

Research on China's solar greenhouse technology

Today, advancements in greenhouse technology and modifications have pushed science-based solutions for optimal plant production in all seasons worldwide by adjusting internal climate growing ...

They shown that China's modern solar greenhouses with photovoltaic (PV) has payback period of less than 9 years. ... By simulating the photovoltaic modules from these ...

Sun et al. designed a greenhouse heating system based on a dual-source heat pump consisting of an air source and an ambient air source inside a solar greenhouse, which collects waste heat from the interior of a ...

A Chinese solar greenhouse (CSG) is an agricultural facility type with Chinese characteristics. It can effectively utilize solar energy during low-temperature seasons in alpine regions. The low ... Expand

This study investigates the impact of electric vehicle development on China's greenhouse gas emissions and fossil energy consumption from a life cycle perspective. Based on vehicle technology and China's energy development plan, the potential for energy conservation and greenhouse gas emissions reduction of electric vehicles is explored. Utilizing a logistic ...

A comprehensive explanation of the design principles, development process, and production practice effects of energy-efficient solar greenhouses in China by integrating more than 40 years of research on greenhouse structure and environmental regulation was elaborated in this paper.

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In this study, a solar radiation model was established and used to evaluate the light environment performance of a solar greenhouse with internal insulation, including the ...

This article presents the current state-of-the-art research on applying artificial intelligence (AI) technology in smart greenhouses to optimize crop yields, water, and fertilizer use efficiency, to reduce pest and disease, and to enhance agricultural sustainability. The key technologies of interest were robotic systems for pesticide application, irrigation, harvesting, ...

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In this review, an overview of China's progress towards the development of modern solar greenhouses, as well

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as the attempts to mitigate the effects of heat loss, shadowing, and ...

This paper aims to present a better understanding of China's progress towards the development of modern solar greenhouses based on exploration of solar integration ...

A comprehensive explanation of the design principles, development process, and production practice effects of energy-efficient solar greenhouses in China by integrating more than 40 ...

3 The perspective of solar energy. Solar energy investments can meet energy targets and environmental protection by reducing carbon emissions while having no detrimental influence on the country's development [32, 34] countries located in the "Sunbelt", there is huge potential for solar energy, where there is a year-round abundance of solar global horizontal ...

PDF | On Jan 1, 2022, Reena Kumari and others published GREENHOUSE TECHNOLOGY: INTRODUCTION, TYPE AND PLANNING | Find, read and cite all the research you need on ResearchGate

China's solar greenhouses allow farmers to effectively control the environment and play a crucial role in the counter-seasonal cultivation of vegetables [].Tomatoes (*Solanum lycopersicum* L.) are rich in lycopene, vitamin C and other nutrients [], thereby making them one of the main vegetables grown in solar greenhouses [].However, conventional solar greenhouse ...

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