

# **Is wind power outsourcing for solar container communication stations**





## Overview

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Can a solar-wind system meet future energy demands?

Accelerating energy transition towards renewables is central to net-zero emissions. However, building a global power system dominated by solar and wind energy presents immense challenges. Here, we demonstrate the potential of a globally interconnected solar-wind system to meet future electricity demands.

Are solar and wind resources interconnected?

Theoretically, the potential of solar and wind resources on Earth vastly surpasses human demand 33, 34. In our pursuit of a globally interconnected solar-wind system, we have focused solely on the potentials that are exploitable, accessible, and interconnectable (see “Methods”).

How much does a solar-wind power outage affect electricity supply?

Under the S-G scenario, the decline in solar-wind electricity supply caused by the complete outage of a single regional grid averages only 2.6% (ranging from 0.7% to 11.7%), compared to declines of 5.8%, 15.1%, and 26.4% under the S-C, S-A, and S-I scenarios, respectively (Fig. 4b).

Where do grid-boxes contain solar and wind resources?

In densely populated regions such as western Europe, India, eastern China, and western United States, most grid-boxes contain solar and wind resources apt for interconnection (Supplementary Fig. S1). Nevertheless, these regions exhibit modest power generation potential, typically not exceeding 1.0 TWh/year (Fig. 1a).



## Is wind power outsourcing for solar container communication station



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A globally interconnected solar-wind power system can meet future electricity demand while lowering costs, enhancing resilience, and supporting a stable, sustainable ...

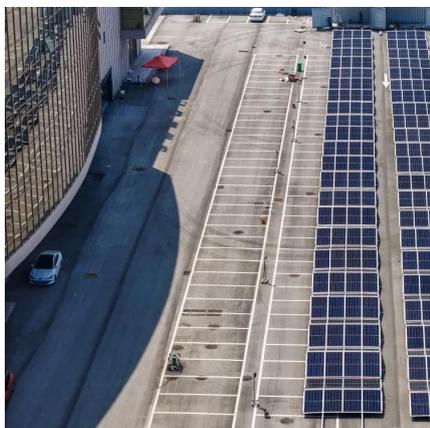
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