

The main objectives of the work described in this paper to model and simulate the autonomous hybrid photovoltaic wind generator with battery storage (PV/WG). The more accurate and practical mathematic models for characterizing PV module, wind generator and battery storage are adopted, combining with hourly measured meteorological data and load data. The hourly wind speed, solar radiation and environmental temperature data for the typical day's in the different seasons recorded at Algerian Meteorological Office of Bechar (South Western of Algeria (31. 38° north latitude, 2. 15° western longitude, and 0.20 albedo)) [1], have been analysed to investigate the potential of utilizing hybrid (PV/ WG) energy conversion systems used to feed with electrical energy a typical rural house at Bechar. The performance of hybrid systems consisting of different rated power wind generator, PV areas and storage battery are presented. The hourly average energy generated for the above hybrid system configuration has been compared with hourly load data of typical house. Simulation is performed in a Matlab software environment