Tunisia solar and wind hybrid systems

In this work, potentials, state-of-the-art and development of hybrid wind-solar plants in the eastern-North Africa zone have been studied. Since the use of the renewable energy sources requires an accurate evaluation and planning, an optimization procedure has been...

Furthermore, it is also recommended to consider the possibility of installing hybrid systems such as PV-wind in more detail. Accordingly, the study"s outcomes can be used by policymakers to be more proactive in developing solar and wind farms, which will help Tunisia achieve its 2030 strategic plan. CRediT authorship contribution statement

The present study examines the feasibility of deploying solar and wind hybrid facilities (PV-wind, PV-CSP, and CS-wind) in the Tataouine region, southernmost Tunisia. Through a GIS-based Analytic Hierarchy ...

The current investigation examines the feasibility and design of hybrid renewable energy system (HRES) based on wind turbine, photovoltaic, and fuel cell technologies, coupled to diesel engines system to meet the power demand of an off-grid residential community located at the village of Sidi Daoud in Tunisia.

Records show that wind mean speed in Tunisia varies between 2.0 and 5.0 m/s. Four major zones (Figure 1) were highlighted: ZA (Bizerte, Tunis, Klebia, Tabarka, etc.), ZB (Elborma, Remada, etc.), ZC (Gabes, Djerba, Sfax, Medenine, etc.) and

The aim of this pa-per is to identify several optimal locations which can host a hybrid system based on solar and wind technologies. Global wind speed levels at heights beyond ten meters...

The feasibility of installing a hybrid solar-wind energy system capable of producing both electricity and hydrogen is evaluated. With the help of the available solar and wind resources combined, ...

This particular study focuses on exploring solar PV and wind as well as solar-wind hybrid systems in the Kasserine region, taking into account the unique social, political, and investment challenges in Tunisia.

The present study examines the feasibility of deploying solar and wind hybrid facilities (PV-wind, PV-CSP, and CS-wind) in the Tataouine region, southernmost Tunisia. Through a GIS-based Analytic Hierarchy Process integrated approach, this research aims to identify the most feasible locations for these renewable energy installations.

The aim of this paper is to identify several optimal locations which can host a hybrid system based on solar and wind technologies. In this work, potentials, state-of-the-art and development of hybrid wind-solar plants in the eastern-North Africa zone have been studied.

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The study presents a two-part approach for modeling and optimizing a hybrid Photovoltaic-Wind system alongside the National Grid for a desalination plant in Kerkennah, Sfax, Tunisia. In the first part, a comprehensive sizing and ranking of energy systems are conducted through simulation and multi-criteria analysis.

The feasibility of installing a hybrid solar-wind energy system capable of producing both electricity and hydrogen is evaluated. With the help of the available solar and wind resources combined, the system not only generates electric power, but also produces hydrogen gas through electrolyzation, hence offering a multipurpose solution in terms ...

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