

## ContainerPower Energy Solutions

# China's communication base stations are powered by 6 25MWh



## Overview

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How much electricity does a communication base station consume in China?

Based on the actual number of base stations in each province of China in 2021, we calculated the national electricity consumption of communication base stations (methodology detailed in Note S4), which amounted to 83,525.81 GWh (95% confidence interval [CI]: 81,212.38–85,825.86 GWh) for the year (Figures 2 A and 2C).

How many 5G base stations are there in China?

With 4.19 million 5G base stations already operational across China, the MIIT emphasized that “promoting 5G revolution and 6G innovation will be one of the priorities” for 2025, according to a report by Chinese newspaper China Daily. Chinese main operators are China Mobile, China Telecom and China Unicom.

How many telecom base stations are there in China in 2024?

In 2024, the number of telecom base stations in China is expected to increase to 12.65 million. Based on this, we estimate that the total electricity consumption of telecom base stations in China in 2024 will be 146,242.621 GWh.

How much electricity does a communication base station use a year?

In 2021, the annual electricity consumption from communication base stations was 83,525.81 GWh, and it is estimated to rise to 458,495.18 GWh by 2030 (average across three scenarios), with an increase of 448.93% compared with 2021.

Can communication base stations reduce anxiety cases in China?

As a result, this approach was anticipated to reduce the number of anxiety cases in China caused by irregular sleep related to communication base stations by 488,500 (Figure 5 D).

Should China upgrade its communication systems?

Our analysis indicates that the low-carbon upgrade of China's communication systems is a critical strategy for alleviating both cost pressures and carbon policy constraints. The upgrade also delivers additional environmental and public health benefits.

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