

Large-scale solar energy storage power station site selection

What is sustainable site selection for photovoltaic power plant?

Sustainable site selection for photovoltaic power plant: an integrated approach based on prospect theory *Energ. Convers. Manage.*, 174 (2018), pp. 755 - 768 A multi-criteria decision-making framework for compressed air energy storage power site selection based on the probabilistic language term sets and regret theory

How to choose a suitable location for solar PV power plants?

The installation of solar PV power plants requires vast land and huge investment. Therefore, it is necessary to select a suitable site to achieve maximum efficiency and low cost. A feasible location of photovoltaic (PV) system must consider certain criteria including land restrictions, access to roads, and transmission lines.

How much area is suitable for solar PV power plants?

A suitability map is created showing that a total of 2.02% of the country's area is suitable for PV power plants, which are further divided into five suitability classes. The results highlight the distribution of suitable sites for the construction of solar PV power plant throughout the country.

Why is site selection important for solar power plants?

The site selection for solar power plants has a significant impact on the cost of energy production. A favorable situation would result in significant cost savings and increased electricity generation efficiency. California is located in the southwest region of the United States of America and is blessed with an abundance of sunlight.

Does proximity to populated areas affect solar PV power plant site selection?

Proximity to populated areas is considered widely in the literature as a determining factor for the site selection problem for solar PV power plant (Halder et al. 2021). When the solar PV power plant is near populated areas, the energy transmission cost is reduced; however, this may adversely affect the environment.

How is the size of a power station selected?

The size of the power station's land parcel was directly taken into account in the site selection process in Refs. [16,30], typically through simple exclusion or modification of weights, ensuring that large-scale power stations have a sufficiently large land parcel for construction.

This study is a systematic review of the literature that seeks to identify the determining factors in choosing the best location for solar photovoltaic power plants, through previous research on the application of renewable ...

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