

Green Energy and Scope

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ABSTRACT

Energy is property of objects which can be converted into different forms or can be transferred to other objects but cannot be created or destroyed. Green energy is the energy that is produced in such way as to minimize its negative impact on the environment. It is a renewable source of energy. Sources of green energy such as solar, wind, geothermal and hydro energy are developed and promoted as alternative source that make little or no contribution to climate change. In this paper the author seeks to explore how green energy is useful for future expects of the world. And current application of emerging technology, like generating electricity for various purposes, heating and cooling of water and more.

KEYWORDS: Green Energy, different types of Sources, advantages, application

INTRODUCTION

The word Green makes our mind to think about a world without pollution and eco-friendly. So the Green energy reflects the idea about generation of energy from natural resources like sunlight, wind, rain, tides, plant, algae, geothermal heat, etc. having no or less impact on the environment and can be renewed. There are two types of sources of energy in the world: renewable energy sources and non-renewable energy sources.

Renewable energy sources are generated directly from nature for example, from the sun, rain, wind tides, plant, algae, geothermal heat etc. Having no or less impact on environment and can be renewed.

Non-renewable sources are not environment friendly and can have serious effect on our health. Non-renewable sources include oil, coal, natural gas and nuclear energy. The advantage of Non-renewable energy sources it is ready, cheap and easy to use. The Non-renewable energy converts one Non-renewable energy type to another. The major disadvantage of Non-renewable sources is that they are finite and will expire sometimes in future. They are also cause

severe environmental changes and are in large way responsible for climate change and global warming.

GREEN ENERGY

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

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.

How to cite this paper: Dr. Mamta Gahlot | Amit Raj Panwar | Dhiraj Panwar "Green Energy and Scope" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-6 | Issue-5, August 2022, pp.734-736, URL: www.ijtsrd.com/papers/ijtsrd50542.pdf



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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 ecosystem by reducing CO₂ emission through energy efficiency and renewable Energy, Green Energy technology is essential.

As temperature rise, agriculture output will fall, damage from floods and storms will increase. (Tropical) diseases will become more prevalent and access to water will become more of a problem for more and more people. The cost to our environment is greater and loss is irreversible. The Earth's flora and fauna will suffer both directly from higher temperatures and indirectly through the damage to their habitats. Ecosystem will disappear. Even small temperature increase will cause coral bleaching threaten some amphibians. Temperature rises of 3 to 4 C degree and more will lead to major extinctions around the globe.

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 and turbines to generate renewable energy. The energy thus gotten can be used for pumping water and or for charging sailboat 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.

Geothermal energy on the other hand, taps the internal heat of the earth for variety of uses, including cooling and heating of building and electric power production.

Marine energy is yet another very important renewable form of energy. It comes from a variety of sources including tidal energy and energy generated from the ocean's waves, driven from both tides and winds.

ADVANTAGE OF GREEN ENERGY

1. Solar Energy

- It is a clean source of energy which does not produce harmful gases as a co-product so have no effect on environment and human health.
- Many everyday items such as calculator and other low power consuming devices can be powered by solar energy effectively.

- It is a better source of energy for future generation as it last long forever (infinite).

2. Hydro Energy

- It is a clean source of energy because does not create any by product during conversion
- Hydroelectric power is a domestic source of energy. Allowing each state to produce their own energy without being reliant on international fuel sources.
- It is reliable, affordable and vast sources of energy.
- In addition to a sustainable fuel source, hydropower efforts produce a no. Of benefits, such as flood control, irrigation and water supply.
- Hydroelectric power plant reservoirs collect rain water, which can then be used for consumption for irrigation.
- Hydroelectric installation bring electricity, highways ,industry and commerce to communities, thus developing the economy, expanding access to health and education .also improving the quality of life.

3. Wind Energy

- It is a clean fuel source does not pollute air. Wind turbines do not produce atmospheric emissions that cause acid rain or greenhouse gases.
- It is renewable sources of energy requires less cost.
- Land around wind turbines can be used for other users e.g. farming.
- In combination with solar energy they can be used to provide reliable as well as steady supply of electricity.

4. Geothermal Energy

- It is a cheaper and affordable source of energy used for bath. heating homes and offices preparing food etc.
- By using geothermal source 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.
- Due to its low emission geothermal energy is considered to have excellent potential for mitigation of global warming.

5. Vibration Energy

- Vibration energy harvesting replaces the batteries in medical implants which is beneficial for the environment as these batteries contain toxic heavy metals.
- We can use vibration energy to reduce the noise in environment which is mainly happening in

industries or due to aircraft's etc by vibration damping and vibration isolation.

Future Scope

Green Energy is having a future in almost every field of the world like industrial, agriculture, 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.

In coming years efficiency of solar panels is going to increase and it can work even in cloudy weather as researchers are already working on it. A new combined form of solar and hydro is also coming called solar/wind hybrids. This technology combines the wind turbines with solar photovoltaic (pv) panels to produce higher level of energy and the studies have found that these are nearly double efficient than the present ones.

Like these there are technologies which are already invented or just the concepts are given and are still developing. These inventions let us to make an environment which is using green energy completely and is eco-friendly.

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 utilisation 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 sources (less use of fossil fuels). Day by day the demand of clean energy is increasing: green energy will full fill 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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