

# WEI SHARED ENERGY STORAGE



How can shared energy storage improve energy consumption strategy? The implementation of shared energy storage can provide energy buyers more flexible energy consumption strategy. The first game between energy sellers and buyers and the second game among energy buyers make the problem an equilibrium model. An aggregator is assigned to operate the equilibrium model.



Is capacity sizing of shared energy storage a problem? For studies on the capacity sizing of shared energy storage, the main concern is the uncertainty of load profile, such as in Ref. [27,30]; service pricing is usually neglected or assumed to be constant, and thus the interactive behavior among consumers is not well captured.



What is a residential-level shared energy storage business model? A new business model for a residential-level shared energy storage is proposed, including service pricing and optimal load dispatch. In particular, residential appliance consists of three components, i.e., a fixed part, a deferrable part, and a reducible part.



What is shared energy storage? The concept of shared energy storage includes cloud energy storage [ 21, 22 ], fog energy storage, and virtual energy storage [ 23 ], which were known as community energy storage at the residential level [ 24, 25 ]. The basic architecture can be divided into 3 categories. The first one is virtual energy storage.



What is shared Energy Storage (SES)? Affected by the sharing economy principle, shared energy storage (SES) is an alternative way to reduce initial investment costs and improve utilization rate. In the SES scheme, multiple energy consumers have access to use a shared energy storage device.

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What is the capacity of shared energy storage unit? As for the shared energy storage, the capacity of the shared energy storage unit is  $Q_m = 100 \text{ kWh}$ , with charging/discharging efficiency  $I_c = I_d = 0.95$ . All experiments are carried out on a 64-bit laptop with Intel Core i7-7500U CPU with 2.7 GHz and 8 GB RAM. The equilibrium problem is coded in MATLAB with the YALMIP interface.



[15] Liangbin Xie, Yue Xiang(\*), et al. Optimal planning of energy storage in distribution feeders considering economy and reliability[J]. Energy Technology, 2024, 12(7), 2400200. [16] Shuangqi Li, Pengfei Zhao, a?|



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Although shared energy storage (SES) scheme has been deemed an effective business model due to the benefits of economy of scale, there is still a limited understanding of residential P2P energy markets embedded with SES. a?|



A peer-to-peer energy trading market embedded with residential shared energy storage units. / Zheng, Boshen; Wei, Wei; Chen, Yue et al. In: Influenced by the sharing economy principle, a?|

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zhong, wei, feng, @ English EV i 1/4 ?i 1/4 ? [5] Weifeng Zhong, Kan Xie\*, Yi Liu, Chao Yang, Shengli Xie, "Multi-Resource a?|



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Wei Wei: Data curation, Writing - original draft, Writing - review & editing. Laijun Chen: Visualization, Validation. Shared energy storage operator (SESO) promotes a?|



20)Wenyi Zhang, Wei Wei,Laijun Chen\*, Boshen Zheng, Shengwei Mei. Service pricing and load dispatch of residential shared energy storage unit, Energy, 2020. 202. 21), , \*, , . a?|

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Shared energy storage and flexible load scheduling can optimize load curves and reduce energy storage costs. To this end, a two-stage robust dispatching optimization method [1]



With the liberalisation of the electricity distribution market and the promotion of distributed renewable energy technologies, the allocation rate of wind and photovoltaic power [2]



Shared energy storage has been shown in numerous studies to provide better economic benefits. From the economic and operational standpoint, Walker et al. [5] compared [6]