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ACCELERATING EAST ASIAN CORPORATE CLIMATE ACTION

DECODING CHINA'S STEEL CAPACITY REPLACEMENT POLICIES: A DECADE-LONG JOURNEY, PAUSING TO FORGE AHEAD

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INTRODUCTION

On August 23, 2024, China announced the suspension of steel capacity replacement policy. Previously, China had issued three versions of steel capacity replacement implementation measures, and this is the second time China has announced a suspension. The new policy will be studied and revised by the Ministry of Industry and Information Technology (MIIT), and will be implemented after seeking broad opinions from various parties.

From a timeline perspective, China has been focusing on the issue of overcapacity since 2013. In the past decade, the capacity replacement policy initially aimed at reducing capacity as its primary goal. After the dual carbon targets were proposed in 2020, the capacity replacement policy also began to support energy-saving and low carbon steel production methods.

Currently, the supply and demand imbalance is just one of the many challenges facing China's steel industry. Optimising industrial structure, energy-saving and carbon reduction targets, financial support for transformation, downstream market direction, geopolitics, and carbon prices are all affecting the steel industry's nerves. We hope that this suspension will be a transitional repair period that bridges the past and future, and we look forward to the new policy helping China's steel industry regroup and leading it towards a more sustainable future.

BACKGROUND

On August 23, China issued the "Notice of the General Office of the Ministry of Industry and Information Technology on Suspending Steel Capacity Replacement Work" (the "Notice"), which summarised the achievements, identified problems, and future challenges of the 2021 version of "Implementation Measures for Capacity Replacement in the Steel Industry" (2021 Implementation Measures) over the past three years.[1][2] At the same time, the Notice announced the suspension of publicising and announcing new steel capacity replacement plans, and will revise the steel capacity replacement measures to further improve the capacity replacement policy measures.

This is not the first time China has suspended its steel capacity replacement plans, nor is the 2021 Implementation Measures the earliest steel capacity replacement policy. The overcapacity issue has persisted for years. As early as 2013, China introduced the "Guidelines of the State Council on Resolving the Contradiction of Serious Overcapacity" ("2013 Guidelines") to address the overcapacity problem in high-consumption and high-emission industries including steel, cement, and electrolytic aluminium.[3] Now,

1 https://www.miit.gov.cn/jgsj/ycls/wjfb/art/2024/art_beae9b1682de4457b555b42c5f839f4f.html
2 https://www.gov.cn/zhengce/zhengceku/2021-05/07/5605092/files/4362a77483354513be0fc81be53a4a64.pdf
3 https://www.gov.cn/zwgk/2013-10/15/content_2507143.htm

a decade later, the overcapacity issue in the steel industry has once again attracted global attention. What efforts has China made during these years? And what are the challenges?

HISTORICAL POLICY TIMELINE

Over the past decade, China has issued three versions of steel capacity replacement implementation measures in 2015, 2017, and 2021 - following the publication of the "2013 Guidelines". Before each release of replacement measures, guideline documents are issued to establish the guiding ideology and basic principles for the development of the steel industry. These guidelines also set goals and directions for the future actions, based on the current policy implementation situation and challenges faced by the sector.

To reflect a clear context of China's steel capacity replacement policy, a table summarising the milestones and their key messages are provided as below, combined with China's annual crude steel capacity to reflect the effectiveness of policy implementation.

Table1. Milestones and Key Messages of China's Steel Capacity Replacement Policy

Date of Implementation	Type	Summary of Guideline / Measures	Steel Production (mtpa)
2013-10-15	Guidelines	Direction: **Strictly prohibit new capacity additions**; implement **equal or reduced capacity replacement**, with reduced capacity replacement in environmentally sensitive areas such as Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta. **Quantitative target**: By the end of 2015, eliminate an additional 15 million tons of iron-making capacity and 15 million tons of steelmaking capacity. "Guidelines of the State Council on Resolving the Contradiction of Serious Overcapacity"	**1,129**
2015-04-28	Implementation Measures	**Quantified replacement ratio:** In environmentally sensitive areas such as Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta, the capacity to be replaced and eliminated should be approved at no less than **1.25 times** the capacity of the construction project, while other regions implement equal capacity replacement. Propose **capacity calculation table**. "Notice of the Ministry of Industry and Information Technology on Printing and Distributing the Implementation Measures for Capacity Replacement in Some Industries with Serious Overcapacity"	**1,127**

Date of Implementation	Type	Summary of Guideline / Measures	Steel Production (mtpa)
2016-02-04	Guidelines	**Quantitative target:** Starting from 2016, reduce crude steel capacity by 100-150 million tons over a 5-year period. **Support mergers and reorganisations to reduce capacity.** Focus on promoting mergers and reorganisations among enterprises in major steel-producing provinces to eliminate some excess capacity. **Law enforcement and supervision:** Legally phase out capacity in terms of environmental protection, energy consumption, quality, safety, and technology. **Support:** In terms of rewards and subsidies, taxation, and finance. "Guidelines of the State Council on Resolving Overcapacity in the Steel Industry to Achieve Turnaround Development"	**1,073**
2017-12-31	Implementation Measures	In environmentally sensitive areas such as Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta, the replacement ratio should not be less than **1.25:1**, while other regions implement **reduced capacity replacement**. Steel enterprises can implement **equivalent replacement** for projects involving the **transition from BOF to EAF**. When exiting a converter, the corresponding sintering, coke oven, and blast furnace equipment must also be withdrawn. Refine the process. **Update the capacity calculation table**, unifying the capacity calculation for ordinary steel and special steel respectively. 2017 version of "Implementation Measures for Capacity Replacement in the Steel Industry"	**1,027**
2020-01-23	Suspension	**Suspend steel capacity replacement and project filing**; conduct self-inspection of existing steel capacity replacement projects. **Formulate and issue relevant policy documents** (arranged by inter-ministerial joint conference, researched and formulated by the National Development and Reform Commission and the Ministry of Industry and Information Technology). **Strengthen implementation and supervision.** "Notice on Improving Steel Capacity Replacement and Project Filing Work"	**1,086**

Date of Implementation	Type	Summary of Guideline / Measures	Steel Production (mtpa)
2020-12-31	Guidelines	**2025 Goals:** Strengthen the industrial foundation, innovate technology, secure resources, optimize industrial structure, promote green and low-carbon initiatives, and enhance quality. **Technological Innovation:** Achieve breakthroughs in cutting-edge technologies such as **hydrogen metallurgy and non-blast furnace ironmaking.** **Resource Assurance:** Achieve a domestic self-sufficiency rate of over **45%** for iron metals, reach an annual domestic scrap steel resource volume of **300 million tons**, and establish 1–2 overseas equity iron mines with global influence and market competitiveness, with overseas equity iron mines accounting for over **20%** of imported ore. **Industrial Structure:** Increase the industrial concentration of the **top 5 steel enterprises to 40%** and the **top 10 steel enterprises to 60%**; increase **the proportion of EAF steel production to over 15%** of total crude steel output, aiming for 20%; achieve a **scrap ratio of 30%**. **Low-carbon Aspect:** Develop technology, promote the marketisation of **carbon emission trading**, and encourage **green consumption**. "Guidelines on Promoting High-Quality Development of the Steel Industry (Draft for Comments)"	**1,086**
2021-05-06	Implementation Measures	Broader and more detailed regional division with higher requirements: Replacement ratio in key areas for air pollution prevention and control should be **no less than 1.5:1**, other regions should be **no less than 1.25:1**. More specific and greener replacement rules: Separate capacity replacement for ironmaking and steelmaking, **equal capacity replacement includes EAF and hydrogen metallurgy and other non-blast furnace iron-making capacities**. 2021 version of "Implementation Measures for Capacity Replacement in the Steel Industry"	**1,095**
2024-08-23	Suspension	Suspend the implementation of steel capacity replacement. Revise the steel capacity replacement measures (to be researched and revised by the Ministry of Industry and Information Technology). "Notice of the General Office of the Ministry of Industry and Information Technology on Suspending Steel Capacity Replacement Work"	**1,122** (2023)

Sources: Chinese government websites, WIND Terminal, GMK Center, TA Analysis

From a timeline perspective, implementation measures are typically introduced within 1–2 years after each guideline document is published. Each implementation measure is implemented for about 2–3 years. The first version of the capacity replacement implementation measures, published in 2015,achieved significant results over the next two years, with crude steel capacity steadily decreasing year by year.[4]

However, after the second version of the implementation measures in 2017, crude steel capacity began to increase annually, returning to 2016 levels by 2019.[5] Due to issues such as "exploiting loopholes" to expand capacity and a lack of comprehensive planning during the capacity replacement implementation process, this version of the implementation measures was suspended after two years of operation. In response, the NDRC and the MIIT jointly issued "Notice on Improving Steel Capacity Replacement and Project Filing Work", announcing the suspension of steel capacity replacement and project filing, and requiring all regions to conduct comprehensive self-inspections.[6] This marked China's first suspension of steel capacity replacement projects, reflecting the government's serious commitment to rectifying policy loopholes and addressing the overcapacity issue.

One year after that suspension, a new draft for comments the "Guidelines on Promoting High-Quality Development of the Steel Industry" was introduced at the end of 2020, and the third version of the implementation measures, the 2021 Implementation Measures, was released in May of the following year. Despite over three years of implementing these measures, China's crude steel capacity continued to increase rather than decrease, particularly after the COVID-19 pandemic. By 2023, total capacity has reached a new high, prompting the suspension of China's steel capacity replacement policy once again in August this year. According to the latest suspension notice, while issues such as inadequate implementation and imperfect supervision mechanisms urgently need to be addressed, China's steel industry also faces new challenges in imbalance supply-demand, low-carbon development and structural adjustment amongst others.[7] In fact, in April this year, the Department of Industry issued a notice on "The NDRC, MIIT and other Departments Researching and Deploying Work on Controlling Crude Steel Production in 2024", stating that they will "focus on energy conservation and carbon reduction, asses regional dynamics, maintain support and pressure, provide classified guidance, support the superior and eliminate the inferior, promote the structural adjustment and optimisation of the steel industry, and promote high-quality development of the steel industry", and emphasised that "relevant departments will jointly carry out a comprehensive survey of the basic equipment information of steel smelting enterprises nationwide".[8] Therefore, this suspension is significant and not without reason. This marks a pivotal moment in addressing both the overcapacity issue and steering steel production toward higher quality, energy efficiency, and low carbon emissions. This move sets the stage for China's next five-year plan.

4 https://www.miit.gov.cn/ztzl/lszt/jqttlhcngz/tzgg/art/2020/art_272fe657962f4429ad818423810c3a6b.html
5 https://yhp-website.oss-cn-beijing.aliyuncs.com/upload/files/%E9%99%84%E4%BB%B6%EF%BC%9A1.%E9%92%A2%E9%93%81%E8%A1%8C%E4%B8%9A%E4%BA%A7%E8%83%BD%E7%BD%AE%E6%8D%A2%E5%AE%9E%E6%96%B-D%E5%8A%9E%E6%B3%95.pdf
6 https://www.ndrc.gov.cn/xxgk/zcfb/tz/202001/t20200123_1219768.html#:~:text=%E5%90%84%E5%9C%B0%E5%8C%BA%E8%87%AA2020%E5%B9%B4,%E4%BC%9A%E8%AE%AE%E5%8A%9E%E5%85%AC%E5%AE%A4%E5%9C%A8%E5%85%A8%E5%9B%BD%E9%80%9A%E6%8A%A5%E3%80%82
7 https://www.miit.gov.cn/jgsj/ycls/wjfb/art/2024/art_beae9b1682de4457b555b42c5f839f4f.html
8 https://www.ndrc.gov.cn/fzggw/jgsj/cys/sjdt/202404/t20240403_1365488.html

ANALYSIS OF POLICY TRENDS AND PATTERNS

Reflecting on the past decade, steel capacity replacement policies began incorporating requirements for energy conservation and carbon reduction by the end of 2020, actively responding to China's "30:60" dual carbon goals proposed in September 2020. Therefore, the introduction of the dual carbon goals can be seen as a pivotal turning point. We can analyse China's steel capacity replacement policies by dividing them into two major stages: "before" and "after" the dual carbon goals.

STAGE INTERPRETATIONS

"BEFORE DUAL CARBON GOALS"

"Before dual carbon goals": Prioritising capacity reduction, with clear quantitative targets for total capacity reduction, and gradually stricter requirements.

As early as 2013, China introduced the principle of "strictly prohibiting new capacity addition", requiring capacity replacement to be equal or reduced. This guiding principle remained in place throughout this stage, with increasing stringency over time. In environmentally sensitive regions such as Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta, the replacement requirements were the highest, demanding reduced capacity replacement with a replacement ratio no less than 1.25:1, while replacement policies for other regions were modified from "equal replacement" in 2015 to "reduced replacement" in 2017.

The trend of stricter requirements for ordinary steel production is also reflected in capacity accounting. Comparing the capacity calculation tables proposed in the two versions of implementation measures, it can be found that the 2017 Implementation Measures eliminated the mechanism of differentiating capacity accounting between ordinary and special steel, meaning both use the same capacity accounting values. For example, in the 2015 Implementation Measures, a BOF with a nominal capacity (size) of 100 tonnes corresponded to an ordinary steel capacity of 1.3 million tonnes/year and special steel capacity of 1 million tonnes/year. However, in the 2017 Implementation Measures, the capacity for a BOF with the same size was 1.15 million tonnes/year, regardless of steel type. This means that, under the 2017 measures, the replaceable capacity of a typical steel-producing BOF would be less compared to previous standards. This stricter trend is even more pronounced in EAF capacity accounting.

"POST DUAL-CARBON GOALS"

"Post Dual-Carbon Goals": Multi-dimensional promotion of China's steel industry towards a higher quality and more sustainable development path.

The dual-carbon goals were proposed on September 22, 2020, during the first pause in capacity substitution. Following the pause, the draft consultation paper introduced multi-faceted methods to adjust steel production capacity. In addition to strictly prohibiting new capacity additions, it emphasised strengthening the guarantee of mineral resources, optimising industrial structures, and promoting green and low-carbon goals.

The subsequent "2021 Implementation Measures" reflected stricter capacity substitution policies. These measures expanded and detailed the scope of reduction substitution, designating it as a "key area for air pollution prevention and control," while also intensifying the reduction substitution efforts. Generally, the substitution ratio in key areas for air pollution prevention and control is not less than 1.5:1, and not less than 1.25:1 in other regions. At the same time, the construction of low-carbon smelting equipment, including EAF and hydrogen metallurgy, was included among the six scenarios eligible for

equivalent substitution, supporting the low-carbon technology transformation of China's steel industry.

In summary, the policies at this stage reflect China's broader expectations and support for the steel industry. Capacity adjustment is just one focus. Goals such as "promoting the diversification of industrial and supply chains (...) achieving a domestic self-sufficiency rate of over 45% for ferrous metals," "making the industrial layout more reasonable (...) striving for the top 5 steel enterprises to reach a concentration ratio of 40%, and the top 10 to reach 60%," "increasing the production of EAF steel to account for over 15% of total crude steel production, aiming for 20%; scrap steel ratio reaching 30%," "orderly guiding short-process steelmaking," "deeply advancing green and low-carbon initiatives," and "promoting the market-oriented trading of carbon emission rights in the steel industry", integrating the complete ecological chain of the steel industry and emphasise requirements not only in "quantity" but also in "quality," guiding China's steel industry towards a path of higher quality and more sustainable development.

PATTERN ANALYSIS

Examining China's five-year plan timeline reveals that the past decade encompassed three stages: the 12th, 13th, and 14th Five-Year Plans. The guidelines and implementation measures for steel capacity planning typically emerge at the conclusion of each five-year period or the onset of the next. This timing enables the steel industry to evaluate its progress during the early phases of each five-year period and, in alignment with the overarching requirements of China's subsequent five-year plan, formulate strategies for the industry's next five years. The initial suspension policy was introduced in the final year of the 13th Five-Year Plan, with new implementation measures following at the start of the next year. Now, as the 14th Five-Year Plan draws to a close, this current suspension may serve a dual purpose: not only to better regulate steel capacity but also to lay the groundwork for the upcoming five-year plan.

Indeed, a series of policy announcements in 2024 likely reflect this strategic approach. On May 29, the State Council unveiled the"2024-2025 Energy Conservation and Carbon Reduction Action Plan".[9] This plan stresses "maximising efforts to meet the binding energy-saving and carbon-reduction targets of the 14th Five-Year Plan, tightening control over steel production capacity and output, speeding up energy-efficient upgrades in the steel sector, and setting a concrete goal of reducing emissions by 53 million tonnes in the steel industry from 2024 to 2025." Hot on its heels, the "Special Action Plan for Energy Conservation and Carbon Reduction in the Steel Industry" dropped in early June, addressing capacity regulation and the swift adoption of low-carbon steel making techniques.[10] Capping off this policy trifecta, the State Council rolled out the "Work Plan for Accelerating the Construction of a Dual Control System for Carbon Emissions" in early August, laying out a carbon-cutting road map for 2025, the "15th Five-Year Plan" era, and the post-carbon peak phase.[11] Given this policy landscape, the steel industry's decision to pause the existing capacity replacement scheme as the "14th Five-Year Plan" winds down—and to craft fresh development strategies for the next five-year cycle—seems perfectly timed.

9 https://www.gov.cn/zhengce/content/202405/content_6954322.htm
10 https://www.ndrc.gov.cn/xwdt/tzgg/202406/P020240607590381066762.pdf
11 https://www.gov.cn/zhengce/content/202408/content_6966079.htm

FUTURE OUTLOOK & RECOMMENDATIONS

As China's construction industry slows, steel demand has waned, leaving many small and medium-sized steel producers struggling to survive. This pause in capacity replacement could catalyse market integration. The steel industry's anticipated entry into China's carbon emission trading system will likely accelerate this trend. Adjusting and upgrading capacity structures will be crucial in establishing carbon emission quota baselines for steel producers, fostering orderly market development.

Following this suspension, the timing and content of the new policy also became the focal point of discussion. Examining previous domestic policies, we see that the last suspension lasted about one year, and now there is also about one year away from the conclusion of the "14th Five-Year Plan" and the commencement of the "15th Five-Year Plan". Moreover, the EU's Carbon Border Adjustment Mechanism (CBAM) is set for full implementation in January 2026, which will significantly impact China's steel industry's low-carbon transition. Given these factors, China's steel industry is likely to maintain its focus on balancing capacity supply and demand while advancing its low-carbon transition. The new policy will probably be unveiled in late 2025 or early 2026, after a thorough review of past experiences, consideration of current steel development requirements, and incorporation of diverse stakeholder opinions.

Meanwhile, from the perspective of a carbon reduction think tank, we hope the new policy will have:

BROADER SCOPE, MORE DETAILED CATEGORISATION

Recent policy trends have shown a broader and more nuanced categorisation of regions and production methods—a sensible approach. As the world's largest steel producer, China's development ecosystem is complex, both geographically and in terms of production. This complexity demands case-by-case analysis rather than a one-size-fits-all strategy. We anticipate that the new policy will offer more comprehensive coverage and finer categorisation for the diverse range of steel production scenarios.

MORE LOW-CARBON DIRECTION, MORE SPECIFIC REQUIREMENTS

China's swift responses in steel policies following the dual carbon goals has laid a solid political foundation for a low-carbon direction in new steel industry policy. Based on our research into the steel industry's low-carbon transition, we hope to see more specific requirements in the new policy regarding low-carbon aspects. These could include quantitative indicators for carbon emission intensities, incentives for renewable electricity and energy use, and support for green hydrogen projects to aid steel decarbonisation. China has emerged as a global leader in renewable energy and hydrogen production. Fully leveraging this advantage could propel China's steel decarbonisation efforts, positioning it as a model for global steel decarbonisation.

MORE EFFECTIVE SUPERVISION, MORE COMPREHENSIVE AND POWERFUL SUPPORT

Effective policies require robust supervision and support from all stakeholders. Reviewing the previous three versions of implementation measures reveals China's refinement of the steel capacity replacement process, work division, and audit

intensity. Additionally, guidance and support have been proposed in various areas, such as coordinated upstream and downstream development and industrial structure optimisation, to promote the higher quality and more sustainable development of steel. We anticipate that the new policy will draw on a decade's worth of policy formulation and implementation experience, serving as both a compass and an engine—guiding and propelling China's steel industry towards a sustainable future.

DATA AND DISCLAIMER

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OUR TEAM

Head of Impact
Lauren Huleatt lauren@transitionasia.org
Research Lead
Bonnie Zuo bonnie@transitionasia.org
Communications Specialist
Monica Wong monica@transitionasia.org

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