

## A-Core Container

# Benefits of wind power in building 5G communication base stations



## Overview

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How will a 5G base station affect energy costs?

According to the mobile telephone network (MTN), which is a multinational mobile telecommunications company, report (Walker, 2020), the dense layer of small cell and more antennas requirements will cause energy costs to grow because of up to twice or more power consumption of a 5G base station than the power of a 4G base station.

What are the advantages of re in 5G mobile networks?

There are several potential advantages of RE in 5G mobile networks. First, for the network operator, RE can reduce the cost of energy consumption by deploying solar or wind energy base stations. RE enabled BSs can use solar energy for operation in the daytime, along with storing it in rechargeable batteries.

Will the 5G mobile communication infrastructure contribute to the smart grid?

In the future, it can be envisioned that the ubiquitously deployed base stations of the 5G wireless mobile communication infrastructure will actively participate in the context of the smart grid as a new type of power demand that can be supplied by the use of distributed renewable generation.

How will 5G impact the environment?

The advent of the ultra-dense 5G network and a vast number of connected devices will bring about the obvious issues of significantly increased system energy consumption, operational expenses, and carbon dioxide emissions.

How re technology is a viable solution for 5G mobile networks?

1. RE generation sources are a practical solution for 5G mobile networks. For SCNs, the RE technology is a viable and sustainable energy solution. RE technology can produce enough renewable energy to power SCBSs. It is predicted that 20% of carbon dioxide emissions will be reduced in the ICT

industry by deploying RE techniques to SCNs.

How to reduce energy consumption in a 5G access network?

An analytical model was developed for the 5G access network, which considers the number of active SCNs and puts other small cells into sleep mode and two backhaul energy-efficient solutions mmWave and passive optical network are presented to reduce the energy consumption of the network.

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