

In general, the recoverable energy-storage density U_e of a dielectric depends on its polarization (P) under the applied electric field E , $U_e = \int P \cdot dE$, where P and ...

Chemical energy conversion (CEC) is the critical science and technology to eliminate fossil fuels, to create circular energy economies and to enable global exchange of RE. This paper describes generic structural features and ...

Electrical-energy storage into chemical-energy carriers by combining or integrating electrochemistry and biology L. T. Angenent, I. Casini, U. Schröder, F. Harnisch and B. Molitor, *Energy Environ.Sci.*, 2024, 17, 3682 ...

Alternatively, many chemicals used for energy storage, like hydrogen, can decarbonize industry and transportation. The flexibility of being able to return stored energy to the grid or sell the chemical for industrial or transportation ...

This chapter discusses the state of the art in chemical energy storage, defined as the utilization of chemical species or materials from which energy can be extracted immediately or latently ...

Through a combination of superior physical and chemical properties, hydrofluorocarbon-based liquefied gas electrolytes are shown to be compatible for energy storage devices. The low melting points and high ...

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