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A Wave of the Future: International Linkage of Carbon Markets

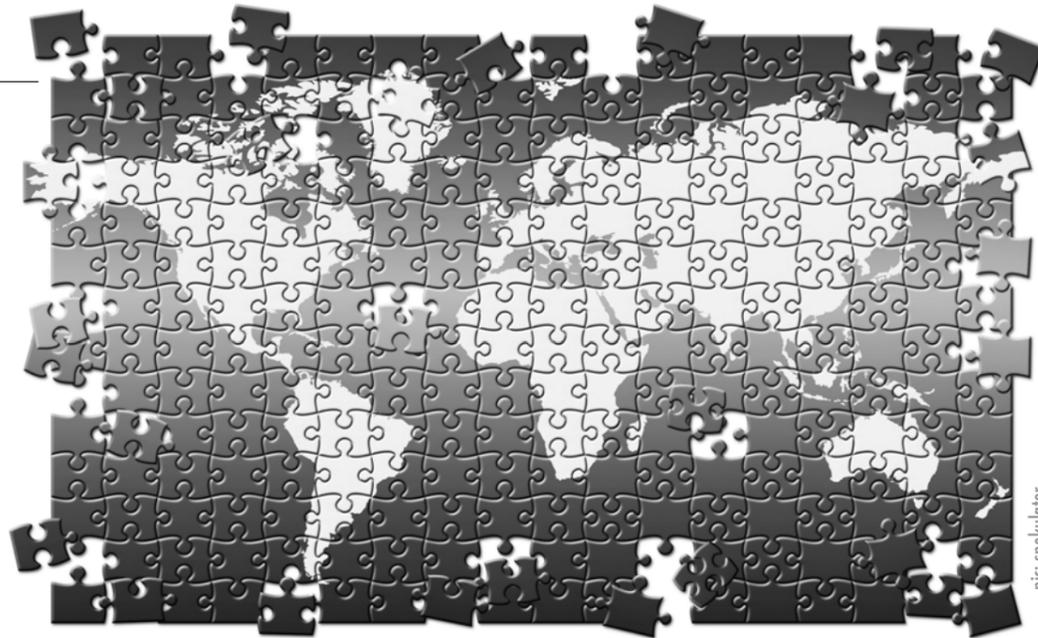
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Despite the demise in the United States' Senate last year of serious consideration of an economy-wide U.S. cap-and-trade system for CO₂ emissions, a major cap-and-trade system for greenhouse gas (GHG) emissions is in place in the European Union; similar systems are in place or under development in New Zealand, California, and several Canadian provinces; systems are being considered at the national level in Australia, Canada, and Japan; and a global emission reduction credit scheme – the Clean Development Mechanism (CDM) – has an enthusiastic and important constituency of supporters in the form of the world's developing countries.

So, despite the fact that there has been an undeniable loss of momentum, it remains true that cap-and-trade is still the most likely domestic policy approach for CO₂ emissions reductions throughout the industrialised world, given the rather unattractive set of available alternative approaches. This makes it important to think about the possibility of linking these national and regional cap-and-trade systems in the future. Such linking occurs when the government that maintains one system allows regulated entities to use allowances or credits from other systems to meet compliance obligations.

The consequences of linking systems

Tradable permit systems fall into two categories: cap-and-trade and emission reduction credits. Under cap-and-trade (CAT), the total emissions of regulated sources are capped and the sources are required to hold allowances equal to their emissions. Under a credit system, entities that voluntarily undertake emission reduction projects are awarded credits that



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can be sold to participants in cap-and-trade systems.

By broadening markets for allowances and credits, linking increases the liquidity and improves the functioning of markets. Linking can reduce the costs of the linked systems by making it possible to shift emission reductions across systems. Just as allowance trading *within* a system allows higher-cost emission reductions to be replaced by lower-cost reductions, trading *across* systems allows higher-cost reductions in one system to be replaced by lower-cost reductions in *another* system.

Along with the cost savings it can offer, linking has other implications that warrant serious consideration. Under some circumstances, linked systems collectively will not achieve the same level of emission reductions as they would absent linking. This can result either from a link's impact on emissions under the linked systems, or from its impact on emissions leakage from those systems. Linking also has distributional impacts across and within systems, and can reduce the control that a country has over the impacts of its tradable permit system. In particular, when a domestic CAT system is linked with another CAT system, decisions by the government overseeing the other system can influence the domestic system's allowance price, distributional impacts and emissions.

Concerns about linking

Importantly, trading brought about by unrestricted links between CAT systems will lead to the automatic propagation of certain design elements, including: offset

provisions and linkages with other systems; banking and borrowing of allowances across time; and safety-valve provisions. If these provisions, sometimes characterised as cost-containment measures, are present in one of the linked systems, they will automatically be made available to participants in the other system.

In the near-term, some links will be more attractive and easier to establish than others. Given the design-element propagation implications of two-way links between cap-and-trade systems, to facilitate such links it may be necessary to harmonise some design elements. And in some cases, it may be necessary to establish broader international agreements governing aspects of the design of linked cap-and-trade systems beyond mutual recognition of allowances.

An emerging *de facto* international climate policy architecture?

Whereas some two-way links between cap-and-trade systems may thus take more time to establish, in the near-term one-way links between cap-and-trade and credit systems, such as the CDM, will likely be more attractive and easier to establish. A one-way link with a credit system may offer a cap-and-trade system greater cost savings than a two-way link with another cap-and-trade system. Also, such one-way links can only reduce allowance prices in the cap-and-trade system, giving a government greater control over its system than if it established a two-way link with another cap-and-trade system. The well-known additionality problem associated with the CDM (and other offset programmes) is an important concern associated with such links, but it can be managed – to some degree – through the establishment of better criteria for awarding or recognising credits.

Most importantly, if emerging cap-and-trade systems link with a common credit system such as the CDM, this will create indirect links among the cap-and-trade systems. Through the indirect links that they create, such one-way linkages can achieve much of the near-term cost savings and risk diversification that direct two-way links among cap-and-trade systems would achieve. And they can do this without requiring the same foundation that likely would be needed to establish direct two-way links, such as harmonisation of cost-containment measures.

Such linkage may well emerge as part of the *de facto* post-2012 international climate policy architecture and is fully consistent both with the Kyoto Protocol and with the bottom-up, decentralised approach inherent in the Cancun Agreements.

Conclusions

Cap-and-trade systems are emerging as a preferred national and sub-national policy instrument for reducing GHG emissions in many parts of the world, and the CDM has developed a substantial constituency despite some concerns about its performance. Because of the considerable political and economic pressure to link these systems, linkage may be expected to play a *de facto*, if not *de jure*, role in any future international climate policy architecture.

“In the near-term, indirect linkage of cap-and-trade systems via a common credit system (such as the CDM) could achieve some of the cost savings and risk diversification of direct linkage.”

In the short term, linkage will continue to grow in importance as a core element of a bottom-up, *de facto* international policy architecture. The EU ETS has already established direct links among the member states and the CDM has emerged as a potential hub for indirect links among cap-and-trade systems worldwide. As new cap-and-trade systems emerge, the global network of direct and indirect links will likely continue to spread.

There is a trade off between direct linkages, which can require a high degree of harmonisation, international cooperation and indirect linkages via a common credit system, and raises concerns about additionality. This trade off may suggest a natural progression. In the near-term, indirect linkage of cap-and-trade systems via a common credit system (such as the CDM) could achieve some of the cost savings and risk diversification of direct linkage, but without the need for as much harmonisation of emerging and existing cap-and-trade systems. Such indirect linkage would also limit potential distributional concerns and preserve a high degree of national control over allowance markets.

In the longer term, international negotiations could establish shared expectations about environmental targets and emission reduction responsibilities that would serve as the basis for a broad set of multilateral, direct links among cap-and-trade systems. This progression could promote the near-term goals of participation and cost-effectiveness while helping to build the foundation for a more comprehensive future agreement. ■

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