

High-precision hybrid energy systems for smart buildings

This paper aims to provide an updated literature review of design and applications of hybrid energy systems in buildings, focusing on economic, environmental, and technical viewpoints.

This article explores how hybrid HVAC systems are designed, the techniques behind them, and their role in achieving net-zero goals.

This Reprint collects high-quality contributions addressing research advances in hybrid renewable energy systems in buildings, focusing on innovative solutions and supporting the energy ...

This study presents an innovative hybrid energy system integrating wind power and gas turbines for a four-story, 16-unit residential building. The system generates electricity, heating, cooling, and ...

The Smart Buildings and Hybrid Energy Systems application area emphasises a holistic approach on the built environment, sustainable energy solutions and hybrid energy systems. These include both ...

Data-Driven Smart Building: A Data-Driven Smart Building is a building that uses digitalization technologies to dynamically optimize site energy use, in-door environment quality (IEQ) and ...

This study proposes an optimal design method for configuring parameters of hybrid energy systems, integrating parametric techniques (Grasshopper) with multiple models to explore the ...

This paper provides a comprehensive review of hybrid energy systems (HESs), focusing on their challenges, optimization techniques, and control strategies to enhance performance, ...

This study constructed a holistic, intelligent, and high-efficiency hybrid solar energy system based on AI-driven solar tracking, smart material-based PV enhancement, adaptive photovoltaics, and blockchain ...

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