

8th August 2022

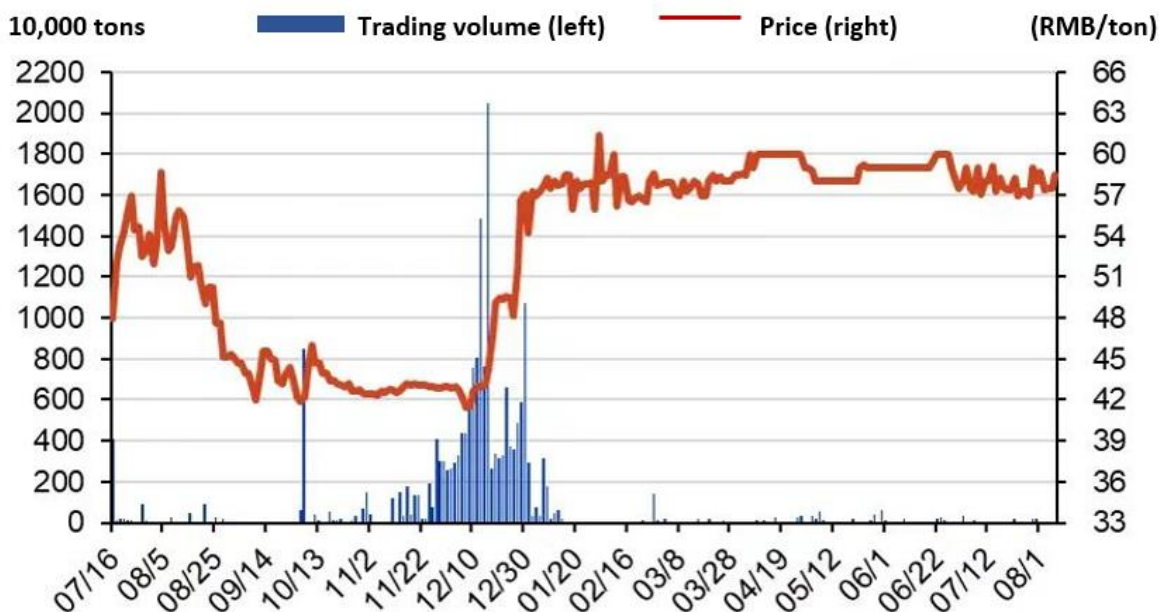
China Carbon Credit Market – After one year, where do we stand?

It has been one year since China launched the world's largest carbon credit market, an emission trading scheme that was expected to play a critical role in the country's climate ambitions. Although we discussed this topic on multiple occasions in our weekly newsletters, we felt compelled to highlight the challenges and obstacles we observed during the past year and outline the shortcomings of the current scheme.

To recap, in July 2021 China launched its emissions trading scheme (ETS) aimed at controlling greenhouse gas (GHG) emissions and fighting climate change. At its launch, the scheme surpassed the European Union's ETS (the "EU ETS") to become the world's largest carbon trading scheme, covering one-seventh of the world's greenhouse emissions. After years of trials and delays, China's long-awaited national carbon market is currently limited to the fossil fuel power generation sector, which accounts for 40% of the country's total GHG emissions.

Despite its market size, liquidity for carbon credits has been extremely light so far. During the past year, less than 200 million tons of allowance traded between fossil fuel power generators while the sector emits more than 4.5 billion tons of GHG emissions annually. In addition, over 80% of the trading volume was Over-The-Counter block trades rather than using the Shanghai Environment and Energy Exchange (SEEE)'s bid-and-ask trading platform. Power generators' reluctance to trade is also evidenced by the trading volume pattern seen below, which only briefly picked up towards the end of 2021 when the first fulfilment deadline imposed by the government was approaching.

China's national carbon trading activity



Source: Haitong Securities

A low carbon price is also responsible for the market's dormancy. Even at its peak of 62RMB/ton of CO₂ (equivalent to \$9/ton), carbon prices in China remained at just a fraction of where they are in the European Union (\$86/ton). In other words, carbon credits are cheap because there is oversupply of it. The Ministry of Ecology and Environment (MEE) that oversees the allocation of allowances to the lower polluters and of running the scheme is largely responsible for this misallocation.

Under the current scheme, all carbon credit allowances are allocated by the MEE to power generators free of charge, depending on their existing level of carbon emission and level of investments in green technology. The carbon credit allowances can then be sold to more-polluting power generators that need to offset their heavy carbon footprint.

As the price for coal and natural gas inputs are currently much bigger cost concerns for power generators than carbon credits, the heavy polluters naturally spare very little efforts in buying emission allowances that are cheap and plentiful on the market. Unless the amount of carbon credit allowance available on the market is reduced to the effect of driving carbon credit prices up substantially, it is unlikely to push power generators to

obtain from the MEE more allowances so that they can monetise them to pay for the green technology investments that would improve their carbon footprint. In other words, the carbon credit supply and demand situation in China is not pushing heavy polluters to go green.

The lack of market-driven price mechanism limits upward pressure on the price of carbon credits. If a portion of allowances was to be allocated to power generators through auctions, regulators would have a more effective method of adjusting carbon prices and gradually drive up the price level to incentivise emission reduction. The most efficient way to push up the price of carbon credits, and thus incentivise power producers to invest towards decarbonisation, would be for the MEE to cut the allowances of carbon credits given every year to the least polluting power generators. However, with the current global energy crisis and ongoing power market reform, it is unlikely it will happen as it would push up further the price of energy as it would put additional financial burden on heavy polluters.

Data quality has also emerged as being a major issue within the scheme. Since the scheme's inception, the Ministry of Ecology and Environment has uncovered a number of [data fraud](#) cases, where some data verification agencies have been found manipulating reports and falsifying testing dates, emissions data and carbon footprint results. According to Caixin, these incidents are largely due to certain power generators trying to avoid paying extra money for emission allowances and a largely unregulated verification industry full of inexperienced staff. To ensure carbon market stability and data quality, more stringent regulations regarding Measurement, Reporting and Verification (MRV) should be put in place to guide both emitting entities and verification bodies to submit data with higher quality.

The data quality issues have also made authorities more cautious about adding more sectors to the emissions trading scheme. Before the scheme was formally launched in 2021, the market expectation was that aluminium and cement manufacturing would also be included in the scheme but eventually they were left out due to data quality concerns. As early as 2015, companies within energy-intensive sectors such as steel, chemicals, aluminium and cement have been required by the regulator to submit GHG emission data, but few companies have taken such a request seriously enough to produce accurate data.

Therefore, for China to establish a more inclusive carbon market covering more sectors and industries, data quality and reliability need first to be improved.

Other Asian countries such as South Korea, Japan, Singapore and Indonesia have all established national emissions trading schemes or carbon taxes, but the overall price level is much lower than that of the EU scheme and also well below levels estimated to have a meaningful impact on climate actions. The only exception is New Zealand, which kick-started its ETS in 2008 and underwent a major reform in 2021. Its carbon credit price currently hovers around \$50/ton of CO₂.

Carbon credit prices in the EU, China, New Zealand and Korea



Source: Bloomberg

Going forward, the Chinese regulator might want to consider taking a few pages out of their European counterpart's playbook for improvement.

Firstly, although covering the largest amount of GHG emissions in the world, the Chinese emissions trading scheme only includes the fossil fuel power generation sector whereas the EU version includes power and heat generation, energy-intensive industrial sectors and intra-EU aviation.

Secondly, the European Union ETS market-based auction mechanism allows the regulator to effectively cut the total emissions by adjusting the number of allowances available, i.e. the supply side of carbon credits.

Thirdly, by allowing more market participants such as financial institutions in the scheme and ETS-related financial products, the EU scheme enables efficient price discovery and market liquidity.

Finally, the EU scheme provides more clarity by setting a yearly reduction target in CO₂ emissions (currently standing at -2.2% per annum) and adopting a phase-by-phase approach which is currently lacking in the Chinese scheme.

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