

Environmental Sciences and Renewable Energy 2021

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Role of Renewable Energy Technologies to fulfill global energy demand in present scenario

Energy is an influential sector for the advancement of world. It is considered as the prime mover for the development of every nation especially the developing countries. In current scenario, fossil fuels are the major source of energy to fulfill the global energy demand. However, the utilization of fossil fuels is associated with several drawbacks due to their limited availability and negative impact over the environment. Therefore, stakeholders are recommending to switch towards some alternatives of fossil fuels. Renewable energy sources (RES) are emerging as a strong alternative of fossil fuels that have the potential to accomplish the increasing global energy demand. The RES are environmental friendly and available almost everywhere on earth. The utilization of these energy sources may also play a significant role to fulfill the commitments made by various nations in Paris Climate Agreement regarding reduction in carbon emission. However, few obstacles in adaptability of renewable energy technologies such as low efficiency, instability in energy supply and monetary impediment have to be overcome. The efficiency of systems may be improved by utilizing advanced and efficient equipments, whereas, instability in energy supply can be overcome by the integration of storage units. The implementation of concepts like techno-economic analysis and life cycle analysis during preliminary study may resolve the issues related to economics of the renewable energy technologies. Therefore, various stakeholders are putting their efforts in the direction to overcome the issues related to renewable energy technologies for achieving the goal of sustainable development for betterment of future generations.



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Biography

Prof. R. P. Saini is working as a Professor in the Department of Hydro and Renewable Energy, Indian Institute of Technology Roorkee, India. He is also MNRE Govt. Of India Chair Professor (Renewable Energy). He has been associated with the Institute for over three decades and during this tenure, he has supervised numerous students pursuing Doctorate of Philosophy and Masters' in Technology. Number of research and consultancy projects successfully completed in the area of Renewable Energy by him. His core area of research extends to Solar Energy, Small Hydropower, Hydrokinetic Technology and Integrated Renewable Energy Systems.

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