Multi-scenario microgrid

The global transition to sustainable energy demands efficient integration of renewable resources and resilient operation of microgrids (MGs). This study aims to develop a cost-effective and ...

To address this, a multi-objective energy management strategy is developed using Genetic Algorithm (GA) and Particle Swarm Optimization (PSO) to optimize power dispatch across photovoltaic (PV), battery, and grid ...

Multi-scenario microgrid optimization arises regularly in real life. It refers to finding optimal scheduling strategies of a microgrid under multiple scenarios where each scenario corresponds to a specific ...

With the continuous development and improvement of smart grids, the autonomy of microgrids and users is becoming stronger, making the research and application o

Offering an array of optimal solutions equips decision-makers with a holistic understanding of the problem, aiding in the identification of preferred solutions. Motivated by this gap, we introduce a multimodal ...

On this basis, a two-stage stochastic optimization model of multi-energy microgrid based on random fluctuation stabilization is established to formulate the operation of equipment.

In this paper, we use HOMER software to carry out multi-scenario collaborative planning for grid-connected PV-storage microgrids with EVs. Specifically, we build a multi-scenario optimization model ...

In summary, to balance multi-objective performance (multi-scenario performance), this paper draws on the concept of lexicographic optimization and proposes a robust optimization algorithm of multi ...

To this end, in this paper, we propose an improved scheduling approach for multi-energy microgrids, balancing scenario insufficiency and computational complexity.

Web: https://www.smartflooringsolutions.co.za