

Can air quality improve solar generation in China?

Li et al. 9 found that atmospheric aerosols in the North China Plain reduce annual average surface solar resource by 25-35%, that is, a loss of up to $1.5 \text{ kWh m}^{-2} \text{ d}^{-1}$ in generation 9. Recent studies indicate that air quality improvements in China may generate an increase of up to US\$10 billion in solar generation revenue annually by 2040 10, 11.

How many GW is solar PV?

Global total PV capacity now exceeds 500 GW(ref. 1). With decreasing production costs, increasing PV module efficiency and continued government support, solar PV is anticipated to provide 16% of total global electricity generation by 2050 (with ~4.6 TW in solar PV capacity) 4.

Does soiling reduce PV generation in heavily polluted and desert regions?

Our results reveal that, with no cleaning and precipitation-only removal, PV generation in heavily polluted and desert regions is reduced by more than 50% by PM, with soiling accounting for more than two-thirds of the total reduction.

Does aggregation of solar power reduce CV?

Although the solar power aggregated in a continent spanning wider time zones has smaller CV, such as 'Asia', the overall CV reduction by up to continental aggregation (from 'Country' level) is smaller than that by global aggregation and some inter-continent aggregations.

Recently, a new concept named "air-water interfacial solar heating" has been proposed for seawater desalination [10], [11] has attracted much attention due to its low ...

DOI: 10.1016/j.est.2022.104999 Corpus ID: 249333717; An innovative concentrated solar power system driven by high-temperature cascade organic Rankine cycle @article{Ren2022AnIC, ...

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Xiao (Sean) LI, PhD Student | Cited by 154 | of Wuhan University, Wuhan (WHU) | Read 15 publications | Contact Xiao (Sean) LI ... solar, and water resources by climate change might degrade power ...

In 2015, Ye et al. 11 fed historical power generation, solar radiation intensity, and temperature data into a GA algorithm-optimized fuzzy radial basis function network ... Li, ...

Tandem solar cells can boost efficiency by using a wider range of the solar spectrum. The bandgap of organic semiconductors can be tuned over a wide range, but, for a two-terminal device that directly connects the cells, the ...

Xiao Li Zhang; Xiao Li Zhang ... Most cutting-edge performance binary bulk heterojunction organic solar cells (OSCs) with high power conversion efficiency (PCE) over 18% generally use ...

Li et al. 9 found that atmospheric aerosols in the North China Plain reduce annual average surface solar resource by 25-35%, that is, a loss of up to 1.5 kWh m⁻² d⁻¹ in generation 9.

PDF | On Nov 1, 2023, Xiao-Ya Li and others published The promising future of developing large-scale PV solar farms in China: A three-stage framework for site selection | Find, read and cite ...

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Chaoyang Chen & Hualing Liu & Yong Xiao & Fagen Zhu & Li Ding & Fuwen Yang, 2022. "Power Generation Scheduling for a Hydro-Wind-Solar Hybrid System: A Systematic Survey and ...

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