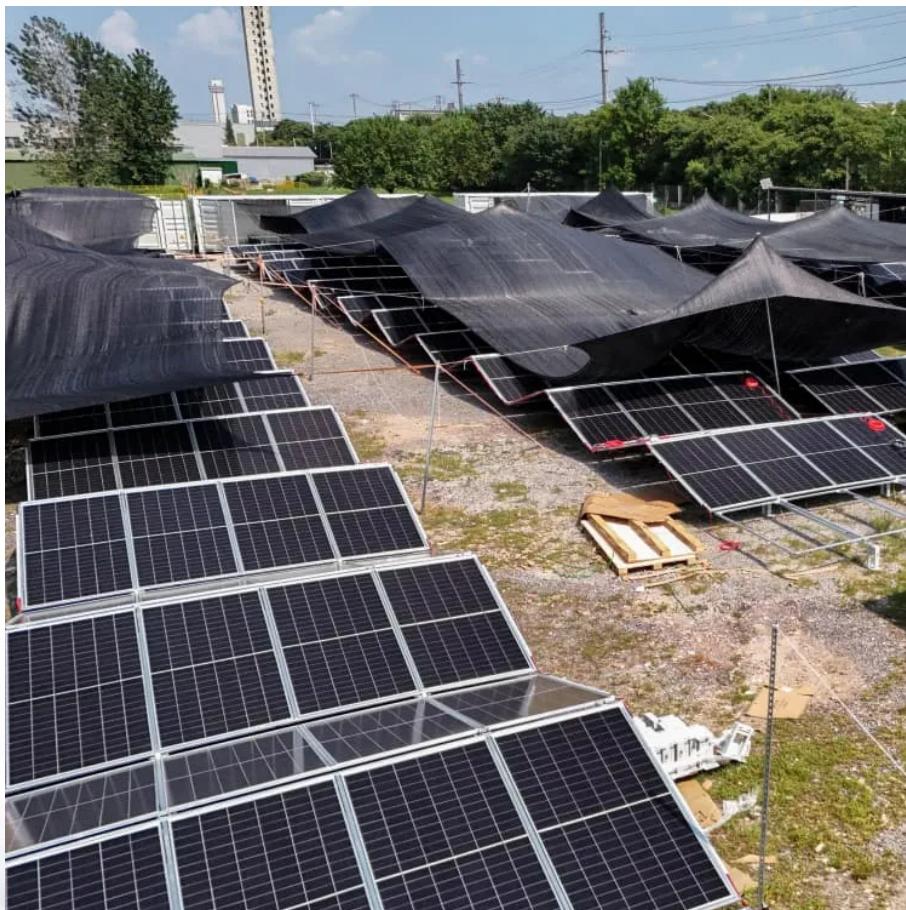




BUHLE POWER

Egypt accelerates the reduction of electricity costs for 5G base stations





Overview

Can 3GPP reduce base station energy consumption in 5G NR BS?

Aiming at minimizing the base station (BS) energy consumption under low and medium load scenarios, the 3GPP recently completed a Release 18 study on energy saving techniques for 5G NR BSs. A broad range of techniques was evaluated in terms of the obtained network energy saving (NES) gain and their impact to the user-perceived throughput (UPT).

How does mobile data traffic affect the energy consumption of 5G base stations?

The explosive growth of mobile data traffic has resulted in a significant increase in the energy consumption of 5G base stations (BSs).

Can a 5G network reduce energy consumption?

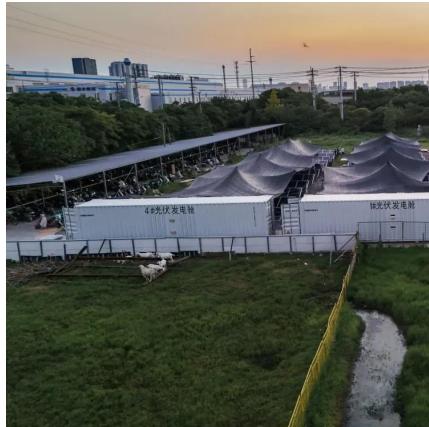
Notably, China, Korea, and the US are vigorously engaged in this field, specifically related to the 5G network. This review paper identifies the possible potential solutions for reducing the energy consumption of the networks and discusses the challenges so that more accurate and valid measures could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

What is a minimal 5G BS energy consumption optimization model?

Therefore, the problem can be formulated as a minimal 5G BS energy consumption optimization model, i.e., the energy consumption reduced by reasonably switching off the idle or lightly loaded BSs and reasonably associate UEs with BSs (i.e., the BS switching state and BS-UE association state scheme).



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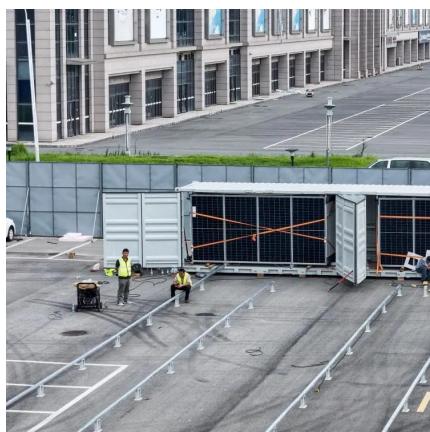
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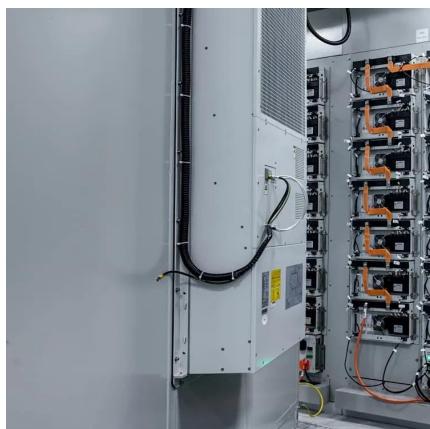
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