

Can artificial intelligence revolutionise solar energy management?

In this context, Artificial Intelligence (AI) in general and deep learning, in particular, emerge as a promising technology with significant potential to revolutionise solar energy management, primarily through the provision of accurate forecasts (Alam et al. 2022; Rai et al. 2021). In this regard, we postulate the following research questions.

Can AI-based forecasting improve the integration of solar electricity into power grids?

Through the implementation of an LSTM-based Deep Learning model, we have demonstrated that AI-based forecasting can significantly optimise the integration of solar electricity into power grids.

Is solar power a viable solution for a greener and resilient future?

with solar power becomes not only feasible but also essential for a greener and resilient future. 4. Design Innovations in Urban Solar Integration innovative solar integration solutions (Thani et al., 2022). This paper explores the forefront of design innovations in

Who are the authors of performance evaluation of solar power plants?

Makkiabadi M, Hoseinzadeh S, Taghavirashidizadeh A, Soleimaninezhad M, Kamyabi M, Hajabdollahi H, Majidi Nezhad M, Piras G. Performance Evaluation of Solar Power Plants: A Review and a Case Study.

Is Jalingo suitable for solar power generation?

Two cases are considered here. In the first case, large-scale solar PV generation is located at Jalingo, since it has been determined as the weakest bus of the system, and the state where Jalingo is located has been reported to be suitable for solar power generation.

How much irradiance does a 10MW solar power plant produce?

The effective irradiance on the solar plant is about 2030 kWh/m<sup>2</sup>. Therefore, in a 10MW solar power plant in Sirjan, about 20,489 MWh nominal array energy. By calculating of array soiling, module quality, module array mismatch, and inverter loss, this solar power plant can produce 16,047 MWh per year.

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Web: <https://publishers-right.eu/contact-us/>

Email: [energystorage2000@gmail.com](mailto:energystorage2000@gmail.com)

WhatsApp: 8613816583346

