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The role of stacked energy storage power supply





Overview

Do energy storage systems ensure a safe and stable energy supply?

As a consequence, to guarantee a safe and stable energy supply, faster and larger energy availability in the system is needed. This survey paper aims at providing an overview of the role of energy storage systems (ESS) to ensure the energy supply in future energy grids. On the opposite of existing reviews on the field that * Corresponding author.

Why do we need energy storage systems?

In order to use as much as possible of the produced energy, energy storage systems (ESS) are suitable enablers to allow integration of more RES in the power system . As cities grow and industry expands new users will request to be connected to the grid. Also, users that are already connected might request more capacity to meet future demand.

Can service stacking improve energy storage system integration?

Service stacking is a promising method to improve energy storage system integration. There are several interesting cases where service stacking is crucial. Frequency supportive services are the most common to add when expanding portfolios. There is no standard method to solve optimization of service portfolios.

How do energy storage systems cope with peak loading?

Energy storage systems can play a significant role in peak shaving by accumulating energy during off-peak hours and discharging it during the on-peak hours . The conventional approach to cope for peak loading is to add production capacity but normally this involves less efficient and more expensive generators.



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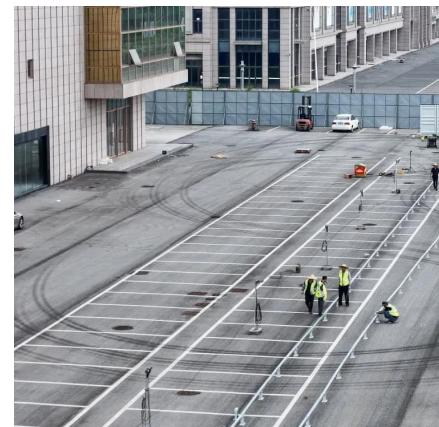


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