

Are radical polymers a good alternative for energy storage?

This affords more freedom with respect to macromolecular backbone design; thus, the resultant materials properties make this class of polymers appealing alternatives for energy storage. However, these radical polymers often still rely on petrochemically derived polymer backbones.

Are persistent radicals reversible redox reactions?

The molecules also display fast, reversible redox reactions, which have attracted particular attention for energy conversion and storage devices. This paper reviews the electrochemical aspects of persistent radicals and the corresponding macromolecules, radical polymers.

Can energy storage technologies help a cost-effective electricity system decarbonization?

Other work has indicated that energy storage technologies with longer storage durations, lower energy storage capacity costs and the ability to decouple power and energy capacity scaling could enable cost-effective electricity system decarbonization with all energy supplied by VRE 8,9,10.

What is long-duration energy storage (LDES)?

Provided by the Springer Nature SharedIt content-sharing initiative Long-duration energy storage (LDES) is a potential solution to intermittency in renewable energy generation.

What can a vertical iontronic energy storage device power?

The vertical iontronic energy storage device can power a commercial electronic calculator. The vertical iontronic energy storage device can power an electronic LCD screen. The fabrication process of the vertical iontronic energy storage device. Source data for Supplementary figures. Statistical source data. Statistical source data.

Does LDS storage reduce energy-capacity costs?

Regardless of resource aggregation size, the addition of LDS leads to reductions in overall system costs because LDS storage is not limited by energy-capacity costs but rather the cost of power capacity (e.g., of electrolyzers and fuel cells for PGP; Figure S8 B).

Here, we study the effect of revegetation on soil organic carbon (SOC) storage and erosion-induced carbon loss related to different plant communities, particularly under extreme rainstorm events. Materials and ...

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3 ???&#0183; With the increasing demands for clean and sustainable energy, the performance of energy storage devices has become a crucial determinant of their adaptability in various ...

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This work employed the Eulerian-Lagrangian method for the energy storage pump by using the modified drag model and the modified erosion model developed in our previous work. Results ...

The different applications to store electrical energy range from stationary energy storage (i.e., storage of the electrical energy produced from intrinsically fluctuating sources, ...

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