

# **Carbon steel models for energy storage equipment**





## Overview

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Why is CCS important for China's steel sector?

It is estimated that CCS will be significant for the decarbonization of China's steel sector 11, 12 and will be critical for the country to achieve its overall carbon neutrality vision by 2060 13, 14, 15. CCS involves the transportation of carbon dioxide from the carbon sources to geological storage sinks.

What is a carbon source simulation module?

The second module is the carbon source simulation module, which simulates the spatial distribution and emissions of steel units. The third module is the source-sink matching module, which optimizes the CCS deployment schemes in China's steel sector and evaluates their economic cost, energy consumption, and water consumption.

Does energy storage complicate a modeling approach?

Energy storage complicates such a modeling approach. Improving the representation of the balance of the system can have major effects in capturing energy-storage costs and benefits. Given its physical characteristics and the range of services that it can provide, energy storage raises unique modeling challenges.

What are the three modules of China's steel sector decarbonization model?

The framework includes three modules. The first module is the sector-level decarbonization model, which forecasts the transformation pathways of China's steel sector by 2060. The second module is the carbon source simulation module, which simulates the spatial distribution and emissions of steel units. The third module is the source-sink matching



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May 7, 2025 · The study finds that by 2060, CCS mitigates 31.4-40.7% of carbon emissions in China's steel sector. Optimal CCS deployment achieves 472.4-609.6 Mt mitigation at costs of ...



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### [In-house green hydrogen production for steelmaking ...](#)

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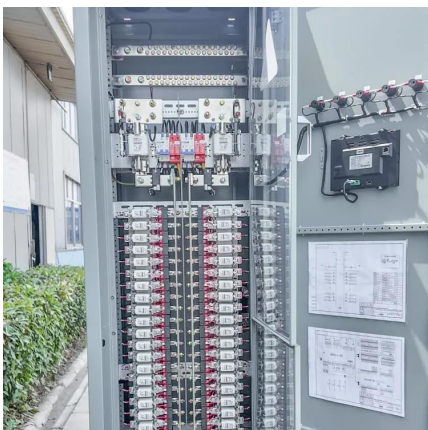
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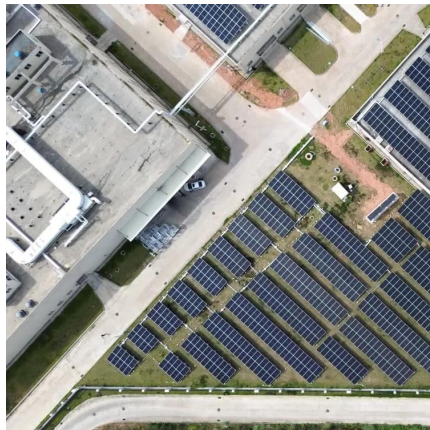
[A Review of Business Models for Carbon Capture, ...](#)

Nov 17, 2025 · Executive Summary  
Decarbonisation of all energy-intensive sectors is required to meet global emission reduction targets. Carbon Capture, Utilisation and Storage (CCUS) has ...



### [Carbon Capture, Transport, & Storage](#)

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### [Considerations for Making Steel Plants CCS](#)

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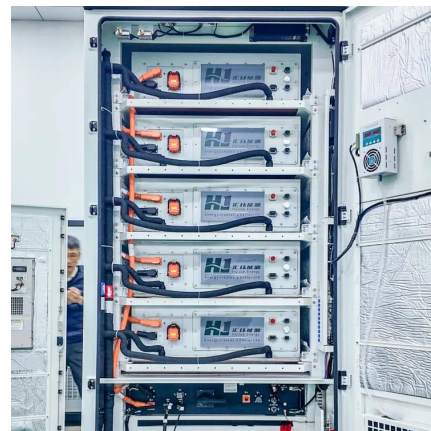


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