

Smart energy storage device for Bucharest power grid





Overview

Which energy storage devices are available?

The energy storage devices currently available on the market are: battery energy storage systems (BESS), energy capacitor systems (ECS), flywheel energy storage systems (FESS). ESSs in an alternating current (AC) grid cannot store electrical energy directly. Figure 1 depicts the most important storage technologies for the power grid.

What is Romania's largest battery storage system?

In April, Romania's largest battery storage system, of 24 MWh, was put into operation. It is the first phase of a project totaling 216 MWh. The facility is connected to the Mireasa wind farm of 50 MW, while a 35 MW solar power plant is expected to be added by the end of 2024.

What is energy storage technology?

The energy storage technologies provide support by stabilizing the power production and energy demand. This is achieved by storing excessive or unused energy and supplying to the grid or customers whenever it is required. Further, in future electric grid, energy storage systems can be treated as the main electricity sources.

Can battery and supercapacitor be used as a hybrid energy storage system?

As presented in and , battery and supercapacitor are proposed to use as a Hybrid Energy Storage System (HESS), which created a high power and high energy density ESS system. Research has shown that with HESS technology, the overall system stability was improved.



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