Press release

China must slash 15% steelmaking capacity within 2025 to rescue plunging profits, meet carbon neutrality goals

BEIJING, 26 February 2025 - Overcapacity in China's steel sector is deteriorating profits and weighing down breakthroughs in low-carbon development, throwing the country well off track to meet its 2025 climate goals for the industry. According to a new analysis from the Centre for Research on Energy and Clean Air (CREA), tackling this glut and deepening the green steel transition in China require a net reduction in blast furnace (BF) capacity of at least 200 million tonnes per annum (Mtpa) by 2025 from the base in 2020, which is about 15% of China's total steelmaking capacity and equal to the current total EU steelmaking capacity. An additional net reduction of 150 Mtpa is required from 2026 to 2030.

Steel exports surged to 111 million tonnes in 2024, the highest in nearly a decade. Rising global trade frictions pose increasing challenges for Chinese steelmakers in 2025 to offset waning domestic demand through exports.

In 2024, Chinese provincial authorities greenlit 11.04 Mtpa of new BF capacity, bringing the total approved BF capacity from 2021 to 2024 to over 140 Mtpa. If constructed, these newly approved coal-based BF projects will face significant return-on-investment pressures and risk becoming stranded assets, with potential losses estimated at 140 billion yuan[1] (roughly 19.2 billion US dollars).

However, according to the CREA report, low-carbon electric arc furnace (EAF) steelmaking in China remains stalled at below 10% of total output, far from the government's 15% goal for 2025. Limited

[1] The capital cost of constructing a new blast furnace is approximately 1 billion yuan per million tonnes of annual production capacity (Mtpa) in China, whereas the cost of hydrogen-based direct reduced iron (DRI) facilities is roughly twice.

scrap steel supply, weak economic competitiveness, and the continued high utilisation of blast furnaces constrain the growth of EAFs.

What's more, only 2.3 Mtpa of capacity in hydrogen-based metallurgy — critical for carbon neutrality — was approved in China between 2021 and 2024, far below the pace needed to meet 2060 carbon neutrality targets.

'While recent policy shifts with regards to the steel sector signal China is taking a more measured approach to supply-side reform, significant reductions in BF capacity are critical to paving the way for carbon neutrality by 2060. China's climate ambitions necessitate a profound green transition in the steel industry within the remainder of this decade, and the coming years will determine whether the industry can successfully navigate this new transformation phase,' said Xinyi Shen, lead author of the report and Researcher at CREA.

'Rising trade tensions have prompted several countries to impose tariffs against China's steel exports, leading to further uncertainty for global steel markets and complicating Chinese steel makers' efforts to sell domestic overcapacity overseas. To ease these tensions, it is essential that output reduction and greening of China's domestic steel production accelerate significantly,' said Belinda Schaepe, China Policy Analyst at CREA.

CREA's policy recommendations include:

- Speed up the adoption of low-carbon technologies, such as EAF and green hydrogen metallurgy, with financial incentives and policies that support innovation and large-scale implementation across the industry.
- Reduce the capacities of coal-based BFs and blast-oxygen furnaces (BOFs) and halt new project approvals. This will help avoid stranded assets and facilitate a smoother transition to greener technologies.
- Support research into alternative steelmaking methods and enhance international collaboration to promote innovation and differentiation in the steel sector. This will drive competitiveness and sustainability across the industry.
- Maximise the potential of renewable energy from wind and solar to create synergies between the decarbonisation of electricity and industrial processes, aiding a smoother transition to a low-carbon economy in China.
- Strengthen the carbon market by expanding its scope to include steel, cement, and aluminium industries, as proposed in a draft policy in September 2024. A transition from an intensity-based approach to a tightening cap-and-trade system is also needed to ensure significant emissions reductions across these sectors.

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Contacts

Xinyi Shen, China Team Lead and Researcher, CREA
xinyi@energyandcleanair.org

Belinda Schaepe, China Policy Analyst, CREA
belinda@energyandcleanair.org

China team, CREA
queries-china@energyandcleanair.org

About CREA

The Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution. We use scientific data, research and evidence to support the efforts of governments, companies and campaigning organisations worldwide in their efforts to move towards clean energy and clean air.

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