

MIT News explores the environmental and sustainability implications of generative AI technologies and applications.

New research emphasizes the importance of well-validated models and forecasting tools in evaluating choices for investments in clean energy technologies and policies by governments and ...

In this paper, an application-oriented axial-flow compressor is designed, aiming towards efficient operation throughout the operation range, whilst also associating the performance prediction ...

To improve the BESS temperature uniformity, this study analyzes a 2.5 MWh energy storage power station (ESPS) thermal management performance. It optimizes airflow organization ...

In MIT course 15.366 (Climate and Energy Ventures) student teams select a technology and determine the best path for its commercialization in the energy sector.

For short-term imbalances resulting from the intermittency of renewable energy sources, short-duration storage systems such as lithium-ion batteries are highly effective in rapidly delivering ...

Inspired by the ventilation system of data centers, we demonstrated a solution to improve the airflow distribution of a battery energy-storage system (BESS) that can significantly...

Early research on optimizing pneumatic energy storage was based on the use of a pure pneumatic conversion system using a volumetric air machine. The MEPT strategy was developed to optimize ...

Unlocking its secrets could thus enable advances in efficient energy production, electronics cooling, water desalination, medical diagnostics, and more. "Boiling is important for ...

At Airflow Sciences, we understand the capacity needs and challenges surrounding this relatively new technology, and we help energy companies innovate by making battery systems more cost-effective, ...

A look at how AI can be used to help support the clean energy transition by helping to manage power grid operations, plan infrastructure investments, guide the development of novel ...

Surprisingly, yes--and no. Airflow management is the unsung hero that determines whether your battery storage system becomes a Tesla-esque marvel or a pricey paperweight.

Liquid air energy storage could be the lowest-cost solution for ensuring a reliable power supply on a future

grid dominated by carbon-free yet intermittent energy sources, according to a new ...

Proper airflow distribution is crucial for effective forced air-cooling. Serial ventilation and parallel ventilation are the two main approaches used in energy storage systems. Parallel ventilation ...

As the world moves to reduce carbon emissions, solar and wind power will play an increasing role on electricity grids. But those renewable sources only generate electricity when it's ...

At the MIT Energy Initiative's Annual Research Conference, industry leaders agreed collaboration is key to advancing critical technologies amidst a changing energy landscape.

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