



NON-CONVENTIONAL ENERGY SOURCE IS THE GIFT OF NATURE TO THE HUMAN BEING

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Abstract:

Energy is the need for all kinds of work done by human being and nature. There are many sources of energy that help to run the various machines invented by man. But as the population and development activities increases, the requirement of the energy i.e demand will also increase. If this trend of continuous exploitation of energy sources, continue the sources are going to be exhausted very soon near future. So we need to look for the alternative of conventional sources of energy and the best alternative of conventional energy sources are the non-conventional energy sources of energy. The conventional source of energy are coal, petroleum, natural gas, etc. which are kind of fossil fuel and non-conventional are in the form of solar, wind, geothermal, biomass, ocean thermal, hydro and Tidal energy. Sun is the main source of energy to the Human Being.

KEYWORDS:

Non-conventional source of energy are solar energy, Wind energy, bio energy, etc.

INTRODUCTION:

Energy is the primary and most universal measure of all kinds of work by human beings and nature. Energy is the basis of human life. There is hardly any activity or moment that is independent of energy. Every moment of the day we are using energy. Whatever happens in the world is only the expression of flow of energy in either of its forms. Energy is a crucial input in the process of economic, social and industrial development.

Non-Conventional energy is energy that comes from natural resources such as sunlight, wind, rain, tides, waves and geothermal heat. The conventional source of energy are coal, petroleum, natural gas, etc. which are kind of fossil fuel and non-conventional are in the form of solar, wind, geothermal, biomass, ocean thermal, hydro and Tidal energy.

Energy is an important component for the development of any country. Developing countries like India have greater energy intensity and therefore greater energy dependence as compare to the developed countries. Energy has been an important component to meet day to day need of human being. The degree of civilization is measured by the energy utilization for human advancement are needs. Day by day the energy consumption is increasing. The world's fossil fuel supply coal, petroleum and natural gas will be depleted in few hundred years. The rate of energy consumption increasing, supply is depleting resulting in inflation and energy shortage. The standard of living of any country can be directly related to its per capita energy consumption.

As human needs know no bounds, today most of the nations worldwide have been passing through a phase of power deficit. The crisis is more critical among the developing nations. In India, energy demand

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is increasing at the rate of 9% per annum and supply is not keeping pace. Present deficit of electrical energy is 8%. The increased power demand, depleting fossil fuel resources and growing environmental pollution have led the world to think seriously for other Non-Conventional sources of energy.

NON-CONVENTIONAL ENERGY SOURCES:

1. Solar Energy:

The sun is the most abundant and unlimited source of energy. The sun functions as a global source of energy and has tremendous potential. Solar energy is our earth's primary source of non-Conventional energy. Solar energy is the energy force that sustains life on the earth for all plants, animals, and people. The earth receives this radiant energy from the sun in the form of electromagnetic waves, which the sun continually emits into space. The earth is essentially a huge solar energy collector receiving large quantities of this energy which manifests itself in various forms, such as direct sunlight used through photosynthesis by plants, heated air masses causing wind, and evaporation of the oceans resulting as rain which can form rivers. This solar energy can be tapped directly as solar energy (thermal and photovoltaic), and indirectly as wind, biomass, waterpower, wave energy, and ocean temperature difference.

As oil prices have gone up and other energy sources remain limited, nations are increasingly searching for safe, reliable long-term sources of power. In this scenario solar energy proves to be an abundant energy source which can be put to use. Electricity generation from solar energy at present is no more a new concept to the world. Solar electricity being clean (pollution free), silent, limitless and free will play a great role in the times to come in the present energy driven civilization.

2. Wind Energy:

Wind energy is a popular form of non-conventional energy. It is utilized for drawing water, which is an essential requirement in watering agricultural lands in the rural areas. In addition, it can be utilized for electricity generation. The wind has got the capacity to serve as a non-Conventional source of energy for the benefit of human beings. In India the wind power is of great significance as there are large coastal, hilly & desert areas where wind energy can be usefully exploited for the generation of electricity and water pumping.

India as the fourth largest producer of wind power in the world:

Germany (27126 MW)
USA (40216 MW)
Spain (20674 MW)
India (14156 MW)
Denmark (3805 MW)
China (38280 MW)

3. Geothermal Energy:

Geothermal energy is the application of natural temperature, which prevails on the exterior and below the earth, predominantly in the fissures and holes within the outer shell of the earth. Geothermal energy can be productively utilized for different objectives. The process involves trapping heat underground, then building energy that rises near the surface in the form of heat. When this heat naturally creates hot water or steam, it is harnessed and then used to turn a steam turbine to generate electricity. Some of the possible use patterns of geothermal energy are space heating, binary-cycle power generation, food processing, refrigeration, cold storage etc. This energy is used in the form of electrical energy, thermal energy, nuclear energy, light energy, mechanical energy & chemical energy etc.

4. Tidal Energy:

Tidal energy is a limitless and non-conventional source of energy. Ocean waves & tides contain large amount of energy. Such tides rise & fall & water can be stored during rise period and it can be discharged during fall. For producing electrical power from tidal energy, dams are built close to estuaries to make use of inward and outward water.

5. Biomass:

Biomass is a very versatile form of non-conventional energy. Biomass power plants burn biomass fuel in boilers to heat water and turn a steam turbine to create electricity. Biomass fuel is everything from wood to landfill trash, which is currently being used to convert into methane for the production of dry natural gas.

Power plays a great role wherever man lives and works. The living standard and prosperity of a nation vary directly with the increase in the use of power. The electricity requirement of the world is increasing at an alarming rate due to industrial growth, increased and extensive use of electrical gadgets. Energy consumption in the developing countries is increasing at a faster rate. As conventional energy sources are depleting day by day, utilization of these Non-Conventional energy sources is the only solution and these sources are environmental friendly and pollution free. Hence Non-Conventional Energy Source is the Gift of Nature to the Human Being.

CONCLUSION:

Non-Conventional energy relates to issues of sustainability, renewability and pollution reduction. In reality non-Conventional energy means anything other than deriving energy via fossil fuel combustion. Various forms of Non-Conventional sources are solar, wind, biogas/biomass, tidal, geothermal, fuel cell, hydrogen energy, small hydropower etc. Solution to long-term energy problem is in the field of non-Conventional energy sources and also these sources are extremely feasible and cost effective.

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