



# 5g solar container communication station hybrid energy patent





## Overview

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What is a 5G virtual power plant?

This model encompasses numerous energy-consuming 5G base stations (gNBs) and their backup energy storage systems (BESSs) in a virtual power plant to provide power support and obtain economic incentives, and develop virtual power plant management functions within the 5G core network to minimize control costs.

What is a 5G communication base station?

The 5G communication base station can be regarded as a power consumption system that integrates communication, power, and temperature coupling, which is composed of three major pieces of equipment: the communication system, energy storage system, and temperature control system.

Are 5G base stations energy-saving?

Given the significant increase in electricity consumption in 5G networks, which contradicts the concept of communication operators building green communication networks, the current research focus on 5G base stations is mainly on energy-saving measures and their integration with optimized power grid operation.

Does a 5G communication base station control peak energy storage?

This paper considers the peak control of base station energy storage under multi-region conditions, with the 5G communication base station serving as the research object. Future work will extend the analysis to consider the uncertainty of different types of renewable energy sources' output.



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### [Wind-solar hybrid for outdoor communication base stations](#)

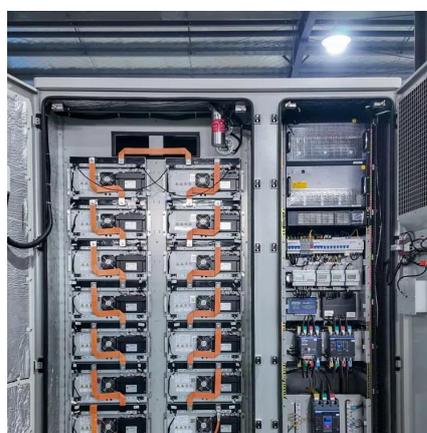
The invention relates to a wind and solar hybrid generation system for a communication base station based on dual direct-current bus control, comprising photovoltaic arrays, a wind-power

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### [Eastern Europe 5G solar container communication station ...](#)

This paper presents a European-wide techno-economic and environmental assessment of retrofitting 5G macro-cell base stations with grid-connected solar photovoltaic

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### [US Patent Application for SOLAR ENERGY INTERMODAL ...](#)

More specifically, the present disclosure is directed to a solar energy cargo system capable of receiving and storing solar energy, and powering electric or hybrid electric vehicles using the ...

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## ON HYBRID ENERGY UTILIZATION FOR HARVESTING BASE STATION IN 5G

Iran 5G communication base station inverter grid layout solution The emergence of ultra-dense 5G networks and a large number of connected devices will bring with them significant ...



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### **WO2024060817A1**

Disclosed in the present invention is a wind-solar complementary 5G integrated energy-saving cabinet, comprising a cabinet body.

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### **ON HYBRID ENERGY UTILIZATION FOR HARVESTING BASE ...**

Iran 5G communication base station inverter grid layout solution The emergence of ultra-dense 5G networks and a large number of connected devices will bring with them significant ...

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### **5g solar container communication station power supply solution**

The solar power supply system for communication base stations is an innovative solution that utilizes solar photovoltaic power generation technology to provide electricity for communication

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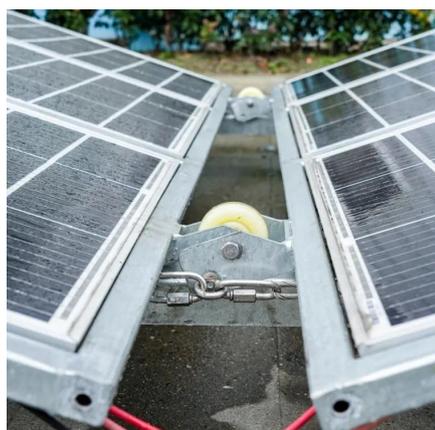
### **Hybrid Control Strategy for 5G Base**



## [Station Virtual ...](#)

Grounded in the spatiotemporal traits of chemical energy storage and thermal energy storage, a virtual battery model for base ...

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## **US Patent Application for SOLAR ENERGY INTERMODAL CONTAINER ...**

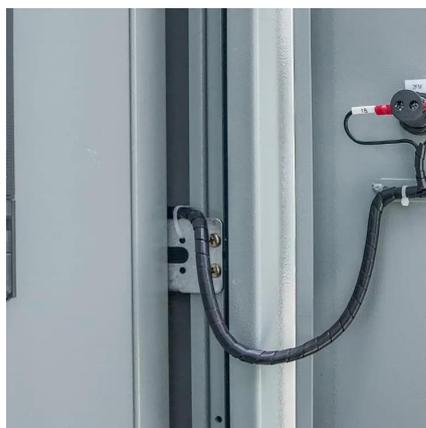
More specifically, the present disclosure is directed to a solar energy cargo system capable of receiving and storing solar energy, and powering electric or hybrid electric vehicles using the ...

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## **Hybrid solar PV/hydrogen fuel cell-based cellular base-stations in**

In this paper, an off-grid hybrid PV/HFC-based electric system is designed to energize an urban 4G/5G cellular BS in Kuwait to reduce CO2 emissions, and lower long-term ...

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## [5G solar container communication station inverter grid ...](#)

May 26, 2023 · This paper addresses the feasibility of using renewable energy sources to power off-grid rural 4G/5G cellular base-stations based Grid-connected solar-powered cellular ...

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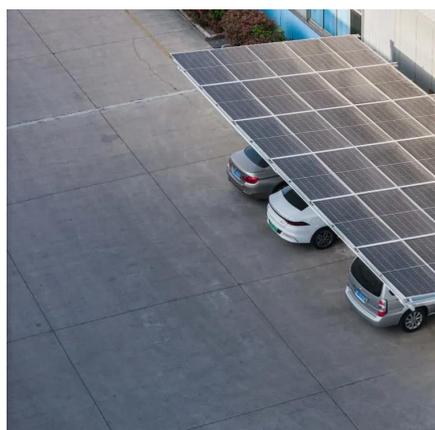
## [Hybrid Control Strategy for 5G Base](#)



## [Station Virtual Battery](#)

Grounded in the spatiotemporal traits of chemical energy storage and thermal energy storage, a virtual battery model for base stations is established and the scheduling ...

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## [Wenke Green Engineering Applies for Patent on 5G-based Data](#)

Wenke Green Building has applied for a patent for a data transmission and monitoring system for photovoltaic power stations based on 5G technology. This innovative ...

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