

Environmental and economic benefits differ over time, including energy and greenhouse gas (GHG) emissions saved by recycling, due to variations in recycling method, the development of new recycling methods, ...

Developing new adsorbent materials that can store hydrogen and methane gas onboard vehicles at much lower pressures can help scientists and engineers reach U.S. Department of Energy targets for developing the ...

Europe and China are leading the installation of new pumped storage capacity - fuelled by the motion of water. Batteries are now being built at grid-scale in countries including ...

This article delivers a comprehensive overview of electric vehicle architectures, energy storage systems, and motor traction power. Subsequently, it emphasizes different charge equalization methodologies of the energy storage system.

CCUS is an important technological option for reducing CO₂ emissions in the energy sector and will be essential to achieving the goal of net-zero emissions. As discussed in Chapter 1, CCUS ...

In 2023, a medium-sized battery electric car was responsible for emitting over 20 t CO₂-eq over its lifecycle (Figure 1B). However, it is crucial to note that if this well-known battery electric car ...

Dihydrogen (H₂), commonly named "hydrogen", is increasingly recognised as a clean and reliable energy vector for decarbonisation and defossilisation by various sectors. The global hydrogen ...

However, the use of clean energy sources (such as wind energy, solar energy, bioenergy, and geothermal energy) is often limited by intermittent supply, difficult storage and poor stability. [5] Phase change ...

Dihydrogen (H₂), commonly named "hydrogen", is increasingly recognised as a clean and reliable energy vector for decarbonisation and defossilisation by various sectors. The global hydrogen demand is projected to increase from 70 ...

The term clean energy production is defined as a clean, efficient, and sustainable energy system with the energy production process, which includes not only the production of ...

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