



Taking The Pulse

Insights on Climate Developments in China

September 2024

Welcome to Taking the Pulse!

Taking the Pulse (TTP) provides the global climate community with access to the latest thinking inside China on the low-carbon transition.

Since the “Report on the Work of the Government” published in March emphasized the need to “expand the scope of the national carbon market,” discussions and calls for expansion have intensified. In September, a consultation draft was released to initiate the first round of expansion, bringing the cement, steel, and aluminium industries into the carbon market. What implications does this hold for industries and carbon emissions trading? In this month’s issue, TTP will focus on the first expansion of China’s national carbon market.

In Focus: First Round of China’s National Carbon Market Expansion Underway

On September 9, the Ministry of Ecology and Environment released the “[Work Plan for the inclusion of the Cement, Iron and Steel, and Aluminium Industries in National Carbon Trading Market](#),” (“Work Plan” in short) solidifying the first round of expansion. This year’s government work report clearly stated that the coverage of the national carbon market should be expanded. Following this, [guidelines for greenhouse gas emission accounting and reporting](#) for industries such as aluminium smelting and cement were officially published in September.

Under the plan, the cement, steel, and aluminium industries will manage their direct emissions from fossil fuel combustion and industrial processes. It’s worth noting that in addition to carbon dioxide, the gases managed will also include tetrafluoromethane (CF₄) and hexafluoroethane (C₂F₆) for the aluminium sector. About 1,500 new major emitters will be added to the market, covering an increase of about 3 billion tons of emissions. Based on rough calculations from the data in “[Progress Report of China’s National Carbon Market 2024](#)” released in July, after this round of expansion, the emissions covered by the national carbon market will account for about 60% of the national total, an increase of roughly 20% from the previous level.

In case you missed it: [Price Up, Allowance Down, China’s Carbon Market Moves into High Gear](#)

- **Why are the steel, cement, and aluminium industries chosen as the priority sectors for the first round of expansion?**

[Shi Minjun](#), distinguished professor at Zhejiang University, stated that expanding the carbon market is essential for promoting a more diverse and differentiated market that will invigorate carbon trading. If the carbon market is restricted to the power sector, the narrowing technological gap among power generation companies will reduce the disparities in emission reduction costs among coal-fired power plants. This could result in the homogenization of carbon emission costs, diminishing companies' motivation to engage in carbon trading and further limiting the potential for carbon pricing, ultimately leading to reduced market activity.

Since China launched the national emissions trading system in 2017, the carbon market has followed the principle of “include once mature”: include an industry in the carbon market once it has reached a sufficient level of maturity. [Shi Yichen](#), deputy director of the International Institute of Green Finance at the Central University of Finance and Economics, argued that compared to other high-emission sectors, the cement, steel, and aluminium industries are particularly well-positioned to participate in the national carbon market. They have demonstrated a sense of urgency in cutting emissions, the potential to coordinate pollution control and carbon reduction, robustness in data quality, and cost-effectiveness in marginal emission reductions.

Notably, the newly included industries are also impacted by the EU's Carbon Border Adjustment Mechanism (CBAM). S&P Global's energy transition and carbon market specialist [Yin Yuwei](#) highlighted that the proposal to include direct emissions in the Work Plan aligns with the EU carbon market's top-level design. She hoped to see coordination between Chinese and international standards in forthcoming distribution rules. What would also be conducive is more dialogue between Chinese and European governments on mutual recognition in the carbon market, which would help companies reduce redundant efforts and lower compliance costs. The [memorandum](#) signed in June regarding strengthened cooperation in carbon emissions trading explicitly mentions enhancing dialogue on comprehensive cooperation, including the inclusion of new industries in the carbon market, signaling a positive development.

In addition to aligning the Chinese carbon market with international designs, a [commentary](#) in the Beijing News pointed out that managing direct emissions while excluding “Scope 2” emissions is primarily to avoid double counting the same ton of emissions (direct emissions from the power sector and indirect emissions from power-consuming enterprises), which could lead to unfairness. Excluding “Scope 2” emissions simplifies the operation of the carbon market, helps maintain clear price signals, and ensures the healthy development of the carbon emissions trading market.

- **How will carbon market expansion influence different industries?**

For the newly included **cement, steel, and aluminium industries**, [Liang Xi](#), professor of sustainable transitions in construction and infrastructure at University College London, believed that joining the national carbon market will **encourage them to research transition technologies**. In the investment decision-making process, companies need to forecast long-term carbon prices (for example, those for 2030 and 2035) and incorporate these predictions into their cash flow models, performing stress tests on all high-emission assets to determine how to adapt to a high carbon price (for example, of 300 yuan/ton) in order to maintain market competitiveness. Companies must also identify pathways for technological transition and resource acquisition, such as green electricity, green hydrogen, and carbon capture.

[Zheng Ying](#), assistant professor at Renmin University of China, noted that inclusion in the national carbon emissions trading market presents **both opportunities and challenges for companies**. On one hand, technologically advanced firms with effective carbon reduction strategies can sell surplus carbon quotas for additional revenue, boosting their market competitiveness. On the other hand, companies face challenges from increased carbon emission costs and rising operational expenses of data accounting and quota management.

The first round of expansion is likely to drive both carbon prices and trading volume higher in the short term. According to [data](#) from the Shanghai Environment and Energy Exchange, on September 30, the closing price of the national carbon market rose to 99.48 yuan/ton, a 7.81% increase from the last trading day in August. In September, the total trading volume in the national carbon market reached 7.8356 million tons, with a total transaction value of 7.576 billion yuan, reflecting increases of 33.67% and 49.90%, respectively, compared to August.

The [carbon price index](#) from the Sustainable Development Research Center at Fudan University predicts that the buying price of carbon emission allowances (CEA) will continue to rise through December. The expansion is expected to attract numerous entities into carbon market trading, stimulating market vitality and trading volume, while also guiding industrial structure adjustments and the green transition of enterprises in China.

However, some analysts suggest that **in the early stages of implementation, the inclusion of new industries may not significantly affect carbon prices**. [Jin Boyang](#), vice chairman of the Carbon Market Working Group of the European Union Chamber of Commerce in China, explained: first, since the initial phase involves free quota allocations, the newly included industries are likely to have sufficient allowances for the first compliance period; second, the carbon asset management strategies of these new entrants are often still in an exploratory phase, leading to a cautious approach to quota trading.

He also emphasized that joining the carbon market will **instill a sense of urgency for emission reductions within the industries**. As companies anticipate future carbon price trends and carbon market policies, new entrants will likely devise updated emission reduction strategies and increase their investments in reduction projects in advance. Additionally, for industries like steel, which are heavily influenced by the EU's CBAM, some export-oriented companies may count on the rising of carbon prices in China to offset part of their EU carbon border tax liabilities.

The exclusion of “Scope 2” emissions from the calculations for newly included industries may also have a short-term impact on the green electricity market. [Wang Jun](#), founder of Climate Future, believed that by removing “Scope 2,” part of the carbon costs is lost and will no longer be passed down from upstream power plants, which may reduce the incentive for some companies to purchase green electricity. However, this does not imply that carbon-emitting companies will completely lose their demand for green electricity. With the increasing global focus on green and low-carbon development, many companies will still purchase green electricity due to considerations of brand image, market competitiveness, and international trade.

[Jiang Wenwen](#), senior engineer at the Shanghai Economic Information Center's Green Development Research Center, argued that under the constraints of a low-carbon supply chain, industries like aluminium, which have a high proportion of indirect electricity emissions, are well-motivated to increase their consumption of green electricity without further guidance from the carbon market. Thus, during the expansion of the national carbon market, it may be advisable not to include indirect electricity emissions in the regulatory coverage, which would mitigate potential shocks from the green electricity (GEC) market and enhance the operational efficiency of the carbon market. In the future, as the market further incorporates industries like construction and transportation, which primarily generate carbon emissions through indirect electricity consumption, it will be necessary to optimize carbon accounting methods to ensure effective coordination between the carbon market and the green electricity (GEC) market.

[Zhang Xiliang](#), director of the Institute of Energy, Environment and Economy at Tsinghua University, emphasizes that the development of the national carbon market should have distinct goals at different stages: in the short term, the focus should be on improving data quality, expanding the scope of carbon market, introducing paid allocations, and increasing trading participants, letting China's carbon market serve as a key policy tool for achieving the dual carbon goals; in the medium term, the goal should be to achieve comprehensive coverage of key emission units in eight major energy-intensive industries (petrochemicals, chemicals, building materials, iron and steel, non-ferrous metals, paper, electricity and civil aviation), transitioning from carbon intensity control to total emissions control in certain sectors, enriching trading products, and fully leveraging the carbon market as a primary policy tool for the dual carbon goals; in the long term, it is necessary to shift from an intensity-based approach to a total emissions-based approach, aiming to establish an efficient global benchmark carbon market.

Sources of the Expert Views Cited in This Newsletter:

Jiemian News: [Three Years after the Launch of the National Carbon Market: Carbon Price Doubled, Expansion on the Way](#)

National Business Daily: [The Inclusion of Three New Industries in the National Carbon Market is Expected to Increase Both Trading Volumes and Prices](#)

21st Century Business Herald: [With Cement, Steel and Aluminium Included, the National Carbon Market will Cover 60% of the Country's Total Carbon Emissions](#)

Beijing News: [How Will the Exclusion of Scope 2 Emissions in the National Carbon Market Affect the Green Electricity Market?](#)

CNR News: [How Expanding the National Carbon Market Can Help Green the Economy?](#)

Fudan Research Center of Sustainable Development: [Fudan Carbon Price Index of October 2024](#)

China Energy News: [National Carbon Market Sets Out Expansion Plan](#)

China Power Enterprise Management: [The Underlying Logic and Implementation Path of Linking Green Electricity \(Green Certificates\) Market and Carbon Markets](#)

21st Century Business Herald: [The Mandatory Carbon Market is Expected to Expand and Conditions are Ripe for Paid Allocation of Allowances](#)

Other Topics You May Also Be Interested In:

- **Energy Storage** | [New energy storage faces cost, technology, marketization, and coordination challenges.](#)
- **Carbon Footprint** | [Promote China's energy conservation and carbon reduction efforts by cost constraint and price transmission mechanisms.](#)
- **Energy Transition** | [Trading of green electricity and Green Electricity Certificate\(GEC\) needs further stimulation.](#)

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Thank you for reading!

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