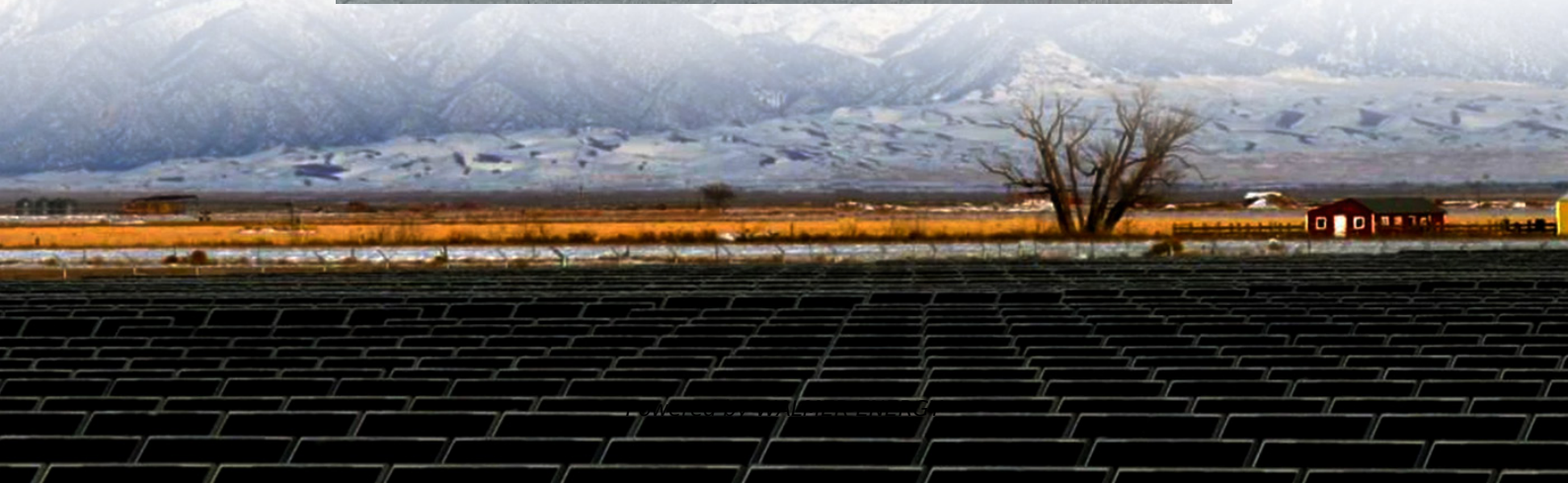


Policies and measures to reduce electricity costs of 5G base stations





Overview

Why is 5G more energy efficient than 4G?

Due to the high radio frequency and limited network coverage of 5G base stations, the number of the 5G base stations are 1.4~2 times than that of the 4G base stations, and thus the energy consumption is also 2~3 times higher (Israr et al., 2021).

Can a 5G network reduce energy consumption?

Notably, China, Korea, and the US are vigorously engaged in this field, specifically related to the 5G network. This review paper identifies the possible potential solutions for reducing the energy consumption of the networks and discusses the challenges so that more accurate and valid measures could be designed for future research.

Can a 5G base station promote green development of mobile communication facilities?

However, a significant reduction of ca. 42.8% can be achieved by optimizing the power structure and base station layout strategy and reducing equipment power consumption. Overall, this study provides a clear approach to assess the environmental impact of the 5G base station and will promote the green development of mobile communication facilities.

How to evaluate a 5G energy-optimised network?

To properly examine an energy-optimised network, it is very crucial to select the most suitable EE metric for 5G networks. EE is the ratio of transmitted bits for every joule of energy expended. Therefore, while measuring it, different perspectives need to be considered such as from the network or user's point of view.



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