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Holistic Concept of Energy Management In Small Tourist Settlement*

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Abstract

Energy management is a key issue for energy security and policy in meeting the electricity demand in small tourist settlements, especially those located in locations that do not guarantee stable and sufficient energy supply from the power grid and renewable energy sources with energy storage. The integration of intermittent renewable energy sources increases the difficulty of managing the electricity grid and maintaining the balance of electricity supply and demand, especially in small tourist settlements. A holistic approach to electricity management takes into account all the above aspects and presents the concept of using municipal waste for energy production in a biogas plant supported by photovoltaic systems and shared electricity storage to ensure uninterrupted power supply for a small tourist settlement. The study also shows how energy storage management can be used to adjust the size and manage the supply and demand of energy in the settlement based on the optimization of energy consumption for own needs. It is also shown that we can achieve the goals of the circular economy and sustainable development of local communities by using the waste utilization. The novelty of the study is the basis for assessing the energy storage capacity and the size of renewable energy sources in order to balance the energy management process without the need for grid power supply and using only biodegradable municipal waste for biogas supply and solar energy for electricity production, thus ensuring its uninterrupted supply for a small tourist settlement.

Keywords: public administration, resource management, tourism, ecology, management strategies

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