

NREL's energy storage and grid analysis research is now, as part of a broad array of activities in Puerto Rico, helping DOE provide homes across the territory with ...

The report, The State of Clean Technology Manufacturing, examines announced manufacturing projects for solar PV, wind power, batteries, heat pumps and electrolyzers to gauge how these plans could shape the ...

However, lower-temperature alternatives could enable a variety of technologies, such as more efficient and durable fuel cells to produce clean electricity from hydrogen, electrolyzers to make clean fuels such as hydrogen ...

Department of Energy (DOE) is developing a portfolio of clean energy technologies to capture the sun, harness the wind, and utilize earth's natural geothermal energy. DOE also pursues clean energy solutions for transportation, like next- generation biofuels, advanced batteries for electric vehicles, and hydrogen and fuel cell technologies.

These include tripling global renewable energy capacity, doubling the pace of energy efficiency improvements and transitioning away from fossil fuels. This special report ...

A molecular membrane that allows select ions to cross with almost no friction could significantly boost the performance of flow batteries, fuel cells, and other devices critical to the world's ...

For a smooth transition to a clean energy economy, the world needs reliable and scalable energy storage solutions that can tide over the intermittency of renewable energy. ... Flow battery: New ...

Nanotechnology is being used in the energy sector to develop new and improved energy technologies, such as more efficient solar cells, better batteries, and more durable fuel cells. Some examples: Solar Energy: Nanotechnology is used to develop more efficient solar cells, which can convert sunlight ...

New research reveals that battery manufacturing will be more energy-efficient in future because technological advances and economies of scale will counteract the projected ...

Clean and efficient recycling of spent lithium-ion batteries (LIBs) has become an urgent need to promote sustainable and rapid development of human society. ... the challenges of future recycling are revealed from the LIBs supply chain and stability of the supply chain of the new energy battery industry to provide an outlook on clean and ...

We highlight some of the most promising innovations, from solid-state batteries offering safer and more

efficient energy storage to sodium-ion batteries that address concerns about resource scarcity. Did you know? The ...

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