A Hybrid System Implementation for Residential Cluster

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***Abstract*— In the current situation, when conventional energy based on fossil fuel combustion are polluting and time-limited, there is an increasing emphasis on the exploitation of nonpolluting renewable sources. At both global and European levels, particular attention is paid to the use of renewable energy sources, encouraging, through various projects, the progressive change from the use of fossil fuels to the use of renewable technologies. In this paper, the hybrid power generation system that supplies a residential cluster using solar panels, wind turbines, generating set, storage system and a converter is analyzed. Simulation software is used to introduce the renewable sources type, the batteries and the generator type, as well as the data of the wind speed and the daily solar radiation system and to design the power supply system.**

***Keywords*— converter; flow batteries; hybrid system; power system sizing; renewable energy sources; rezidential cluster**

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