Large-scale solar container technology and carbon emission reduction

Cold storage technology based on PCMs can effectively reduce carbon emissions when compared to traditional refrigerated transportation [22]. Under the dual-carbon background, the ...

According to the survey, there are various types of ship emission reduction technologies, which are currently mainly divided into three categories: ...

This study conducts a comprehensive life cycle analysis of various PV technologies using primary data within a unified framework and explores ...

Abstract In the context of the 1.5 °C warming target, there is a growing awareness of the increasingly frequent carbon flows between subregions. However, understanding the ...

Obtaining high spatial and temporal resolution shipping emission inventories is challenging due to the large scale and dispersion of global shipping activities.

Renewable Energy Technology Innovation (RETI) has become a key driver in promoting global energy transition and achieving carbon emission reduction [7]. In recent years, ...

As a driving force of sustainable energy development, photovoltaic power is instrumental in diminishing greenhouse gas emissions and ...

Carbon Capture, Utilisation and Storage (CCUS) can reduce greenhouse gas emissions for a range of technologies which capture CO2 from a variety of sou...

There has always been controversy over how renewable energy technologies can play a role in reducing carbon emissions. Based on the energy patent data and the economic data of 244 ...

(2) Economic efficiency and emission reduction effect are better when photovoltaic and GSHP systems are implemented simultaneously. (3) Electricity price, initial investment cost, annual ...

Abstract This study investigates a carbon reduction roadmap for inland waterway ships in China"s Yangtze River Basin to support carbon neutrality objectives in the transportation sector. A ...

As a renewable energy, solar energy technologies have been successfully applied in many ways, especially the application of distributed photovoltaics in different industries, such as PV ...

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The GHG emission of photovoltaic-driven seawater desalination project could be reduced by 94.97 % compared with the thermal-driven seawater desalination project, and the GHG ...

Synergistic emission reduction (SER) of carbon and pollutants in agriculture is crucial for addressing environmental issues, while existing studies lack comprehensive assessments to this ...

Meanwhile, this paper comprehensively reviews the principles of CCUS technology, including the current progress, problems, and prospects for application. The CCUS technology plays ...

Large-scale solar power plants are being developed at a rapid rate, and are setting up to use thousands or millions of acres of land globally. The environmental issues related to the ...

Presently, in light of these circumstances, the lack of experience in shipping a number of these energy carriers and carbon dioxide must be addressed. As such, an understanding of the ...

The GHG emission potentials that can be reduced by large-scale implementation of photovoltaic technology are estimated and the payback period (YPP) to balance GHG emissions is ...

Solar photovoltaic energy has the greatest potential to mitigate greenhouse gas emissions if manufactured in North America and Europe but deployed in Africa, Asia, and the Middle ...

Energy intensity improvement, scale structure adjustment and electrification measures in major industrial sectors can substantially and ...

This study investigated the photovoltaic performance characteristics and carbon emission reduction potential of bifacial PV systems, considering China"s regional power grid ...

Potential rooftop photovoltaic in China affords 4 billion tons of carbon mitigation in 2020 under ideal assumptions, equal to 70% of China"s carbon emissions from electricity and heat.

Global climate change caused by greenhouse gas emissions from human eco-unfriendly activities has brought unprecedented risks to natural systems and human beings. Therefore, the ...

In this article, we delve into the fundamental aspects and recent developments of solar-driven carbon dioxide conversion technologies.

We explore to what extent delaying CDR deployment affects key net emission reduction metrics such as cumulative residual emissions, carbon lock-in, the size and scale-up of ...

2 School of Economics and Management, Shanghai Maritime University, Shanghai, China In 2020, China

proposed the country"s dual carbon ...

Smart infrastructure (SI), as a new type of digitally enhanced infrastructure, has a strong potential to reduce carbon emissions. This study examines the nexus between smart ...

Although this study focuses on six large-scale PV systems located on the Tibetan Plateau, the findings have global relevance. The results can guide stakeholders in the PV industry to understand how ...

Environmental performance assessments of large-scale solar applications are scarce. There is limited information on the greenhouse gas (GHG) emissions and energy footprints of utility ...

These studies are closely tied to carbon emission reduction in the solar industry, providing scientific evidence for the reduction of greenhouse ...

A process of module area calibration, power generation calculation, and carbon reduction estimation was established by integrating PV construction specifications and carbon ...

However, there is still a lack of a systematic methodology for accurately mapping large-scale centralized PV plants in agrivoltaic systems (CAPVs), while simultaneously assessing their ...

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