

RENEWABLE RESOURCES

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Renewable energy resources are a vital part of the global energy mix and play a crucial role in mitigating climate change. This abstract provides an overview of renewable energy resources, including solar, wind, hydro, geothermal, and bioenergy.

Solar energy is the most abundant and widely available renewable energy resource, and its harnessing technologies have advanced significantly over the years. Photovoltaic (PV) and concentrated solar power (CSP) systems are the most commonly used solar technologies that convert sunlight into electricity. Additionally, passive solar technologies, such as passive heating and cooling, can significantly reduce energy consumption in buildings [1].

Wind energy is another abundant and increasingly competitive renewable energy resource. Wind turbines are designed in that way they can use the wind kinetic energy and use the converting mechanism to create electricity from air. Offshore wind energy has enormous potential and is rapidly expanding, with larger and more efficient turbines being developed.

Hydro energy is a well-established renewable energy resource, with hydroelectric power plants providing large amounts of electricity globally. Hydropower is a flexible and reliable source of energy, and pumped storage systems can help balance the grid during periods of high demand.

Geothermal energy harnesses the natural heat of the earth to generate electricity or heat buildings. Geothermal power plants are usually located in areas with high geothermal activity, such as volcanic regions. Ground-source

heat pumps are also commonly used to heat and cool buildings, providing energy-efficient heating and cooling solutions [2].

Bioenergy is derived from biomass, which is organic matter, such as crops, wood, and waste. Bioenergy can be used to produce electricity, heat, and transportation fuels. However, it is essential to ensure that bioenergy is sustainably sourced and does not compete with food production or lead to deforestation.

In conclusion, the usage of renewable resources energy sources in wide perspective can be very economical effective and nature saving. Such problems as climate change, desertification, death of many marine species, pollution of reservoirs, global warming, mass deforestation can be avoided by using alternative and renewable sources of energy. Our planet is a very fragile structure under human feet, so humanity should seriously think about the consequences that can happen if nothing is done.

References

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