ContainerPower Energy Solutions

# Office building rooftop energy storage power station

## Overview

The utilization of distributed power generation system plays an essential role in the design of resilient cities. With the ever increasing of efficiency and decreasing of production cost, Photovoltaic (PV) system is b.

What is a packaged rooftop system?

A packaged rooftop system, also known as a rooftop unit (RTU), is a type of HVAC system that includes all the components needed to provide heating and air conditioning in one unit. It is ceiling-mounted equipment commonly found in commercial buildings . According to the green building standards, the temperature range is 18–27° Celsius.

Is a commercial-office building based on Green Building Standards?

In this research, based on building energy simulation techniques, a commercial-office building has been investigated based on green building standards, considering the presence of electric cars and transparent solar cells.

What is the maximum power consumption of a building?

The maximum power consumption of the building is between 500 and 2000 kW, and according to this company's electricity service provision plans, the building is considered in the high-demand public service program (GSLD-2).

Where are solar panels located in a building?

In the first scenario, solar cells are located on the roof of the building. In the second scenario of energy production in the building, in addition to the presence of photovoltaic panels on the roof, there are transparent photovoltaic panels on the windows of the building. In the following, each of these types of panels will be explained.

How many square meters does a roof panel occupy?

Also, the useful area of the roof that the panels occupy on the roof is 2778 square meters. In Table 4, the total cost of installing the panel on the roof of

the building and the rate of return on investment due to the electricity savings from installing these panels are examined.

How much energy does a building use?

Buildings consume approximately 151 EJ of energy, equivalent to 36% of the world's final energy consumption. Approximately 130 EJ, or 30% of global energy consumption, goes to the operation of buildings and another 21 EJ to other building services . Globally, the building sector accounted for approximately 32% of energy consumption in 2010.

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