

Thermal energy storage using heat-storage and heat release systems, phase change materials, solar collectors, and geothermal energy in greenhouse provides a practical approach to address the problem associated ...

In order to achieve global carbon neutrality in the middle of the 21st century, efficient utilization of fossil fuels is highly desired in diverse energy utilization sectors such as ...

Greenhouse cultivation is a form of modern agriculture in which crops are grown under a controlled environment to obtain higher yields and better crop quality. Implementing ...

For example, solar energy is highly efficient in hot climates, predominantly found in the global south, while wind energy is more suitable for regions with high natural wind speeds. Global cooperation and collective ...

Rapid climate change and the soaring world population have heightened the problem of food scarcity and prompted people to do extensive research on food security using ...

MITEI's three-year Future of Energy Storage study explored the role that energy storage can play in fighting climate change and in the global adoption of clean energy grids. Replacing fossil fuel-based power generation with power ...

Introduction. In recent years, the energy demand of civil building environmental control has been greatly reduced (Kelly et al., 2020), and substantial energy-saving potential ...

Generally, to design a building with very high energy efficiency, it is necessary to start from the definition of a high-performance envelope whose choice is closely related to the ...

factors impact greenhouse energy requirements including shape and size, building materials, technology utilization, crop selection, and cultivation methods (Esmaeli and Roshandel 2020). ...

The technology of thermal energy storage utilizing the heat of chemical reactions has the possibility to undertake higher energy efficient processes than other thermal energy ...

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