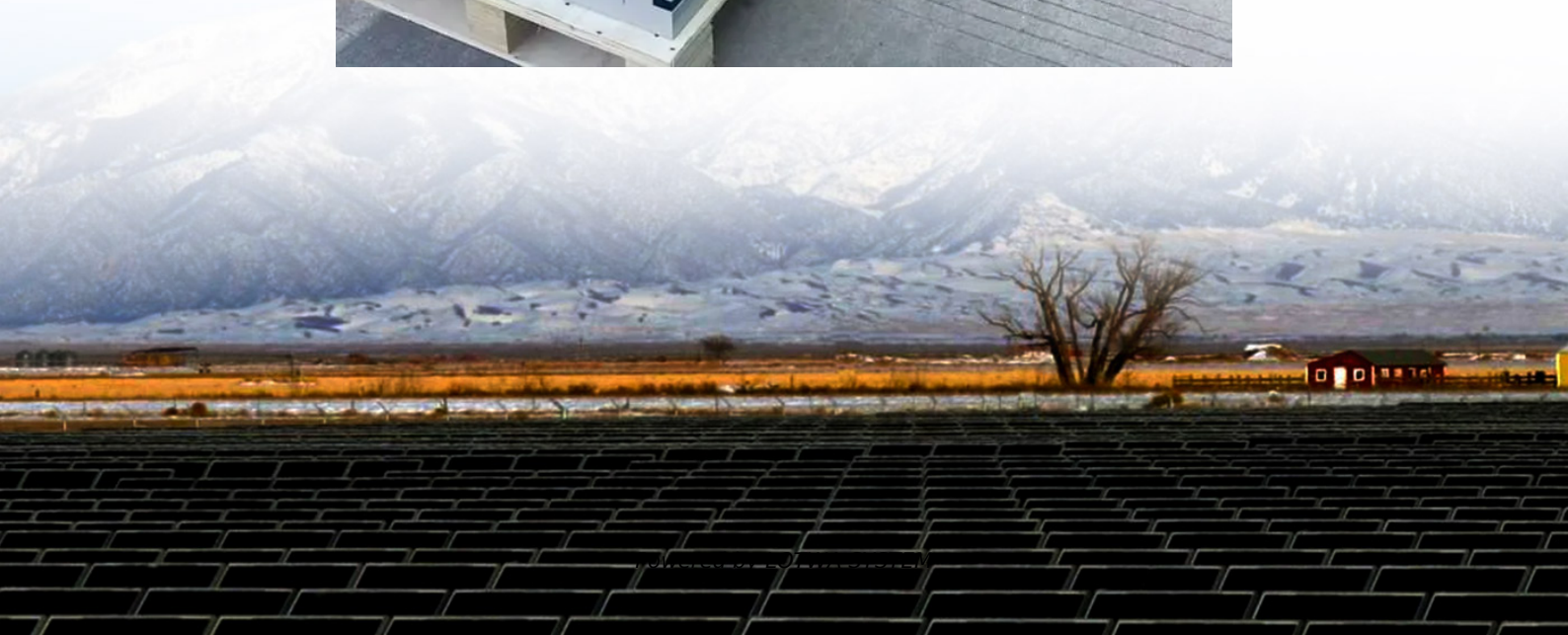


Base station communication equipment elimination





Overview

How effective are communication base stations in reducing air pollution?

In Figure 5 A, after implementing optimization measures to communication base stations, the cases of COPDs related to air pollution caused by communication base stations in 2021 would be reduced to 13,004 (65% reduction). The effectiveness of these optimizations becomes more pronounced in the following year.

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.

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.

How does a base station work?

In this scheme, the base station is powered by solar panels, the electrical grid, and energy storage units to ensure the stability of energy supply. When there is a surplus of energy supply, the excess electricity generated by the solar panels is stored in the energy storage units.



Base station communication equipment elimination

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