

Maximum power of wind power generation system





Overview

What is the maximum wind and solar installed capacity?

The results indicate that a wind-solar ratio of around 1.25:1, with wind power installed capacity of 2350 MW and photovoltaic installed capacity of 1898 MW, results in maximum wind and solar installed capacity. Furthermore, installed capacity increases with increasing wind and solar curtailment rates and loss-of-load probabilities.

What is the maximum integration capacity of wind and solar power?

At this ratio, the maximum wind-solar integration capacity reaches 3938.63 MW, with a curtailment rate of wind and solar power kept below 3 % and a loss of load probability maintained at 0 %. Furthermore, under varying loss of load probabilities, the total integration capacity of wind and solar power increases significantly.

How to determine the optimal power of a wind turbine?

When the wind turbine runs at the coefficient is C_{pmax} . Thus, the optimal power can be control. of torque. Although the PSF control strategy can power curve. However, the maximum power curve of conditions. Figure 7. It can be obtained by measuring the experi- mental value of torque. the control of the wind turbine. The reference torque can lation.

How to optimize wind and solar energy integration?

The optimization uses a particle swarm algorithm to obtain wind and solar energy integration's optimal ratio and capacity configuration. The results indicate that a wind-solar ratio of around 1.25:1, with wind power installed capacity of 2350 MW and photovoltaic installed capacity of 1898 MW, results in maximum wind and solar installed capacity.



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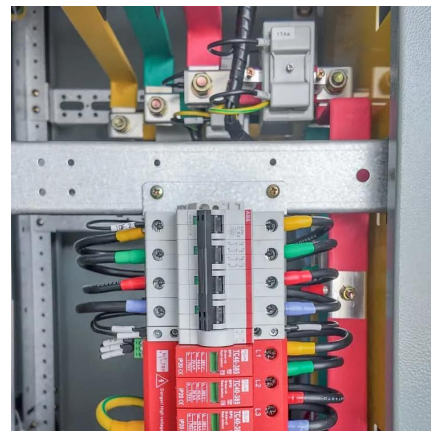
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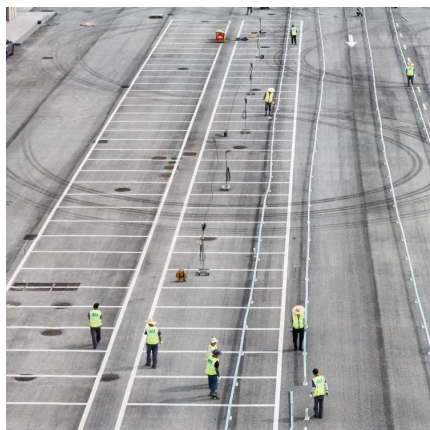


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