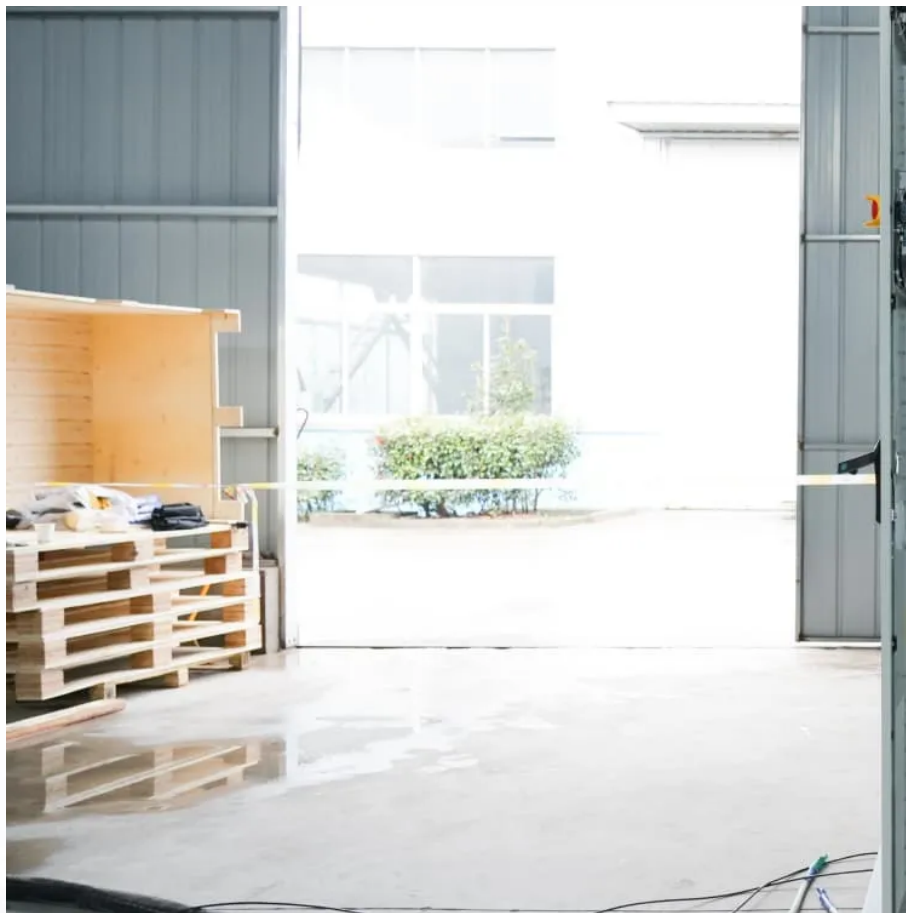


# **China Communications deploys 2 5 million 5G base stations**





## Overview

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How many 5G base stations are there in China?

At the end of 2023, operators had installed 3.4 million 5G base stations, accounting for more than 30% of China's total mobile base stations.<sup>1</sup> Data from the Chinese telecoms regulator also shows that more than 80% of administrative villages have 5G connectivity.<sup>2</sup> Innovative solutions may be needed to extend 5G coverage to hard-to-reach areas.

Does China have a 5G network?

Given that China currently has the largest 5G network in the world (~1.53 million base stations by the end of 2021, Table S1) and that base station number was projected by up to 6–8 million by 2030 (CCID Consulting, 2020), concerns are being expressed regarding 5G mobile networks' environmental effects and sustainability.

How much CO<sub>2</sub> will China's 5G network produce?

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

Which countries have the most 5G connections in 2023?

in China, with the number of 5G connections reaching 810 million (45% of total connections) at the end of 2023. Macao leads the way, with 5G accounting for 48% of total connections, followed by mainland China (45%), Taiwan (37%) and Hong Kong (33%). Only the US and South Korea have higher 5G adoption rates than the three leading markets in China.

Which companies are participating in 5G New calling industry initiative?

For example, China Mobile, China Telecom, China Unicom, Hisense, Huawei, iFlytek, MediaTek, Oppo, Unisoc, Vivo, Xiaomi and ZTE participated in the



launch of the 5G New Calling Industry Initiative during MWC Barcelona 2023. Furthermore, momentum behind 5GNC is building outside China.

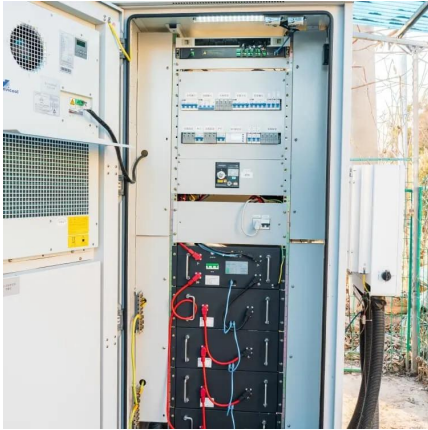
How many 5G base stations will we have by 2030?

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



## China Communications deploys 2 5 million 5G base stations

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### [5G Base Station Radio Frequency Device Market Outlook](#)

The global market for 5G Base Station Radio Frequency Device was estimated to be worth US\$ 2605 million in 2024 and is forecast to a readjusted size of US\$ 1982 million by 2031 with a ...

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### **Global 5G Adoption Skyrockets to 2.25 Billion, Four Times Faster ...**

Bellevue, Wash. - March 27, 2025 - The global wireless telecommunications industry achieved a historic milestone in 2024, with 5G connections reaching 2.25 billion worldwide. This ...

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### **Omdia: China is projected to have 2.9 million 5G base stations by ...**

LONDON - After building the world's largest 5G network with 2.3 million 5G base stations by the end of 2022, China is on track add over 600,000 5G base stations and reach 2.9

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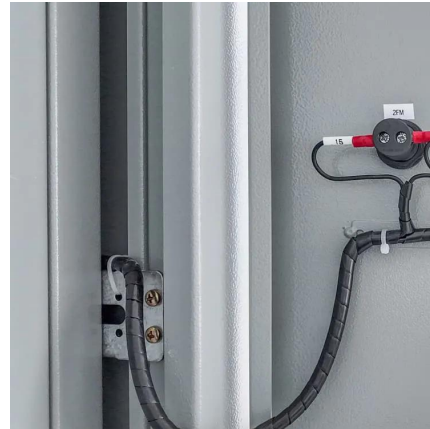
### **The carbon footprint response to projected base stations of ...**

We collected 5G base station numbers in 2020 and 2021 in 31 provinces and province-level municipalities (PLM), the period with the rapid



growth of the 5G base stations in ...

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### Research on Carbon Emission of 5G Base Station Construction ...

This study builds a carbon emission assessment model for the base station construction based on the life cycle assessment method, and takes 5G base station in ...

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### China Has Built 2.312 Million 5G Base Stations

There were 2.312 million 5G base stations, 887,000 more over last year, accounting for 21.3% of the total mobile base stations and a year-on-year increase of 7 percentage points.

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### The carbon footprint response to projected base stations of China's 5G

We collected 5G base station numbers in 2020 and 2021 in 31 provinces and province-level municipalities (PLM), the period with the rapid growth of the 5G base stations in ...

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### [The Mobile Economy Report China 2023 ENG](#)

5G will underpin future mobile innovation and services, building on current deployments and adoption. The number of 5G base stations in China exceeded 2.3 million at the end of 2022, ...

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### **Deployment of 5G Base Stations to Provide Augmented Device**

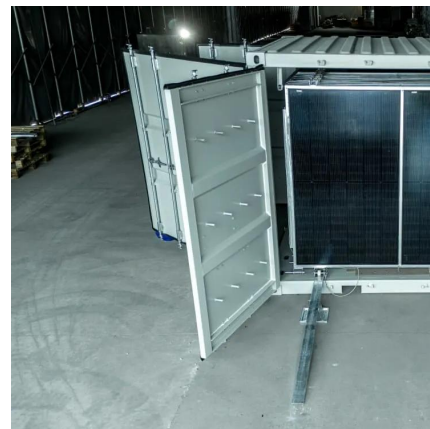
Driven by these factors, the global 5G base station market garnered a soaring revenue of USD 6,204 Million in 2019 and is estimated to touch USD 179,490.50 Million by ...

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### [Whitepaper on China's Manned eVTOL Market](#)

Since 2021, China has introduced a series of central-level policies focused on developing the low-altitude economy and supporting the eVTOL sector. The term "低空经济" (low-altitude ...

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### [Carbon emissions of 5G mobile networks in China](#)

However, the energy consumption and carbon emissions of 5G mobile networks are concerning. Here we develop a large-scale data-driven framework to quantitatively assess the carbon ...

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### [China Mobile Exceeds 2.29 Million 5G Base Stations](#)

In the first half of the year, China Mobile invested a total of RMB 31.4 billion in its 5G network, bringing the total number of 5G base stations to over 2.29 million, including 705,000 base ...

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### **The number of 5G base stations in China Exceeds 4 Million**

The number of 5G base stations exceeds 4 million, and the number of gigabit broadband access users has reached 190 million, achieving "gigabit connectivity in every city, ...

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### **A multi-level perspective on 5G transition: The China case**

We choose China as an influential case and deploy mixed methods to analyze a variety of data sources. The results show a rich picture of technological transition, including: 1) ...

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