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Renewable Energy Sources and their Integration with Electronic System

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Abstract: Day by day the society is to rely mostly for the generation of power on renewable energy sources because of the crisis of availability of conventional sources like coal, diesel, etc Renewable are natural sources which are available easily and abundantly. These sources include sun, wind, biomass, biogas, tidal and water to generate the electricity. Their main advantages over conventional sources are easy availability, free of cost, no transportation problems, non-pollutants and, abundance in amount and many more. Due to the challenge of the energy shortage, environmental pollution and because of its advantages of consuming no fossil fuels, infinite reserves, and harmlessness for the environment, the renewable energy source grid-connected generation system (RES-GGS) has attracted more and more attention. But many challenges are there in interfacing these sources with grid due to their variable nature as per the season shift, variation in characteristics for different times and days of the year, base load power generation, and penetration issues. This paper emphasizes on the challenges in grid integration of these sources and their mitigation to make them efficient throughout the year for energy generation.

Keywords: Grid, Renewable Sources, Grid Integration, Mitigation, Multilevel Converter Topology.



