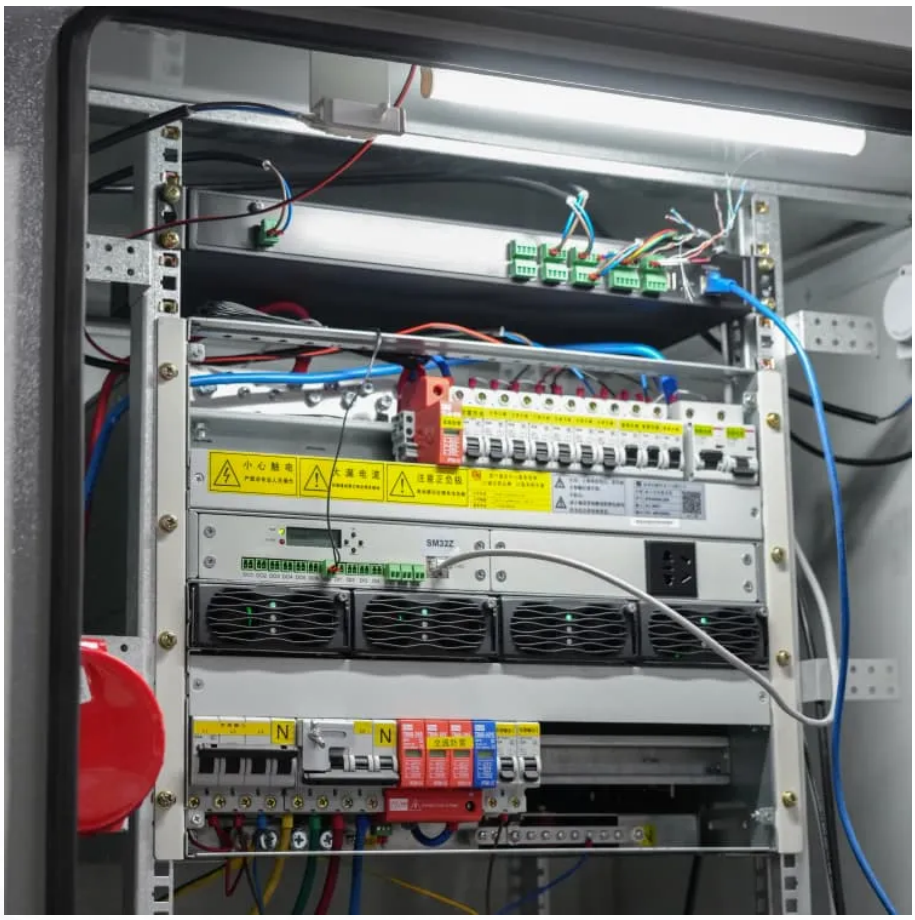
EIEI POWER

Total base stations of 5g network with hybrid energy



Overview

Considering significant uncertainties in business projected 5G base station number, we firstly developed a statistical regression model to predict the number of 5G base stations over China in 2030, Secondl.

Are 5G base stations more energy efficient than 4G BSS?

The energy consumption of 5G base stations (BSs) is significantly higher than that of 4G BSs, creating challenges for operators due to increased costs and carbon emissions. Existing solutions address this issue by switching off BSs during specific periods or forming cooperation coalitions where some BSs deactivate while others serve users.

How many 5G base stations are there?

These predicted station numbers are considerably smaller than the business-projected 6-million stations, even for the BDDL = 100 % case under the S2 scenario that yielded the number of 5G base stations at 5.03 million, still one million smaller than the business-estimated 5G base stations. This number, however, is implausible.

How many 5G base stations will we have by 2030?

Our modelled 5G base stations by 2030 range from about 1.3 to 5.0 million subjects to the two scenarios.

How much CO2 will China's 5G network produce?

Under the model predicted 5G base stations, China's 5G network could yield 0.15–0.29 GtCO2 /yr emissions subject to the nation's BDDL from 40 to 80 % by 2030. Both 5G base stations and CO 2 emissions are significantly lower than the previous estimates.

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[5G Base Station Hybrid Power Supply , HuiJue Group E-Site]

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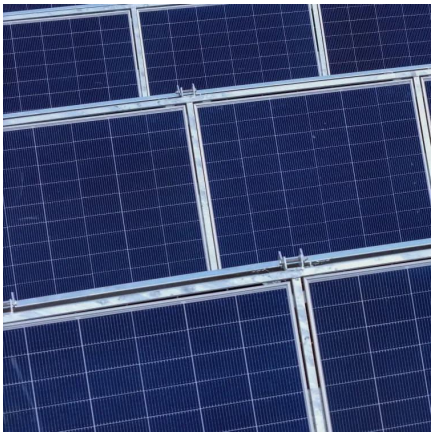

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