Social analysis of energy storage materials

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 sparsefor 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.

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).

Why do we need social assessment in energy research?
Sustainable use of resources and energy system services can reduce risks and contribute towards securing equity and justice for future generations. Several studies call for more social assessment in energy research and addressing issues pertaining to, e.g., justice 30, ethics 31, fairness 32, and history 33.

How do we assess the social impact of energy transition?
We call for critical evaluation of existing frameworks,methodologies,criteria,and indicators to assess the social impact of energy transition through all stages of the supply chainand analyze the current and future embedding and interlinking of material-energy activities.

Are energy storage technologies safe?
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. Some technologies are associated with perceived safety concerns.

Hydrogen storage is one of the key challenges for the widespread application of hydrogen energy [1].Hydrogen storage materials (HSM), such as MgH 2, NaAlH 4, LiH/Mg(NH ...

select article Corrigendum to "Multifunctional Ni-doped CoSe₂ nanoparticles decorated bilayer carbon structures for polysulfide conversion and dendrite-free lithium toward ...

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The review of ten large-scale studies identified valuable insights and opportunities for improving the analysis of public acceptance of energy technologies. Traditional methods ...

In the process storing thermal energy during the day and releasing it when solar radiation is low, the use of energy storage materials improves solar still performance [1].An ...

However, electricity generation from renewable sources such as wind can be unpredictable. This means that energy storage technologies are needed to enable energy to ...

Techno-economical and social analysis of energy storage is conducted for commercial buildings. ... sodium at the negative electrode as active materials separated by a ...

Our findings help to uncover the unique socio-political environment around ES in China, how audiences are informed, and the support provided to stakeholders" strategies. 1. ...

Social research is generally sparse for energy storage technologies, but perceptions tend to be more favourable when a technology is associated with "green" energy, ...

Techno-Economic Analysis of Long-Duration Energy Storage and Flexible Power Generation Technologies to Support High-Variable Renewable Energy Grids, Joule (2021) ...

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 ...

GIES is a novel and distinctive class of integrated energy systems, composed of a generator and an energy storage system. GIES "stores energy at some point along with the ...

Energy storage technologies (ESTs) play an important role in integrated, decentralized renewable energy systems. However, the lack of public acceptance and ...

In this study, as energy storage materials, black color glass ball (BCGB), black granite (BG), and white marble stone (WMS) were added in equal quantity according to 1m2 of ...

energy storage (BES) technologies (Mongird et al. 2019). ... o Perform analysis of historical fossil thermal powerplant dispatch to identify conditions for lowered dispatch that ...

?Energy Storage Materials?,,?????? ...

Lithium-ion batteries, LIBs are ubiquitous through mobile phones, tablets, laptop computers and many other consumer electronic devices. Their increasi...

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The development of various STES technologies has been extensively studied from a technical perspective. Xu et al. [7] presented a fundamental review on SHS, LHS, and THS, ...

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...

The Journal of Energy Storage focusses on all aspects of energy storage, in particular systems integration, electric grid integration, modelling and analysis, novel energy storage ...

Here we show that Aluminum production for electric vehicles, wind turbines and solar photovoltaic panels generates the most jobs and income opportunities, while extraction ...

Modeling and analysis of energy storage systems (T1), modeling and simulation of lithium batteries (T2), research on thermal energy storage and phase change materials ...

Energy storage materials are essential for advancing sustainability, mobility, and technology, as their many applications show [47, 48]. Numerous problems, such as ...

Energy Storage Technology is one of the major components of renewable energy integration and decarbonization of world energy systems. ... comparison analysis, and ...

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 ESSs; (ii) social ...

12th International Renewable Energy Storage Conference, IRES 2018 Life Cycle Assessment of thermal energy storage materials and components BjÃ¶rn Nienborga*, Stefan ...

Lithium-ion power batteries have broad application prospects in electric vehicles and hybrid electric vehicles due to the advantages of high energy density, long cycle life, low ...

Energy Storage Materials is an international multidisciplinary journal for communicating scientific and technological advances in the field of materials and their devices for advanced energy ...

Flexible/organic materials for energy harvesting and storage. 3. Energy storage at the micro-/nanoscale. 4. Energy-storage-related simulations and predications ... Combining X-ray technology with laboratory test results ...

Sustainability in buildings is a concept that has multidimensional pillars, such as environmental, economic, social, ecological, technical, and technological aspects [6].Green ...

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The analysis of each of the stages allows us to identify, on the one hand, the resources used in the manufacturing process of the product, such as water, energy, renewable and non-renewable resources; and on the other ...

15.2.1 Energy Products 15.2.1.1 Powerwall. Tesla"s battery storage system is not an innovation that is radically different from what is already on the market for energy storage ...

We gathered new empirical evidence from a desk-based survey on thermal energy storage in the UK and through a sociotechnical analysis explored the status and role of ...

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