

Evaluation of a Hybrid System for Renewable Energy in a Small Island in Greece

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Abstract : The proper management of the water supply and electricity is the key issue, especially in small islands, where sustainability has been combined with the autonomy and covering of water needs and the fast development in potential sectors of economy. In this research work a hybrid system in Fournoi island (Icaria), a small island of Aegean, has been evaluated in order to produce hydropower and cover water demands, as it can provide solutions to acute problems, such as the water scarcity or the instability of local power grids. The meaning and the utility of hybrid system and the cooperation with a desalination plant has also been considered. This kind of project has not yet been widely applied, so the consideration will give us valuable information about the storage of water and the controlled distribution of the generated clean energy. This process leads to the conclusions about the functioning of the system and the profitability of this project, covering the demand for water and electricity.

Keywords : hybrid system, water, electricity, island

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