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Power consumption of 5G base stations in China

Overview

For China, based on a single base station power's energy consumption of 11.5 KWh (Huawei, 2019), we estimate that the electricity consumed by its 5G network by 2030 will be 6.04 × 10 5 GW for 6 mill.

How much energy does a 5G base station use?

China Mobile’s measurement report9 indicates that the energy consumption of a 5G base station is 4.3 kWh, which is four times that of a 4G base station at 1.1 kWh. One 5G base station is estimated to produce 30 t of carbon emissions in one year of operation10.

How much electricity does China use per base station?

For China, based on a single base station power's energy consumption of 11.5 KWh (Huawei, 2019), we estimate that the electricity consumed by its 5G network by 2030 will be 6.04 × 10 5 GW for 6 million base stations, the equivalents of 8.4 % of China's national total power generation in 2019, respectively.

Will China's 5G base stations increase electricity consumption?

New research from Greenpeace East Asia finds that electricity consumption from digital infrastructure in China is on track to increase an estimated 289% by 2035.4 Electricity use at 5G base stations in China is rising at an even more dramatic rate and is projected to increase nearly 500% over the same period.

How much carbon is produced by 5G in China?

which is four times that of a 4G base station at 1.1 kWh. One 5G base station is estimated to produce 30 t of carbon emissions in one year of operation10. Thus, 5G networks in China are roughly estimated to produce over 60 Mt of carbon emissions annually at the national level11.

Power consumption of 5G base stations in China

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