

In this context, Microgrids become potential alternatives to provide electricity to locations in Ecuador where the National Interconnected System does not reach.

In this sense, microgrids have become a solution that has reduced the loadability of power systems. Thus, the Salesian Polytechnic University in Quito has implemented a hybrid microgrid with three ...

Therefore, this paper pre-sents a brief review regarding the use and implementation of renewable energy sources, including microgrid solutions, as part of the Ecuador's Interconnected National System.

Two scenarios are analyzed--one including diesel generation and one exclusively with renewable resources such as photovoltaic arrays and micro hydro turbines.

This paper develops an optimization model to determine the optimal sizing, the total annual investment cost in renewable generation, and other operating costs of the components of a hybrid microgrid.

In this article we designed a hybrid electrical system between renewable and conventional generation with connection to the public power grid, for a residential building in the city of Quito, which proves to be ...

This work presents an energy management system (EMS) for a residential microgrid using convex optimization to achieve optimal decisions. The results obtained show that the proposed model is three times faster than ...

This study describes the main policies and laws in force for implementing microgrids in Ecuador. Finally, a discussion related to the feasibility of the inclusion of energy solutions based on microgrids for ...

In this study, Homer Pro software is used to simulate two microgrids with solar and wind energy in the mentioned sectors, allowing us to conduct comprehensive economic and energy analyses to determine ...

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