

What are the decarbonization scenarios for the building sector in China?

Here, we explore a set of decarbonization scenarios for the building sector in China considering a range of circular strategies and their interplay with different climate policies. The strategies include lifetime extension of buildings, switch to wood-based construction, reduction of per-capita floorspace, and a combination of all three strategies.

How can building materials reduce embodied emissions in China?

Given the characteristics of China's building types, cement and steel are the most important building materials to target in order to reduce embodied emissions in China's building sector. The study shows that both materials account for 94% of total CO<sub>2</sub> emission reductions by 2030 and 97% by 2060.

Should China pursue green technology innovation?

China should actively pursue green technological innovation throughout the building sector's life cycle, with a focus on accelerating the green and low-carbon production of key products, such as steel and cement, at the building material production stage.

Should China pursue green innovation & low-carbon production in the BMP stage?

China should actively seek green innovation and green low-carbon production in the BMP stage, focusing on key building materials such as steel and cement. The BMP stage is crucial for China's building sector to achieve its dual carbon goals, with CO<sub>2</sub> emissions accounting for 55.4% of the total emissions in the building sector in 2020.

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Embodied emissions from the production of building materials account for 17% of China's carbon dioxide (CO<sub>2</sub>) emissions and are important to focus on a...

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A team of Chinese researchers has crafted an innovative biomass-derived material using DNA, the genetic blueprint of life. This aerogel demonstrates a remarkable ability to reduce ambient ...

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The mandatory construction standard system covers all kinds of construction projects in the field of

engineering construction. After the implementation of the mandatory construction ...

Carbon-neutral strategies have become the focus of international attention, and many countries around the world have adopted building-integrated photovoltaic (BIPV) technologies to ...

This research evaluates the energy-saving potential of high-reflectivity building materials, including four coating types--normal (absorptivity 0.8, emissivity 0.8), cooling (absorptivity 0.2, ...

In the context of carbon neutrality, new business models for the building sector will require the synergistic action of various actors along the value chain, including building material ...

First of all, the structure of residential buildings in most rural areas of China is mainly brick-concrete or brick-wood, which is constructed by on-site wet operation, and the overall ...

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