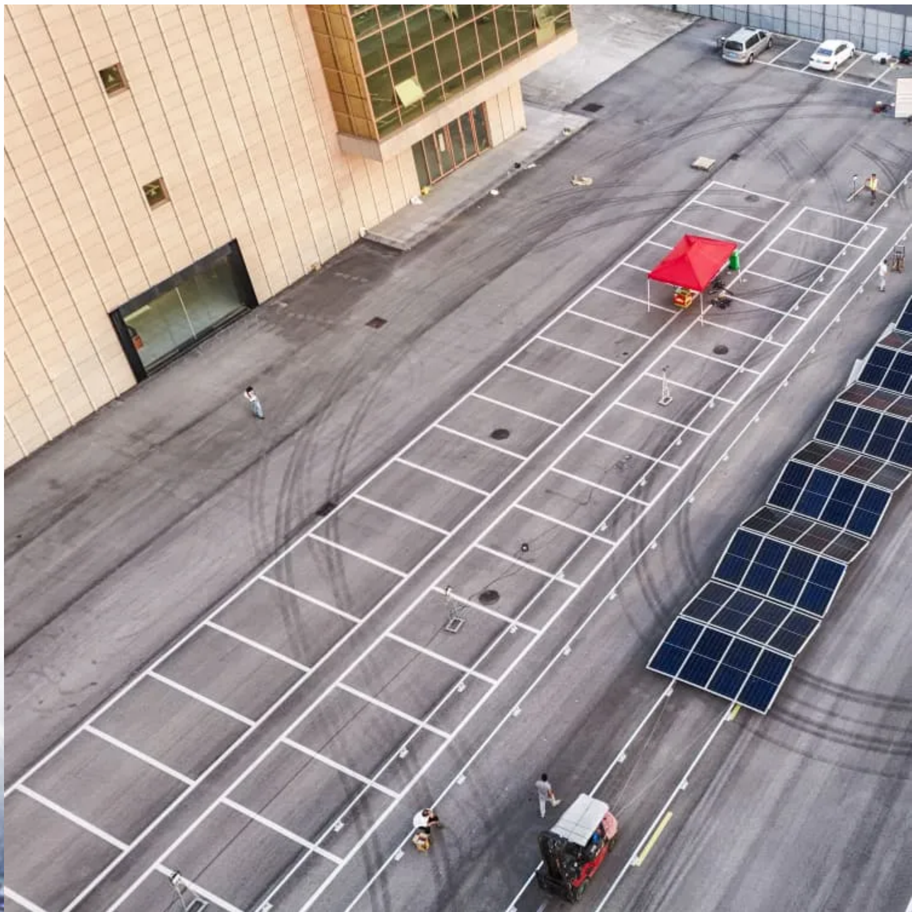
A-Core Container

Cost of wind and solar complementary power generation for communication base stations in Western Europe



Overview

Why are telcos deploying wind and solar power at cell sites?

As energy prices soar, ESG continues to grow in importance, and 5G's increased power demands loom, a number of cell tower owners and telco operators are looking at deploying wind and solar power generation systems at the cell sites themselves.

Should solar and wind be deployed in emerging markets?

While operators in emerging markets where the grid is less developed or reliable have long deployed solar and wind at cell sites, it is only in recent years that companies are starting to look at similar deployments in more developed markets such as Europe.

Can wind power a mobile network tower?

Initial tests showed that on windy days, more renewable energy could be generated than was consumed by site operations. In the UK, Vodafone has been working with Crossflow Energy for two years to use the latter's wind turbine technology in combination with solar and battery technologies to create a self-powered mobile network tower.

How much energy does a base station use?

A typical 3-sector base station site holding hardware from several carriers could draw anywhere between 2.5 to 10kW, but would typically sit somewhere in the middle. MTN Consulting estimates operators spend around 5-6 percent of their operating expenses, excluding depreciation and amortization, on energy costs.

How much energy does a vantage turbine produce?

Each pair of turbine units has a nominal capacity of 1kW in winds of 3.5m/s or more; the units have an approximate energy output of 1,500kWh per year. Vantage operates around 83,000 macro sites in Europe, so 52 sites is still a

small trial.

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