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A Review Report on Clean Energy

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ABSTRACT
Energy is a property of objects that can be can be transformed or transferred into different forms other objects, but cannot be created or destroyed. Green Energy is energy produced in such a way that reduce its negative impact on the environment. This renewable energy source. Green energy sources such as such as solar, wind, geothermal and hydropower is developed and promoted as an alternative source that makes little or no contribution to climate change in this role. The author attempts to examine how green energy is beneficial for future shape of the world. And current application this new technology like the production of electricity for various purposes, water heating and cooling and many more.
Keywords*: Green Energy, different types of sources, advantages, applications*

I. INTRODUCTION TO GREEN ENERGY

Green energy comes from natural sources such as sunlight, wind, rain, tides, plants, algae and geothermal heat. These energy resources are renewable, meaning they're naturally replenished. The different types of renewable energy technologies include: Solar energy, Marine energy, Wind energy, Hydropower, Bio-energy, Geothermal energy etc.

Fig.1: Diagram of Green Energy Source:http://lunar.thegamez.net/greenenergyimage/nonconventionalenergy-

resources-wikipedia/non-conventionalsources-650x409.jpg

There are various renewable energy technologies, which include hybrid and related technologies. These are effectively used for:

- Storing energy generated through renewable energy ·
- For predicting renewable energy supply.
- Assisting in efficient delivery of energy generated by means of renewable energy technologies to energy consumers.

THE NEED OF GREEN ENERGY

Green energy is produced from renewable sources and produces very less impact on our environment. So, in order to protect Mother Nature from pollution and to ensure the supply of energy continuously we should start using green energy for industrial as well as domestic purpose. To limiting global warming and protecting ecosystems by reducing CO2 emissions through energy efficiency and renewable Energy, Green Energy Technology is essential.

USES OF GREEN ENERGY

There are many options of using renewable energy at residential or commercial spaces.Most common form of renewable energy comes from sunlight or solar energy. One can get solar panels installed in residential and commercial spaces where sunlight is available in plenty. Other places where wind is in abundance may raise wind turbines to generate renewable energy. The energy thus gotten can be used for pumping water and or for charging sail boat battery.

Biomass is another very popular renewable energy source. It is used for producing electricity and also used as a transportation fuel. The use of biomass as a renewable form of energy is commonly known as bio-energy.Geothermalenergy on the other hand, taps the internal heat of ,driven from both tides and winds.

TYPES OF GREEN ENERGY

SOLAR ENERGY

Sunis a huge source of solar energy which provides energy to all the living creatures on earth. It is renewable and clean source which produce almost about 10,000 times more energy than earth can produce in 21st century.We can use this solar energy as green energy as it is the most suitable renewable energy source which is giving us energy directly and indirectly such ashydro, wind, etc. and having the least impact on the environment as it not taking part in increasing the carbon dioxide.

Solar Photovoltaic (PV):

Solar energy is directly converted into electricity by using photovoltaic cells. This technology is relatively new, asthe solar cell was only first successfully developed in1975. Solar cells use light energy from the sun to generate electricity through the photoelectric effect.

HYDRO ENERGY

Hydro energy is considered renewable because the energy from the sun powers the global hydrologiccycle. It is apower which is derived from water cycle, a continuous process of falling and fast running water to generate electricity. Hydroelectric power is an established form of renewable energy that already provides a major source of electricity, approximately 19% of the world's electricity [5]. The majority of hydroelectric power harnessed in the world today is produced from large-scale schemes.

Inaddition, there is further scope for development of small- scale hydroelectric projects since:

- Large scale schemes can produce megawatts and also involve construction of large dams to provide a sufficient head to the turbine;
- Small scale schemes have less capacity and so have small dams and less impact on environment;
- Micro scale schemes produces power in kilowatt and are used in small villages and individual houses.

GEOTHERMAL ENERGY

The term 'geo' means 'the earth' and 'thermal' means 'the heat' so geothermal means the energy which is generated in the form of heat decay of materials inside the earth. It is the renewable and sustainable source of energy. The first geothermal power plant was built in Larderello. Magma which is the radioactive decay of uranium and potassium below the earth crust produces lots of heat. The US National Renewable Energy Laboratory (NREL) found out that hot dry rock resources about 4millionMW of capacity.

WIND ENERGY

The energy which is generated by the flow of wind .It is a renewable source of energy which can be use as an alternative to fossil fuels. Wind energy is a clean energy which does not create pollution or releasing any harmful gases i.e. greenhouse gases. That's why it is considered as one of the source of green energy. Wind is actually a form of solar energy; winds are caused by the heating of atmosphere by the sun, the rotation of the earth and the earth's surface irregularities. Wind turbines are usually installed in large land farms

ADVANTAGES OF GREEN ENERGY

SOLAR ENERGY

- It is a clean source of energy which does not produceharmfulgasesasaco-productsohaveno effect on environment and human health.
- Manyeverydayitemssuchascalculatorandother lowpowerconsumingdevicescanbepoweredby solar energy effectively.
- Itisabettersourceofenergyforfuturegeneration as it last long forever (infinite).

HYDROENERGY

- It is one of the clean source of energy because doesnotcreateanyby-productduringconversion.
- Hydroelectric power is a domestic source of energy, allowing each state to produce their own energywithout being reliant oninternational fuel sources.
- Itisreliable,affordableandvastsourceofenergy.
- Hydro electric power plant reservoirs collect rain water, which can then be used for consumption or for irrigation.
- Hydroelectric installations bring electricity, highways, industry and commerce to communities, thus developing the economy, expanding access to health and education, also improving the quality of life.

WINDENERGY

- Itisacleanfuelsourcedoesnotpolluteair.Wind turbines do not produce atmospheric emissions that cause acid rain or green house gases.
- Itisrenewablesourceofenergyrequirelesscost.
- Land around wind turbinescanbe usedfor other users e.g. farming.
- Incombinationwithsolarenergytheycanbeused to provide reliable as well as steady supply of electricity.

GEOTHERMALENERGY:

- It is a cheaper and affordable source of energy used for bath, heating homes and offices, preparing food, etc.
- By using geothermal sources of energy present generations of human will not endanger the capability of future generation to use their old resources to the same amount.
- This is also cost effective, reliable, sustainable and environment friendly.

II. FUTURE SCOPE

Green Energy is having a future in almost every field of the world like industrial, agricultural, Medical, domestic, etc. Scientists already have found many forms of green energy such as solar, wind, hydro, etc. and now they are working on some new forms of energy like radiation and biomass so to reduce the usage of non-renewable sources of energy as they are already depleting. Incoming year's efficiency of solar panels is going to increase and it can work even in cloudy weather as researchers are already working on it.

III. CONCLUSION

Through this paper we are trying to focus on need for energy which is eco- friendly and can be renewed which requires technological development to obtain the best utilization of green energy. As the resources obtained naturally has the potential to protect world and reduce dependence on non- renewable resources which are near to extinction. Seeking from the future aspect green energy is an alternative source for power generation, provide energy in unlimited ways. The only need is to aware people for energy conservation along with environment. This is a step to generate different forms of energy in most of the field with clean source(less useoffossilfuel).Daybyday the demand of clean energy is increasing; green energy will fulfill the need with more advance technological systems. But it will take some time when every single house operate their electrical appliances by using their own power producing system such as solar panels, small wind turbines etc.

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