ŁOTWA SYSTEM

Micro power station hybrid energy

Overview

What is a hybrid microgeneration based on solar photovoltaic and hydropower?

The present work proposes a hybrid microgeneration composed of solar photovoltaic and hydropower in a parallel and complementary way. The daytime demand will be supplied by solar energy and the night time demand by stored water energy in a small adequate reservoir, and the grid will be the backup of the system.

Why do we need a hybrid energy system?

Faced with the world scenario, with emphasis on renewable energies, in parallel with a risk of lack of energy, the research for new methods of energy resources is necessary. The hybrid use of renewable energies, such as wind, solar and hydro, is a way to obtain a better use of the generation systems, due to the characteristics of each source.

Can hybrid systems be used for microgeneration?

With the increase in microgeneration, studies of hybrid systems may have advantages in rural or isolated applications to meet specific loads (Chandran and Singh 2020; Chandran et al. 2020). There are various other possibilities of parallel converters for microgeneration, such as described in Mohd et al. (2010).

What is an example of a hybrid energy system?

Another example is the hybrid energy system used on the island of Ikaria, Greece (Papaefthymiou et al. 2010). In this study, the energy storage by pumping water occurs through wind energy with large daily variations, and thus the stored water energy is used according to demand.

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