them off.
- **Lower the room temperature –** A slight decrease a room temperature (only 1 to 2 degree) gives a big energy saving.
- **Plant shady land scaly –** Shady land scaly outside the home will protect our home from heat and wind.
- **Fix Air leaks –** Proper insulation will fix air leaks that could be costing us. During winter months we could be letting out a lot of heat if we do not have a proper insulation.
- **Get energy audit done –** Getting energy audit done by hiring an energy audit expert is an energy conservation technique. It can help to conserve energy and money.
- **Install energy efficient windows –** Double panel windows and other vinyl frames are much better then single panel windows.
- **Drive less and more walk –** Another energy conservation technique is to drive less and walk more. If if is possible to avoid own vehicles we should use public transport.
- We should reduce the consumption of fuels. We should develop new sources of energy.
- In such a way we can protect environment by the conservation of energy and make the climate healthy. In such a manner the world will less polluted.