THE NATIONAL BUREAU of ASIAN RESEARCH

POLICY Q&A

AN INTERVIEW WITH JACKSON EWING

Carbon Markets with Chinese Characteristics

By ASHLEY JOHNSON

Published: August 15, 2018

Over the past ten years, the number of carbon-pricing initiatives, such as taxes and trading schemes, has grown steadily as countries seek ways to lower carbon emissions through more efficient technologies or fuels. China, in particular, has garnered global attention for its relatively successful pilot programs for emissions trading in major cities across the country and the launch of the first phase of its nationwide carbon market in December 2017. NBR spoke with Jackson Ewing (Duke University) to better understand the challenges and opportunities for Chinese policymakers as they seek to implement a nationally integrated emissions trading system.

How does a carbon market work?

In a carbon market, regulators set mandatory limits for greenhouse gas emissions in a given area and then issue permits that can be traded among companies and other entities to ensure compliance with emissions targets. Covered entities have a choice: stay below the cap and gain credits that they can then sell to other entities, or exceed the cap and purchase credits to make up the excess.

Individual players pursue the path they find most logical, whether it be lowering their emissions through internal changes to their operations and facilities, purchasing credits on the market, or a combination of the two. As caps become progressively lower, emissions decline overall while individual players retain flexibility in their actions. Taken together, the enlightened self-interests of individual players lead to emissions reductions at lower costs and faster speeds than would regulations that force specific emissions cuts.

What are the main points of debate surrounding the

JACKSON EWING is a Senior Fellow in the Nicholas Institute of Environmental Policy Solutions and an Adjunct Associate Professor in the Sanford School of Public Policy at Duke University. He is also a Senior Advisor for Sustainability with the Asia Society Policy Institute. Dr. Ewing is the editor and a contributing author of the report "Carbon Market Cooperation in Northeast Asia: Assessing Challenges and Overcoming Barriers" (2018).

establishment of carbon markets?

Designing carbon markets across industries that face different circumstances is complex—my earlier description was a simplification—as is operating the markets over time. Advocates of carbon markets argue for their flexibility, efficiency, and high potential, whereas critics target their complexity and unpredictability. As with other markets, the success of carbon markets pivots on the behaviors and perceived interests of a litany of actors, and as such there is a risk of volatility, ineffectiveness, and poor environmental outcomes.

A key challenge in this vein is ensuring the veracity of carbon reductions and the credits they yield, which takes substantial measurement, reporting, and verification (MRV) capacity and effort. By comparison, carbon taxes and command-and-control regulations, such as factory or vehicle emissions standards, can appear simpler and more straightforward. Given the choice, however, if emissions regulations are guaranteed, businesses tend to prefer a clearly designed carbon market, and its attendant flexibility, over other options.

What domestic factors have contributed to the optimism surrounding China's nationwide carbon market? What barriers still exist that could impede its development?

China's 2017 announcement of its national system was rightly met with enthusiasm from major business, political, and civil society leaders around the world. This stems from the short-term symbolic value of having the world's largest emitter implement a carbon market that, once operational, will dwarf the efforts of those elsewhere, and from the potential longer-term material value of such a market reducing China's emissions and accelerating its transition to a cleaner economy.

The subnational pilots in China that preceded the nationwide carbon market were a mixed bag, and it is fraught to declare them successful or not. But China certainly gleaned significant experience and expertise from these efforts. By covering the political and business hubs of Beijing and Shanghai, the sprawling industrial zones of Tianjin and Chongqing, the manufacturing locus of Guangdong, the iron and steel center of Hubei Province, and the Hong Kong–affixed special economic zone of Shenzhen, the pilot programs represent the varied economic, environmental, and sociopolitical conditions that define China. The pilots took different approaches to coverage, compliance enforcement, allowance auctioning, and other key design characteristics. Results were likewise mixed. The Shenzhen market was at one pole, with large participation and the highest prices and trade volumes, and Chongqing was at the other, with generous free allowance allocations designed to protect key industries dampening market activity. A primary goal of the pilots was to create a policy laboratory that could feed experience into the future national system. In that respect, they were valuable. The key task now is to manage the transition from subnational to national.

More broadly, challenges to the success of China's carbon market are heightened by current uncertainties. While China has made impressive strides in a relatively short period, the 2017 launch was a soft one intended more to allow the country to meet its self-imposed deadline than to yield a functioning market. China must still determine precisely how it will integrate and ultimately subsume its subnational markets in the national system, build a robust national MRV system, determine the emissions targets for thousands of covered entities, open up (or not) the system to third-party financial players and products, and bring new sectors into the fold. Each issue produces both technical and political challenges.

In what ways have international factors, such as the Paris Agreement, influenced the development of carbon markets generally and in China specifically?

China's foray into carbon markets predates the goals outlined in the Paris Agreement. While the agreement's existing principles and potential future systems may become more relevant to China's efforts, they have not driven them.

The Paris Agreement was born out of the relative shortcomings of past international efforts that all stemmed from a centralized process. Participation in previous agreements was inconsistent, so the Paris Agreement instead calls on countries to identify their own climate change goals and develop tools for reaching them, which will be collectively vetted, reviewed, monitored, and ratcheted up over time.

Carbon markets are evolving similarly. Whereas previous approaches under the 1999 Kyoto Protocol were relatively centralized, current and future generations of carbon markets are more disparate and unique to the specific circumstances of the jurisdiction implementing them. The questions of the day are how much participation and oversight will take place through centralized UN mechanisms, including whether and how different credits for reducing emissions are accounted for against a given country's commitments, and how these credits might be exchanged across borders. Guidelines for answering these questions exist in Article 6 of the Paris Agreement, and negotiations are ongoing to settle how this will work in practice.

This is relevant for China because the country must demonstrate that the emissions reductions traded within the market are real and verifiable when reporting them internationally to meet its commitments under the Paris Agreement. So while China's carbon market does not result from international agreements, Chinese leaders certainly view market mechanisms as legally and diplomatically apt tools for reaching its emissions reduction targets in a global context.

What happens to carbon markets when the price of carbon drops?

Low prices stem from a mismatch of supply and demand for carbon credits, which typically derives from providing too high a volume of credits to covered companies for free or setting caps for carbon emissions too high. Economic downturns and fluctuating energy production costs can be the root causes of these issues, as can political compromises aimed at reducing the near-term impacts felt by industry. If prices stagnate at low levels, the impetus for businesses to change their behavior is weak. The European Union's recent carbon market reforms seek to redress these issues in Europe, where supply has often outstripped demand (in part due to the economic downturn in the late 2000s), leading to large surpluses of allowances and low prices. The EU seeks to solve this problem by reducing the annual cap, creating a market stability reserve, and reassessing how free allowances are distributed in light of emerging low-emissions technologies.

China's case is different. The national market will proceed through efficiency standards; that is, it calls on companies to reduce the amount they emit relative to their overall output. A company could continue to increase emissions under this system and remain in compliance, provided that it reduces the ratio of emissions to production. This approach is fairly unique globally and may ultimately mean that carbon prices are relatively less important than the efficiency standards that regulators choose to put on different companies.

How will the recent restructuring of government ministries affect the full implementation of a nationwide emissions trading scheme?

That's the million ton question. China's newly formed Ministry of Ecology and Environment (MEE) is taking over the climate change portfolio, including the carbon market, from the National Development and Reform Commission (NDRC). The change seeks to consolidate more of China's environmental policymaking under one roof and enhance accountability and enforcement capabilities in turn. The NDRC and its provincial affiliates have spent roughly eight years studying, planning, and experimenting with carbon market design and implementation, so it is essential that this capacity is transferred to the MEE. It appears that this will be the case, with key carbon market personnel transferring departments alongside the mandate.

It is also vital that the MEE become an influential and effective ministry and that the carbon market evolve relatively smoothly with demonstrable results. There are signs that President Xi Jinping will prioritize cleaning China's environment (he mentioned the

environment 89 times during his 2017 speech to the 19th Party Congress, compared to 70 mentions of the economy), but things can change and China's is a competitive policy landscape. Similarly, the carbon market must reduce emissions and yield related benefits such as domestic air pollution abatement and clean energy growth if it is to continue to gain high-level government support.

What is your assessment of the overall outlook for China's carbon market?

Carbon markets take time and operational space to show effectiveness. China is launching its carbon market alongside feed-in tariffs, a green certificate scheme, new vehicle emissions standards, continuing ambitions to reform the power sector, and growing stringency and enforcement in a suite of top-down environmental regulations. These policies are all intended to clean China's environment while strengthening Xi's drive for more balanced, high-value economic growth. But they also overlap and can at times confuse regulated bodies and even be counterproductive. The future of China's carbon market will therefore center not just on its design and implementation but on the ability of China's leadership to successfully integrate it into the wider policy landscape. ◈