Study comparing a hybrid system based on renewable energy and Diesel Generator (DG) for the production of energy

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Our energetic future has to be based on no polluting energies with long-term resources hence, renewable energies are the best candidate but with intermittent production. The goal of this work is to evaluate the performance of stand-alone power system, producing electricity, coupling a photovoltaic field with a wind turbine, diesel generator and a storage system made of batteries. Using hybrid power systems we can improve the exploitation of the renewable resource. The combination of several energy sources (wind turbines, photovoltaic panels, etc.) in a hybrid power system can be very attractive for most of the remote areas, in terms of cost and availability. For a typical installation, we will examine the configuration where the installation consists only of a DG and without storage system; all energy needs of the site will be provided by the DG. The study of this configuration is very important because it allows us to justify the interest of hybrid systems by comparing the two systems, “hybrid and classic” and “economic and environment” technically. Hence, reducing the emissions of gaseous pollutants is the main goal of this study, along with finding the remedy for the problems related to air pollution.

Biography
Fazia Baghdadi is a professor in the Department of Mechanics of University of Mouloud Mammeri, Tiziouzou Algeria. Her research interest is in the field of Renewable energy technologies.

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