

# KEY CONDITIONS FOR THE DEVELOPMENT OF SOCIAL ENERGY STORAGE



What is a research agenda for the social acceptance of energy storage? A research agenda for the social acceptance of energy storage is proposed that sets out key research questions relating international, national and local levels. The outcome of such studies would not only lead to enhanced understanding of processes of social acceptance, but deliver important insights for policy and practice. 1. Introduction



What are the environmental impacts of energy storage technologies? Environmental impacts will depend on the scale and the sub-type of each technology, but some of the common impacts included: Social research is generally sparse for energy storage technologies, but perceptions tend to be more favourable when a technology is associated with ???green??? energy, or when it is seen to provide local jobs.



Why do we need energy storage technologies? Energy storage technologies are needed to ensure continuous supply during periods of low renewable energy production. Energy can be stored in a variety of forms (such as thermal, chemical or potential energy), all of which could have potential environmental impacts during construction, deployment or decommissioning.



When will energy storage enter the stage of large-scale development? It is expected that from 2021 to 2025, energy storage will enter the stage of large-scale development and have the conditions for large-scale commercialization. The context of the energy storage industry in China is shown in Fig. 1.



What is energy storage? Energy storage is one of a number of measures proposed to deliver system flexibility, and is an area of rapidly developing technological and economic activity (McKinsey, 2015). Storage solutions, like many energy technologies, can be deployed at a range of scales, involving many forms of ???hardware??? and ???software??? (cf. Walker and Cass 2007).

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When will energy storage become commercialized? During this period, the management system, incentive policies and business models of energy storage were mainly explored. It is expected that from 2021 to 2025, energy storage will enter the stage of large-scale development and have the conditions for large-scale commercialization.



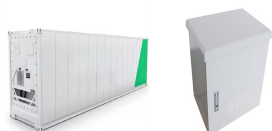
From Figure 2, it is noted that the energy sector in the form of electricity and heat production is the largest contributor of green house gases with about 34%, industry at 24% followed by agriculture, forestry and other land ???



This study reviews recent research trends (2021???2023), proposing three integrated social pillars for the implementation of ESSs: (i) multi-dimensional geographical and institutional scales of



Energy storage is a key technology to support large-scale development of new energy and ensure energy security. as a booming business model (Cui et al., 2022), is ???



Driven by the national strategic goals of carbon peaking and carbon neutrality, energy storage, as an important technology and basic equipment supporting the new power systems, has become an inevitable trend for its ???

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The development of energy storage battery systems is pivotal in advancing the "dual carbon" goals. However, current energy storage devices present potential safety hazards [42]. In July ???



Energy storage sharing (ESS) has the advantages of efficient operation, safety, controllability and economic saving. Hence, this paper aims to promote the development of ???



The supply of affordable and reliable energy to remote communities is a global challenge [1]. This challenge will persist until conventional fossil fuel-dominated, centralized ???



The energy storage capacity of a HESS refers to the amount of electrical energy, which can be stored in the whole system. This energy storage capacity of a HESS is provided ???



On November 7, the International Renewable Energy Agency (IRENA), a lead global intergovernmental agency for energy transformation, released the energy storage report entitled Key Enablers for the Energy ???

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Energy storage is the key to facilitating the development of smart electric grids and renewable energy (Kaldellis and Zafirakis, 2007; Zame et al., 2018). Electric demand is unstable during the day, which requires the ???



A suitable policy lesson has also been drawn in the light of results by focusing on EP as a key social issue, to alleviate the situation of energy shortage and uneven distribution, ???