

In this paper, CES in multi-energy systems (ME-CES) is proposed to make use of energy storage not only from electricity storage but also from District Heating System (DHS) and Natural Gas System (NGS). The optimal scheduling approach is proposed to coordinate the storage ability across different energy sectors.

A new type of business model has been proposed that uses cloud-based platforms to aggregate distributed energy storage resources to provide flexibility services to power systems and consumers. In such cloudbased platforms, storage resources can be more strategically used so that the unit cost of providing the service can be reduced.

This paper introduces the definition, characteristics and research status of cloud energy storage in detail, analyzes the relationship between cloud energy storage and distributed energy storage, summarizes the key technologies and business models of cloud energy storage, and prospects the future development of cloud energy storage.

The energy platform is made of three key components: the energy cloud for the generation, distribution and storage of electricity, the digital platform for industry and customers to jointly manage the energy infrastructure, and the transaction platform for trading and services.

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