WALMER ENERGY

Future communication technology without base stations

Overview

What is the future of radio network equipment?

Future network equipment including mobile batteries and base stations will be solar module-based, cheap, and low cost. The radio spectrum is a precious resource, expensive, and in high demand, which requires efficient management techniques to enhance its usage .

Can low-carbon communication base stations improve local energy use?

Therefore, low-carbon upgrades to communication base stations can effectively improve the economics of local energy use while reducing local environmental pollution and gaining public health benefits. For this research, we recommend further in-depth exploration in three areas for the future.

Will communication base stations reduce electricity consumption?

Our findings revealed that the nationwide electricity consumption would reduce to 54,101.60 GWh due to the operation of communication base stations (95% CI: 53,492.10–54,725.35 GWh) (Figure 2 C), marking a reduction of 35.23% compared with the original consumption. We also predicted the reduction of pollutant emissions after the upgrade.

Is a satellite system a viable alternative to a terrestrial communications system?

The satellite system’s requirements for parity with a terrestrial communications system are impractical (but not impossible) and, if pursued, would significantly drive up design complexity and cost, likely making such a system highly uneconomical.

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