

# THE ASIAN CARBON CENTURY

## JACKSON EWING SHINES A LIGHT ON THE CLIMATE LEADERS OF THE ASIA-PACIFIC

The epicenter of global emissions trading is moving east. After decades of European leadership, marked by both fits and starts and dogged perseverance, the most impactful carbon market developments are now occurring in the Asia-Pacific. These mostly fledgling markets have unrivalled potential along with steep operational hills to climb.

The most vital measures for addressing global climate change are to help large, developing nations industrialise without runaway greenhouse gas (GHG) emissions, and to bring the capital and capacities of wealthy countries and firms to bear effectively. Emissions trading systems (ETSs) in the Asia-Pacific can do both. Their domestic effectiveness and regional connectivity will define the next generation of emissions trading, and help shape future international climate change mitigation policies and resource flows.

### CHINA

Nowhere are the stakes higher than in China. Outcries against air pollution and environmental stress – which may contribute to more than 1.6 million deaths per year – has made transforming energy systems a key part of Beijing's strategic planning. Its energy and environmental ambition is prodigious. Estimates suggest that the country will require \$2.8 trillion of spending for 2,547 gigawatts of new capacity by 2040. Wind and solar capacity are set to increase eightfold to help meet this demand, while helping to steadily extract China from polluting fuel sources. These efforts dovetail with China's desire to transition away from an economy based on heavy industry and material exports to one steeped in higher-value tech and service

sectors.<sup>1</sup> Emissions trading may well become the most significant public policy instrument for ushering in this new era.

In late 2017, China will introduce the largest ETS in the world. Eight Chinese pilot systems already cover 1.2 billion tCO<sub>2</sub>e, or about 10% of the country's GHG emissions. Its move to a national system will extend this markedly, even as uncertainties persist about precise coverage levels at the time of launch. China's ETS has political support at the highest levels, and commensurate government resources steered toward its implementation. In December 2016, the Chinese State Council approved an overall cap on CO<sub>2</sub> emissions for more than 7,000 companies, and the National Development and Reform Commission (NDRC), tasked with the ETS rollout, is working furiously to establish national market design structures. As the NDRC develops technical rules on reporting and verification, trading, offsetting, and the like, third party consultants, verifiers, trading platforms, and knowledge centers are rapidly increasing their ability to support market activities.

Unsurprisingly there are manifold questions about China's national ETS rollout. Estimates suggest that a price of ¥240 (\$35.55) per tonne of CO<sub>2</sub>e may be required to drive broad emission cuts from China's covered entities.<sup>2</sup> The current predicted price range of ¥30–40

falls far short, and reflects the soft-launch mentality to rolling out the national ETS that currently pervades Beijing. Price discovery in China is further complicated by the country's emphasis on energy efficiency targets rather than hard emissions caps at the national level. China's adaptation of these efficiency standards to targeted cap allocations will be a key driver of future emissions prices. Chinese leadership suggests that relatively low initial carbon prices are designed to allow companies time to adapt<sup>3</sup>, yet it remains possible that these companies may not feel real pressure to cut emissions until the carbon price hits ¥200-300 – which is unlikely before 2020.

China's pursuit of regulations and other trading systems that will impact the national ETS also create questions about its potential effectiveness. An emergent green certificate scheme and possible New Energy Vehicle credit trading market add more complexity to an already multilayered environmental market landscape in China. These markets risk double-counting, as well as diluting or obfuscating the mitigation value of the ETS. But these and other design and contextual considerations are ultimately less important than the capacities of China's ETS operators. Prior to launching its pilot ETSs, China had scant GHG accounting capacity and much of the country's expertise and experience remains concentrated in the pilot regions. China has made rapid progress, and still the effectiveness of the national system will require long-term commitments to capacity-building both domestically and in cooperation with international partners.

## THE MOST IMPACTFUL CARBON MARKET DEVELOPMENTS ARE NOW OCCURRING IN THE ASIA-PACIFIC

## KOREA

The Republic of Korea is taking a different approach to emissions trading. After decades of pronounced emissions growth, Korea launched its Framework Act on Low Carbon Green Growth in 2010 – setting the stage for its national carbon market coming online in early 2015. The K-ETS has become a core instrument for Korea to reach its emissions reduction target of 37% below business-as-usual scenarios by 2030.

The K-ETS is nearing the completion of Phase I of a three-part progression. This first phase, lasting through 2017, provides a soft-launch for the system and sets the foundation for more impactful future carbon reduction measures. The second and third phases will expand coverage, scale-up auctioning, and ultimately enable limited international offsetting. Thus far, market function has been mixed.

Korean Allowance Units (KAUs) cleared at 26,500 KRW (\$23.58) in February 2017, a 37.3% increase from December 2016 (19,300 KRW), despite the Korean government's announcement that it would add 17 million additional allowances for the 2017 compliance year. In an effort to address the weakened structural imbalance between supply and demand, in April 2017 the Ministry of Strategy and Finance (MoSF) proposed a set of market stabilisation strategies geared to change banking and borrowing provisions and the use of international credits (see page 9 for more on these changes).

Prior to this reform, the Korean government allowed unlimited banking between phases while limiting borrowing, which resulted in nearly half of the compliance entities banking 88% of their total unused free allowances by the end of the 2015 compliance year. Additionally, the MoSF increased the borrowing restriction from 10% in Phase I to 15% in future phases. The Korean government will seek to improve market liquidity by allowing international credits from Phase II, and

## THE MOST VITAL MEASURES FOR ADDRESSING GLOBAL CLIMATE CHANGE ARE TO HELP LARGE, DEVELOPING NATIONS INDUSTRIALISE WITHOUT RUNAWAY GHG EMISSIONS

introducing swaps and other forms of trading moving forward.

## JAPAN

Japan continues to search for a tenable future energy and emissions strategy. Since the Fukushima nuclear crisis of 2011, Japan has significantly increased coal and natural gas consumption to compensate for energy missing from the nuclear sector — which, prior to the disaster, supplied 30% of Japan's total power production. Questions persist about how Japan will meet its future energy needs in climate-friendly ways. A 2015 report by the Ministry of Economy, Trade and Industry (METI) called for nuclear energy to account for 20-22% of power generation by 2030, which drew criticism from those calling for a more complete move away from the controversial power source. If Japan requires significantly more fossil fuels to make up for lost nuclear power as it scales-up its renewable energy production – a likely scenario – it will need to grow its market offsetting strategies to meet its emissions goal of a 26% reduction below 2013 levels by 2030.

Japan has experimented with carbon market mechanisms since launching a voluntary crediting system in 1997. Efforts later expanded to the Joint Crediting Mechanism – a CDM-like system unique to Japan that credits emission-reducing projects in developing countries. In 2005, Japan launched the Japanese Voluntary Emissions Trading System as a foundation for a mandatory nationwide carbon market, though shifts in domestic political and public sentiment have set back plans for a national ETS. This ambition may return: in May 2016 the Japanese Ministry of Environment (MOE) joined the World Bank-

led Carbon Pricing Leadership Coalition, and the MOE is currently supporting a scoping study on the design of a mandatory national system.

Sub-national schemes are currently being pursued in its absence. The Tokyo Metropolitan Government launched a municipal ETS in April 2010 which is now in its second compliance period. In April 2011, Saitama Prefecture – the fifth largest in Japan – followed suit with a similar scheme which subsequently linked to Tokyo's. It is difficult to foresee the country meeting its environmental and emissions goals without enhancing its engagement with market mechanism – whether they be domestic, international, or both.

## EMERGING ECONOMIES & THE ASIA-PACIFIC

ETS interest is growing in key Central, South, and Southeast Asian countries.

**Kazakhstan** intends to reconstitute its ETS in 2018 following a two-year suspension aimed at improving MRV and overall market function. **Ukraine** has legislated plans for an ETS and **Russia** and **Turkey** have set foundations from which to build a system if they choose. **Thailand's** current development plans include ETS provisions, and it is pursuing market capacity-building exercises with the Asian Development Bank and other partners. **Vietnam's** Green Growth Strategy introduces market-based instruments, and, while they are domestically controversial, **Indonesia** has for years considered ETS and forestry-based trading systems. **India** has resisted calls for a national ETS, but has a Renewable Energy Credit trading system and previously called for pilot carbon market systems in three major states. Neighbours to the south

in **Australia** and **New Zealand** are likewise active in the carbon market space with potential regional implications.

Taken together, the considerable ETS activities in Northeast Asia and ambitions elsewhere in the region beg questions about the future of regional market integration. While these countries are understandably fixated on domestic progress, formative phases need to yield markets that are flexible and “linkage ready” if the benefits of market connectivity are to take shape. Such connectivity has high-potential upsides, and there are promising signs of regional interest.

## PROSPECTS FOR INTEGRATION

Linking Asian markets would widen the range of emissions reduction options, some of which will be cheaper than those which emitters can currently access, and help provide the scale and liquidity needed for robust trading platforms. As the resulting mitigation costs go down, national levels of climate ambition could go up. Such

links would also reflect the economic connections that define much of Asia, and disincentivise the movement of emissions-generating activities to jurisdictions with less stringent climate policies.

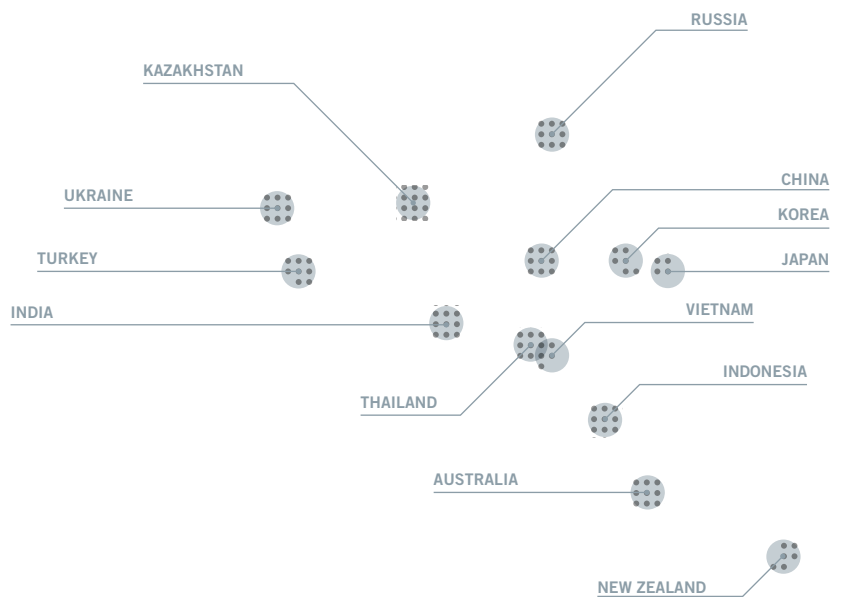
Forging such links will take time, and requires technical expertise, strategic vision, and diplomatic energy. Regional efforts should strive to avoid the pitfalls suffered elsewhere – particularly the oversupply of emissions allowances that has depressed emission-reduction efforts and carbon prices – and cultivate the levels of trust, political will, and institutional capacity needed to harmonise select standards and practices across national boundaries.

Work is underway. Recent discussions by international thought leaders and regional policymakers have been hosted by Tsinghua University and the Asia Society Policy Institute, among others, which has helped place carbon market cooperation on regional political agendas. The coming years will likely see Asian countries work

towards limited market links, and linkage restrictions, quotas, discount rates, along with targeted connections among cities and sectors all hold near-term promise.

Such connections are the key to bringing more of the world’s emissions under effective market pricing and trading systems. Developing the foundations for connectivity now can pay future dividends that are greater than the sum of their parts. Asia is well-placed to lead these efforts.

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(1) China’s “new normal”: structural change, better growth, and peak emissions. Fergus Green and Nicholas Stern. Grantham Research Institute on Climate Change and the Environment. Policy brief, June 2015. (2) China: the new global leader in carbon pricing? Chris Papanicolaou. Jones Day. 16 February 2017; accessed via lexology.com (3) China prepares for the world’s biggest carbon market. Climate Home article, 22 November 2016.