

## ContainerPower Energy Solutions

# Hybrid Energy 5G Energy Storage ESS Base Station



## Overview

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What is the energy storage planning capacity of large-scale 5G BS?

In Case 2, the total optimal energy storage planning capacity of large-scale 5G BSs in commercial, residential, and working areas is 9039.20 kWh, and the corresponding total rated power is 1807.84 kW. The total energy storage planning capacity of large-scale 5G BSs in Case 3 is 7742 kWh, which is 14.35% lower than that of Case 2.

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

However, due to the utilization of massive antennas and higher frequency bands, the energy consumption of 5G base stations (BSs) is much higher than that of 4G BSs, which incurs huge operation costs and significantly increases carbon emissions under traditional power supply mode .

Why should 5G BS engage in electricity trading with SES system?

Moreover, direct curtailment of surplus PV energy will encounter the PV power curtailment penalty. Therefore, 5G BSs are willing to engage in electricity trading with SES system through leased capacity to reduce operation costs.

Why do 5G BSS use battery energy storage systems?

The reason is that 5G BSs are configured with battery energy storage systems to store low-cost electricity. Moreover, the PV energy curtailment is significantly reduced in Case 2, and the PV absorption rate is effectively increased by planning battery energy storage systems.

Do large-scale 5G Bs have energy storage capacity leasing demands?

First, the scenario where large-scale 5G BSs in commercial, residential, and working areas have energy storage capacity leasing demands is studied, with 70 PV integrated 5G BSs in each area providing communication services. The cooling load and the maximum communication traffic load of each 5G BS are set to 2 kW and 10 kW, respectively .

Why is SES system dynamic capacity leasing important for PV integrated 5G BS?

Due to the complementarity of energy generation and load demand among different PV integrated 5G BSs, SES operator can aggregate the charging-discharging demands among PV integrated 5G BSs and provide SES system dynamic capacity leasing services, which promotes efficient utilization of PV energy and reduce the operation cost of 5G BSs , .

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