

# **Base station combined wind power supply battery**





## Overview

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The paper proposes a novel planning approach for optimal sizing of standalone photovoltaic-wind-diesel-battery power supply for mobile telephony base stations. The approach is based on integration of a compr.

Can wind-storage hybrid systems provide primary energy?

Thus, the goal of this report is to promote understanding of the technologies involved in wind-storage hybrid systems and to determine the optimal strategies for integrating these technologies into a distributed system that provides primary energy as well as grid support services.

What is a wind storage system?

A storage system, such as a Li-ion battery, can help maintain balance of variable wind power output within system constraints, delivering firm power that is easy to integrate with other generators or the grid. The size and use of storage depend on the intended application and the configuration of the wind devices.

How do wind-storage hybrids work?

Operation and dispatch of wind-storage hybrids depend on the intended function as well as the configuration of the hybrid in relation to the external power grid. For example, a hybrid system operating in an isolated grid may differ significantly than the same hybrid system in grid-connected mode.

How do AC-coupled wind-storage systems work?

In an AC-coupled wind-storage system, the distributed wind and battery connect on an AC bus (shown in Figure 3). Such a system normally uses an industry-standard, phase-locked loop feedback control system to adjust the phase of generated power to match the phase of the grid (i.e., synchronization and control).



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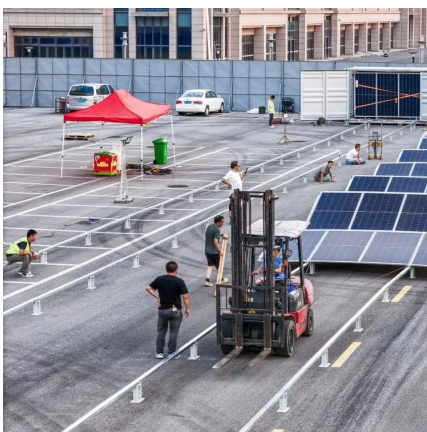
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