

## EXECUTIVE SUMMARY

**THE GLOBAL CLIMATE CHANGE CHALLENGE REQUIRES MAJOR REDUCTIONS IN GREENHOUSE GAS (GHG)** emissions in major economies around the world. Few regions are as critical for this task as Northeast Asia, where China, Japan, and the Republic of Korea account for more than one-fifth of the global economy and over a quarter of global emissions. They have pledged to curtail these emissions and are using carbon markets as tools for doing so. These markets incentivize emitters to emit only what they are allowed and compel them to buy “allowances” for emitting beyond their limit. They create tradeable units, in which emitters falling below their limits sell permits to those that exceed them. When effective, carbon markets provide flexible options for lowering emissions at reduced costs. This report contends that China, Japan, and Korea should work cooperatively to link these domestic markets to make them more economically efficient, environmentally impactful, and strategically valuable.

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The report proceeds across four primary issue areas: (1) carbon markets’ place in evolving international responses to climate change; (2) the ways carbon markets can link across political jurisdictions; (3) how China, Japan, and Korea could benefit from linking markets; and (4) the specific steps these countries might take to realize market linkage. It draws from prevailing literature, as well as the findings of the High Level Roundtable, “Toward a Northeast Asian Carbon Market,” convened by the Asia Society Policy Institute (ASPI) and World Bank Group on the sidelines of the 2016 global Carbon Expo.

### NORTHEAST ASIA IN THE GLOBAL CARBON MARKET LANDSCAPE

The Paris Agreement, reached in December 2015, is based on flexible and nationally determined commitments to reduce GHG emissions. Its Article 6 provides a foundation for how Parties can voluntarily cooperate via market connections to meet these commitments. The article does not attempt to create a global carbon price or an international market but rather supports and offers guidance to markets being crafted, managed, and linked around the world.

This international context bolsters carbon market linkage prospects in Northeast Asia, and attention is turning to China, Japan, and Korea as potential global leaders in carbon market cooperation and connectivity. Given the scale of their economies and emissions profiles, successfully linking these markets would substantially impact international climate change mitigation efforts.

### DEFINING LINKAGES

Linked carbon markets recognize tradeable emissions units across political jurisdictions. They take many forms. *Indirect linking* allows liable entities to be credited with reducing their emissions by a separate system that acts as a common international mechanism, and offers only loose market-to-market connections. *Incremental linking* recognizes the difficulty of harmonizing different market designs and approaches, and it seeks gradual convergence on facets of carbon markets needed to make direct linkage possible. *Restricted linking* constrains the amount or type of foreign credits that are acceptable in a domestic market, and may

use exchange and discount rates to determine how emissions units are valued. *Reciprocal linking* bypasses the barrier of negotiating legally-binding bilateral or multilateral treaties, and creates less formal agreements by which two jurisdictions recognize each other's emissions-reduction units. *Formal direct linking* forges internationally negotiated policies that determine legal frameworks, define the carbon units that are eligible for use, and map the technical rules for the market's operation.

## Connecting carbon markets in China, Japan, and Korea will require strategic decisions about what part of the linkage continuum is most appropriate for the region.

Connecting carbon markets in China, Japan, and Korea will require strategic decisions about what part of the linkage continuum is most appropriate for the region. Each regional carbon market has unique designs and underlying principles and goals. China's national market stems from a seven-market pilot phase that has yielded varying design models, all of which are based on reducing China's energy intensity. Japan has decades of experience with carbon market experimentation and currently has linked markets in Tokyo and Saitama Prefecture along with

international linkages through its Joint Crediting Mechanism. Korea is in a formative phase of carbon market development, during which it is set to progressively accept growing numbers of foreign carbon units. This report calls for incremental, reciprocal linkages that avoid the barriers of legally-binding treaty construction and cater to the heterogeneous markets of Northeast Asia.

### THE CASE FOR CARBON MARKET LINKAGE IN NORTHEAST ASIA

Linking carbon markets in Northeast Asia would pay economic, environmental, and strategic dividends, and the time to work toward market linkage is now.

Economically, linking can reduce emissions-reduction costs by expanding the number of unit buyers and sellers in ways that increase market liquidity and efficiency. This growth in market scale can reduce carbon price volatility by lessening the influence of powerful individual players and assuage competitiveness concerns by creating a more coherent regulatory environment across the region.

Environmentally, linkage can minimize the leakage of emitting activities from one jurisdiction to another, which occurs when strict emissions regulations in one place cause emitters to shift their activities to areas with less stringent policies. Linking carbon markets would bring environmental co-benefits as lowering GHG emissions also reduces multiple conventional pollutants that impact Northeast Asia in interconnected ways. By making emissions reductions more efficient and affordable, linked markets would also encourage China, Japan, and Korea to set more ambitious reduction targets in the future.

Strategically, linking Chinese, Japanese, and Korean markets would provide a confidence-building measure for wider Northeast Asian relationships and would demonstrate global climate change leadership through the region's commitment to long-term multilateral actions that are impactful and nuanced.

Evidence from carbon market linkages around the world demonstrates the value of early-stage dialogue and cooperation among stakeholders. It is because China, Japan, and Korea are in formative phases of carbon market development, not in spite of it, that now is an ideal time to set the foundation for regional carbon market links.

## ROADMAP TO LINKING CARBON MARKETS IN CHINA, JAPAN, AND KOREA

The report makes five recommendations to build a foundation for linking Northeast Asian carbon markets.

### 1. Create Linkage-Ready Carbon Markets

Northeast Asian carbon markets will not come to share all design characteristics, or have a completely unified emissions cap or carbon price. Rather, China, Japan, and Korea need to share aspirations toward future linkage, avoid domestic markets that lock out linkage possibilities, and create flexible markets that will be linkage-ready in the future.

### 2. Link by Degrees

China, Japan, and Korea should incrementally link their markets and work toward the reciprocal recognition of trading units. In the near term, they should not seek legally-binding treaties but rather create coordinated, often voluntary, networked governance structures that support cross-border emissions trading.

### 3. Build a Community of Experts and Practitioners across Sectors

Linking Northeast Asian systems requires regular cooperation across a range of experts and practitioners, and near-term efforts should include meetings and informational exchanges that are frequent, formal and informal, multistakeholder, and at both senior policy and technical levels. These exchanges are vital for co-creating regional partnerships that are acceptable across sectors and jurisdictions.

### 4. Pilot Sub-national Market Linkages

Piloting sub-national market linkages can build the technical and political foundation from which further market linkages extend and create economic, environmental, and strategic benefits along the way. Trial linkages among Beijing, Tokyo, and Seoul would provide national governments with a city-level laboratory for exploring linkages across borders and—given the scope of emitting activities within these jurisdictions—have significant environmental and economic impacts.

### 5. Selectively Employ International Design Principles

International agreements and institutions can help Northeast Asian countries commonly define principles, terms, and rules of operation. These markets will remain unique, but some deployment of international mechanisms and capacity-building resources will have a harmonizing effect across the region and will help build the foundation for carbon market linkage.

## CONCLUSION

Internationally based capacity-building efforts must extend to political and diplomatic bridge builders that support linked markets in Northeast Asia. Non-partisan champions, including the Asia Society Policy Institute (ASPI), have an essential role to play in convening international and regional stakeholders across sectors in organized and targeted dialogues leading to tangible outcomes.

For its part, ASPI will continue to work with regional and international stakeholders as Northeast Asian markets evolve between 2016 and 2020. It will bring together architects of carbon markets in China, Japan, and Korea to map out how to build political will, and progressively harmonize targeted standards and practices across regional jurisdictions. ASPI will promote and help foster experimental near term pilot efforts to link markets at sub-national levels and across limited sectors. It will explore simulations of

regional market linkages with regional trading exchange partners, and garner private sector participation in hypothetical trading exercises in real-time on actual exchanges. It will commission and conduct research into aspects of linking Northeast Asian markets that require further analysis, including those highlighted by the recommendations of this report. Throughout these efforts, ASPI will bring international experts and experienced practitioners who are familiar with linking efforts from outside the region, and in doing so help China, Japan, and Korea learn from the successes and avoid the failures of their international peers.

Carbon market linkage in Northeast Asia has great potential, and China, Japan, and Korea are well-placed to lead the global community into a new era of cooperative climate response efforts. Linkage considerations are also complex, multilayered, and have implications across sectors and jurisdictions. It will take consistent and action-oriented institutional and person-to-person connections to make regional market linkages a reality. As this report argues, the time for building these connections is now.