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State of Play and Future Prospects

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# Domestic Emission Trading Systems in Non-Annex I Countries – State of Play and Future Prospects

by Wolfgang Sterk and Florian Mersmann\*

Since the adoption of the Kyoto Protocol in 1997, the establishment of a harmonised international carbon market has been seen as one of the main strategies in international climate policy. So far, however, the market is far from being globally harmonised or systematically linked. Instead, a mosaic of national and sub-national markets has been under development, differing in timing, location, relationship to the Protocol and their levels of legal commitment.

Nevertheless, creating a global carbon market is a key goal of EU climate policy. As plans for the establishment of emissions trading systems (ETS) emerge in various non-Annex I countries, prospects for linking them to existing systems seem to finally get in reach. We have analysed the prospects of emission trading in non-Annex I countries in a recent paper on behalf of the German environment ministry.<sup>1</sup> In the following we first give a theoretical overview of what design factors need to be taken into account when establishing national emission trading systems. The following elaborates on the status of emissions trading discussion in various non-Annex I countries.

## Design issues in linking domestic emission trading schemes

Links among ETS of every type of country will have to deal with seven basic issues: coverage of the scheme, definition and recognition of trading units, type and stringency of emission targets, allocation methodology, temporal flexibility, MRV, and compliance systems. The need for harmonisation varies with regard to these design elements. Some design options such as the systems' coverage may raise equity issues and stir opposition from concerned stakeholders. However, they are unlikely to adversely affect the overall effectiveness of the linked regimes. A constellation where one or more gases or categories of sources are included in one scheme but not in the other first and foremost raises questions regarding competitiveness and gaining the necessary political support for linking under these circumstances. However, competitive disadvantages and possible discrimination due to diverging treatment of sectors in two trading regimes are not caused by linking and would also occur in its absence.

Other aspects have important implications for the equity, the economic and the environmental effectiveness in a combined scheme. The definition and

recognition of trading units, the nature and the stringency of the targets, the provisions for banking and borrowing, monitoring, reporting and verification and the compliance regime fall into this category. It bears noting that all of these issues fundamentally depend upon countries' levels of ambition as regards climate protection. If environmental effectiveness is the main priority, the route leads clearly to stringent absolute targets with reliable MRV and strict penalties. Such a system will also be careful to allow only high-quality offsets to count towards compliance. By contrast, features such as relative targets, weak emission caps, price caps or safety valves and a generous recognition of offsets sacrifice environmental effectiveness for the sake of containing costs. Through linking, these cost-containment measures will also impact all other linked systems. Linking should therefore only be sought between countries which have a comparably ambitious climate policy outlook.

Linking developed and developing country schemes raises another fundamental issue: Since developing countries do not dispose of Kyoto-valid trading units, new mechanisms or policy options need to be developed if trading units from developing countries are to be used by industrialised countries.

## Emerging systems in Non-Annex I countries

The following is limited to countries where a minimum of specific information on emission trading discussions was available. These are Brazil, China, India, Kazakhstan, Mexico, and South Korea. Tentative discussions are also taking place in other countries such as those that have received grants under the Partnership for Market Readiness. However, these appear to be at an even more general level than the discussions in the countries that are covered here.

Brazil has established a stock exchange for voluntary carbon units which may precede a domestic trading scheme. In addition, Rio de Janeiro, Brazil's second richest state, recently announced to launch an ETS for its largest emitters between 2013 and 2015. Rio de Janeiro is also in consultation with its neighbour states. China has made concrete steps towards the creation of regional ETS in various cities and provinces. Newer announcements even envisage the creation of a national system by 2015. However, these plans are still in early stages, and differ widely in their institutional designs. For example, whereas Guangdong is likely to put in place a trading system based on absolute emission

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<sup>1</sup> The paper can be downloaded at <http://www.jiko-bmu.de/1054>

caps, Tianjin and Beijing have indicated that their trading schemes might be based on energy saving credits.

India has not shown much propensity for a domestic ETS due both to political and institutional reasons. However, trading schemes for energy efficiency and renewable energy are already in place. Kazakhstan has very definite plans for an ETS, and has in fact a draft law in parliament.

Mexico has been one of the earliest proponents of a domestic ETS, but has not taken this plan much farther. Under the World Bank's Partnership for Market Readiness, Mexico has been one of the first eight countries to receive an initial grant of USD 350,000 in order to build up domestic capacities for the implementation of carbon markets. However, if Mexico's Expression of Interest for the Partnership is any indication, focus seems to have shifted from a domestic ETS to the development of credited NAMAs in energy efficiency in housing, appliances and other end uses, methane destruction or use in solid waste disposal, improved cement blended production, and urban transport. Mexico envisages that part of the financing for these NAMAs may come from crediting, but the ideas revolve around improving national regulation or establishing local projects rather than introducing a domestic ETS.

South Korea has already come very far in the design of its ETS. However, due to opposition by domestic industry, targets have been weakened and the start date pushed back. There are currently two competing bills in Parliament. In the interim, a Greenhouse Gas & Energy Target Management System is to ensure that the pledged emissions reduction of 30% below business as usual by 2020 will be met. Even though government officials coined it a precursor to the ETS to come, it is at the moment not a real trading system. Instead, the nationally-set target is broken down to company level and individual targets for the country's 470 largest emitters will be imposed. As with the planned ETS, the system covers more than 60% of the nation's emissions. If individual targets are not met, the failing company will first be issued an improvement order. If targets are overshoot for a second time, a fixed fee of 100 million won (ca. € 6,300) will have to be paid, even if the company is only marginally off-target. Means of compliance include voluntary energy-saving agreements with the Ministry of Knowledge Economy as well as Korean certified (KCERs) emissions reductions, issued by the same ministry. Issuance of KCERs and validation of agreed reductions depend on cuts in the companies' own facilities and may not be traded at this point in time. Emissions cuts bought abroad (e.g. CERs) are also specifically excluded from the scheme.

### Conclusions and Outlook

The above survey has shown that the outlook differs substantially from country to country. Kazakhstan and South Korea are the most advanced, specific emission

trading bills have been put on the table in these countries. However, even here not all design elements are clear and it is uncertain when these laws might actually be passed. China's new-found commitment to the creation of a nation-wide scheme by 2015 gives reason for optimism. However, the implementation pathway is as yet unclear. The question is in particular how the very diverse design choices of the envisaged pilot schemes are to be aligned to form a convergent system on such short notice.

The trading systems that do emerge may not necessarily be based on GHG emissions. India is establishing trading systems for energy efficiency and renewable energy and some Chinese provinces are also considering efficiency-based systems. On the one hand, such systems might optimistically be seen as potential precursors to a GHG trading system that help to build capacity and gain first experiences with trading. On the other hand, institutional lock-in and path dependencies might prevent a later shift from energy consumption to GHG trading.

In addition, even where GHG emissions trading is pursued, such a system will not necessarily be compatible with the global carbon market. The environmental benefits of emissions trading and those of linking with other schemes crucially depend on the design of a trading system. This relates especially to the nature and stringency of the targets and the inclusion of cost-containment features. Through linking, such features would impact the whole combined trading scheme and thus impair rather than enhance its environmental effectiveness.

Finally, there is the sheer complexity of establishing an ETS. Even in the EU, where implementation of an ETS was fast-tracked as much as possible, the process from the publication of the Commission's Green Paper on emissions trading to the start of the system took five years.

Nevertheless, as Chinese announcements are becoming increasingly ambitious, the creation of a large-scale Chinese system by the middle of this decade is a distinct prospect. There is also clear interest in various other developing countries to explore the possibilities of introducing emissions trading systems. Taken together with the developments in Australia and California, 2015 might see a very substantial share of global emissions being covered by domestic emission trading systems.

Incidentally, 2015 has just been set to be the end date of the new negotiation process launched in Durban. The endgame of the Durban Platform might hence play out in the context of a very substantial share of global emissions being covered by domestic emission trading systems, which should constitute a rather favourable environment for agreeing to a global framework.