

A Projection-Based Approach for Distributed Energy Resources Aggregation Yiran Wang, Haiwang Zhong
Department of Electrical Engineering, Tsinghua University, Beijing, China ... For energy storage and other re-sources, temporal coupling constraints or binary states should be considered, even though this will largely increase the ...

DER, or Distributed Energy Resource, covers a wide range of resources, such as rooftop solar PV, battery energy storage systems, energy efficiency measures, demand response - smart thermostats, managed electric vehicle charging, and thermal energy storage.

The interest in the use of storage for grid applications is growing, because of its potential for facilitating renewable energy integration and thanks to innovations in the field of storage technologies [1]. An advantage of distributed energy storage (DES) devices over large, transmission connected storage facilities such as

oDERs are small-scale power generation or storage technologies, which may be located at the end-consumers level in distribution power systems. oExamples of DER: solar photovoltaics, electric storage, thermal storage, electric vehicles and their charging equipment. oThe rapid expansion of distributed energy resources

A CPS-based framework for controlling a distributed energy storage aggregator (DESA) in demand-side management is proposed and it is demonstrated that the algorithm achieves power tracking convergence within a fixed time, while asymptotically achieving SoC balancing when assuming a connected communication network among the storage units. Expand

Enel X was a pioneer in the aggregation of energy assets, expanding over time into distributed resources including storage, generation, solar energy, wind and electric vehicles. This type of aggregation is not only an advantage for consumers, who get to monetize some of their energy assets, it is also a major step forward for grid reliability ...

With the development of storage technology, the participation of aggregators in the distribution network investment model has become an emerging business model. Therefore, this paper presented a bi-level optimal configuration model of the distributed energy storage system (DESS) for the distribution network. Firstly, the comprehensive investment benefit of DESS is ...

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