

Site selection conditions for solar power stations

Why is site selection important for solar PV power plants?

Site selection for the utility-scale photovoltaic (PV) solar farm is a critical issue due to its direct impact on the power performance, economic, environmental, social aspects, and existing as well as future infrastructures. In this chapter, we conduct a literature review on site selection of solar PV power plants.

Can a site selection criteria be used for solar power plants?

It can be applied to any site selection problem, ranging from renewable energy sources to agricultural area. As a future study, this approach can be developed considering more criteria in different applications in order not to ignore any criterion for site selection of the solar power plants installation.

How to select a site for a solar power plant?

While developing a utility-scale solar power plant, various factors or criteria have to be taken care of in selecting the site location. Probable Site Selection of Photovoltaic Power Plant (PVPP) is a complex MCDM process, as the required site has to be climatically and geographically acceptable. It must also have the highest generation potentials.

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 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.

Why is site-selection of solar photovoltaics (PV) and concentrated solar power (CSP) important?

Scientific research on the site-selection procedures of solar photovoltaics (PV) and concentrated solar power (CSP) technologies is of significant importance, contributing to environmentally sustainable, technically and economically viable, and socially acceptable solar energy projects.

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 ...

Selection of suitable sites for solar power plants requires spatial evaluation taking technical, economic, and environmental considerations into account. This research has applied a fuzzy logic model to carry out spatial site ...

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