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The main purpose of this study is to investigate the feasibility of using a hybrid photovoltaic (PV), fuel cell (FC), and battery system to power different load cases, which are intended to be used at the Al-Zarqa governorate in Jordan. All aspects related to the potentials of solar energy in the Al-Hashemeya area were studied.

The goal of this research is to identify the optimal sizing of hybrid renewable energy systems to cater electrical needs of Al-Karak governorate, based on maximizing the RES fraction while minimizing the cost of power in order to ...

This study presents an investigation and assessment of renewable energy resources to operate a reverse osmosis desalination plant located in arid remote area Sail El hasaa, Jordan with a capacity of up to 100 m<sup>3</sup> of daily. The HOMER Hybrid Optimization Model Tool has been used to create optimal designs for these renewable energy systems.

Abstract: This paper represents a case study for the potential of having hybrid energy system (PV/Wind/Diesel) with battery as a storage for powering a house located in a remote area in ...

This study aims to determine the size of a grid-tied hybrid system in Al-Tafilah, Jordan that maximizes the yearly overall fraction of demand met with levelized cost of electricity (LCOE) equal to or lower than the local cost of electricity generation.

6 ???&#0183; In addition, no special research has been done to evaluate the feasibility of integrating fully hybrid renewable energy systems in Jordan's WPSs in desert-isolated, and arid areas. This paper aims to fill in several knowledge gaps to achieve this. A comprehensive technical and economic feasibility evaluation was performed for five scenarios to ...

This paper investigates the performance of a hybrid renewable energy system within the context of one of Jordan's northern remote areas, the Zaatari Syrian Refugee Camp, assessing its efficiency and environmental impact by taking the Zaatari hospital as the case study.

Jordan is currently facing an energy crisis characterized by a heavy dependence on imported fossil fuels, prompting the nation to target a 50% share of renewable energy by 2030. This study introduces a novel approach by simulating hybrid solar-geothermal heat pump systems tailored to various Jordanian locations, assessing both their energy ...

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This research conducted a comprehensive analysis and feasibility study of a hybrid renewable energy system for an off-grid remote area that produces electricity using PVs, batteries, and DGs. The carbon impact of the DGs is studied, and we also examine the hybrid system's effectiveness in reducing carbon emissions.

Abstract: This paper represents a case study for the potential of having hybrid energy system (PV/Wind/Diesel) with battery as a storage for powering a house located in a remote area in the city of Al-Tafilah in Jordan. It presents technoeconomic analysis of different hybrid system configurations, and potential of using renewable energy ...

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