

This manuscript proposes a hybrid energy management of renewable-based micro grids (MGs) with Electric Vehicle (EV) aggregators. The proposed hybrid strategy is a combination of the Coati Optimization Algorithm (COA) and Constitutive Artificial Neural Networks (CANN), and the proposed technique is referred to as the COA-CANN technique. The ...

Since EVs are typically parked at home or work places more than 90% of the time during the day, they have the potential to act as battery storage [11]. More modern EVs with Vehicle-to-Grid (V2G) operation capability can be used as distributed energy storage devices to help the system operator to address some network problems [12] consequently, the power ...

The National Energy Efficiency Action Plan looks at the necessary measures that need to be put into place in order for Gibraltar to achieve its energy saving targets of 20% by 2020, as set by the EU. Measures are distributed across varying time scales and sectors ranging from public, commercial, building and transport sectors, each of which are ...

Due to the sheer global energy crisis, concerns about fuel exhaustion, electricity shortages, and global warming are becoming increasingly severe. Solar and wind energy, which are clean and renewable, provide solutions to these problems through distributed generators. Microgrids, as an essential interface to connect the power produced by renewable energy resources-based ...

Between 2016 and March 2022, Eco Wave Power operated a grid-connected proof-of-concept wave energy array in Gibraltar, as part of a 5 MW Power Purchase Agreement that EWP signed with the Government of Gibraltar and Gibraltar's National Electric Company, GibElectric.

In this paper, we propose an integrated micro energy grid platform service, solution based on artificial intelligence regarding energy management technology. KT deals with micro energy business models for Energy Efficiency (GiGA energy manager), Business model for Renewable energy (GiGA Energy Gen) and Energy Trade (GiGA energy DR, EV). We show how KT ...

Micro-energy network systems make full use of renewable energy and reduce dependence on external power grids, which is of great significance for enhancing the reliability of regional energy systems. Since it needs various energy production equipment to meet multiple energy demands, achieving optimal operation is the key to a successful micro-energy network ...

The multi-micro energy grid system connected to the distribution network is a complex multi-dimensional coupling system that requires real-time optimisation and control to ensure safety and stability. However, traditional optimisation methods cannot meet the real-time requirements of online operations. Nowadays,

reinforcement learning and deep ...

The company is pioneering in its sector by operating the only grid-connected wave energy array floaters in the world, which is operational under a Power Purchase Agreement (PPA) in Gibraltar. Upon its expansion to 5MW, this project will supply up to 15% of the country's electricity needs.

Eco Wave Power Gibraltar, a subsidiary of leading global wave energy developer Eco Wave Power, has announced the approval of a grant project budget of 296,787 GBP by Innovate UK, the UK's innovation agency. The grant is provided as part of the Energy Catalyst Round 8: Clean Energy, an experimental development competition for a project [...]

The U.S. Department of Energy defines a microgrid as a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. 1 Microgrids can work in conjunction with more traditional large-scale power grids, known as macrogrids, which are anchored by major power ...

?: The interconnection between initially independent energy infrastructures offers additional system flexibility and efficiency. The integration at distribution level simplifies the implementation of the integrated energy system functionalities. This paper proposes concepts and design principles of a smart micro energy grid (MEG) for accommodating micro-grids, distributed poly-generation ...

From 2016 to 2022, Eco Wave Power was operating the only grid-connected wave energy array in the world, which was operating through a PPA (Power Purchase Agreement), in Gibraltar. The station was co-funded by the European Regional Development Fund and recently received funding from Horizon2020 Phase 1 program.

The facility is now exporting power to Gibraltar's grid under a commercial power purchase agreement (PPA) with Gibraltar Electric Authority, Gibraltar's national electric company. According to the company, this is the ...

The study considered the optimization problem of micro energy grids (MEGs) participating in a bidding game with a utility energy grid. To begin, multi-level bidding game frameworks made of multi-MEGs were designed at different stages (day-ahead, intra-day, and real-time), and a three-stage optimization model with multiple game status was present in this ...

In order to reduce the impacts caused by large-scale renewable energy resources accessing the utility grid, the micro-energy grid system, as a natural extension of the microgrid in the energy ...

Web: <https://www.taolaba.co.za>

