

# **Simulation And Comparative Analysis Of Low Power Wind, Solar And Combined Power Plant Using Matlab / Simulink**

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**In this research, among renewable energy sources considering their potential in the country, a suitable combination of solar cells and wind turbine with a supporting battery is presented, and taking into account issues related to how they function the appropriate pattern to control output power is considered. Solar Cells as the main source for providing base loads, Wind turbine to respond to long-term changes in load and battery is responsive to any sudden change in the load or performance conditions of other sources. In fact, this system is considered as a distributed source of hybrid generation to function in isolated areas of the network as a stand alone unit. The proposed hybrid system is simulated in the Matlab/Simulink software environment after the theoretical review and the necessary studies have been carried out in different conditions of loading and production, so that the correctness of the relationships and effective functioning of the proposed structure can be examined.**

**Keywords : Photovoltaics , Wind Energy , Solar Energy , Turbine**

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