

Scaled-up Market Mechanisms – What is Needed to Move Forward?

A summary of recent OECD/IEA analyses

November 2010

The UNFCCC COP 15 negotiations and the Copenhagen Accord did not provide detailed guidance on the future of international carbon markets. In negotiation sessions leading up to COP 16 progress on outlining post-2012 market mechanisms has also been limited. There is in particular great uncertainty over how developing countries may engage in existing or new market mechanisms. While some developing countries have or are planning to implement market-based mechanisms, it is not clear whether or how they would seek to link such market instruments to international carbon markets. Despite the lack of direction in the carbon market, the need remains to scale up carbon markets to cost-effectively achieve climate mitigation and leverage the necessary private sector financing.

Since 2005, the OECD and IEA have researched the possibility to expand carbon markets by granting broader access to developing countries. This note draws on earlier publications done in this area, under the aegis of the Annex I Expert Group on the UNFCCC (now “Climate Change Expert Group”).

Scaling-up carbon markets is needed for the world to achieve ambitious mitigation goals

All projections of global greenhouse gas (GHG) emissions demonstrate the need to engage both developed and developing countries in emission reductions in order to stabilise the climate. The international carbon market is one of several instruments that could support mitigation in developing countries. By the end of 2012, the Kyoto Protocol’s Clean Development Mechanism (CDM) will have triggered thousands of projects, avoiding nearly 1 billion tons of CO₂ emissions in developing countries.¹ Yet, further mitigation is necessary globally to stay below a 2°C increase in global average temperature. New carbon market mechanisms could contribute to the needed efforts in a cost-effective manner, including in developing countries. It is in this context that some Parties propose scaled-up market mechanisms, based on policies or sector-wide reductions. The objective is also to move toward market mechanisms with higher environmental ambition.

There are several options for post-2012 scaled-up market mechanisms

Table 1: Definitions and features of scaled-up market mechanisms

	Crediting	Trading	Monitoring variables
Intensity-based target	<i>Ex-post</i> issuance of credits based on GHG performance per unit of output (tons of product, megawatt-hour or other indicator of GHG intensity)	Intensity-based trading is difficult as the <i>ex-ante</i> allocation requires a forecast of output levels and <i>ex-post</i> adjustments of total allocation once actual output is observed	Emissions plus output level or other indicator
Absolute target	<i>Ex-post</i> issuance of credits based on an absolute quantity of GHG emissions	<i>Ex-ante</i> allocation of allowances to the sector/country	Emissions
Binding nature of target	Could be a no-lose/non-binding target	Binding target needed (if <i>ex-ante</i> allowance allocation is pursued)	--

¹ UNEP/Risø website (<http://cdmpipeline.org/>), consulted on May 7, 2010.

There are different options to implement scaled-up market mechanisms in a post-2012 climate regime. These typically fall within the two categories of crediting and trading, based on either an absolute or intensity-based emissions target. Table 1 outlines the main characteristics of the different options, depending on whether the mechanism would apply to a policy (*i.e.* a nationally appropriate mitigation action or NAMA) or be established across an entire emitting sector.

Scaled-up market mechanisms can be more environmentally ambitious than a pure “offset” mechanism like the CDM

Under the CDM, emission reductions below the project baseline in the host country allow users of the certified emission reductions to increase their emissions by an equivalent amount. As a result, emission reductions from the CDM lead to a shift in emissions, but not to a reduction in global emissions, although they do facilitate the compliance of Kyoto Parties with their emission commitments through access to cheaper emission reductions.

Under the proposed scaled-up market mechanisms, the baseline for crediting/trading would be set lower than the business-as-usual emission trend in the sector covered by the mechanisms. The difference in emissions between the business-as-usual and the baseline is the host country's own contribution to global mitigation. The level of this contribution would have to be negotiated.

Scaled-up market mechanisms could bring considerable benefits to developing countries

Moving from the CDM to a scaled-up market mechanism could provide developing country governments with several significant incentives to increase GHG mitigation actions. First, such mechanisms could generate a larger volume of credits and reduce transaction costs, thus increasing carbon market revenues compared to today's CDM. Second, it would give the host country government significant flexibility as to what policies to adopt to limit emissions below the agreed baseline, whereas the CDM has some restrictions as to what mitigation actions are eligible. Third, NAMA-based or sector mechanisms can help build a stronger case for technology transfer and access, when goals imply significant technological change. Last, countries may also receive direct support to build and implement lasting domestic policy frameworks to participate in the new scaled-up market mechanism.

Sectoral intensity baselines would probably differ from one country to the other

Some sectors share commonalities across regions: the reliance on similar technologies, global markets for products, exposure to an international price for raw materials or output, amongst others. In such cases, a single performance baseline across countries could simplify baseline setting for these sectors. However, in practice, many differences would probably make such an approach impractical: industrial structures (the age and distribution of capital stock), domestic access to raw materials and technologies and regulatory obligations are among factors that would affect the relative performance of countries in any given sector. Thus, a homogenous approach to establishing a baseline (*e.g.* via an agreed methodology), rather than a single common baseline level, could be developed to take such differences into account. In any case, establishing a process for agreeing on baselines would therefore be a key factor in moving forward with scaled-up market mechanisms.

Both political and technical decisions are needed to establish scaled-up market mechanisms

The introduction and implementation of scaled-up market mechanisms in a post-2012 framework require agreement on their underlying principles as well as technical elements. Table 2 summarises some of the main elements that need to be agreed upon internationally.

Table 2: Main principles and requirements for establishing scaled-up market mechanisms

Principles and requirements	Description and key questions
Restrictions on participation in different market mechanisms	Would access to one or the other mechanism (crediting/trading) be restricted on the basis of country categories or circumstances? Would CDM continue to operate in countries/sectors with access to the scaled-up mechanism?
Requirements for participation	This could be a range of criteria along these categories: <ul style="list-style-type: none"> - <i>Environmental ambition</i> of the baseline (e.g. linked to a low-emission development strategy or a percentage departure from BAU); - <i>Coverage</i> (share of GHG emissions in the country proposed for access to the market mechanism); - <i>Similarity of efforts</i> (in the event of competitiveness concerns).
Technology and finance	Discussion on sectoral goals and baselines may be accompanied with a discussion on technology access and financing needs.
Limits on the use of credits	Parties may decide to limit the use of compliance units from the scaled-up market mechanisms, following the complementarity principle of the Kyoto Protocol mechanisms.
Evolution/sunset clause	There could be a time limit to the use, or type, of scaled-up mechanisms, e.g. by certain countries and/or sectors
Baseline setting	A range of technical elements to set targets <i>ex-ante</i> and assess performance <i>ex-post</i> will be needed, including: <ul style="list-style-type: none"> - A clearly defined <i>sector or NAMA boundary</i> (which installations or entities to be covered and monitored); - <i>Minimum data requirements</i>; - <i>Process for baseline setting/approval</i> - <i>Frequency of baseline revisions</i>

Other important features would need to be agreed to make the mechanisms operational, including: the length of the crediting period; the frequency and modalities of credit issuance; trading units and registries; national governance structures; interaction with CDM; and liability/penalty rules.

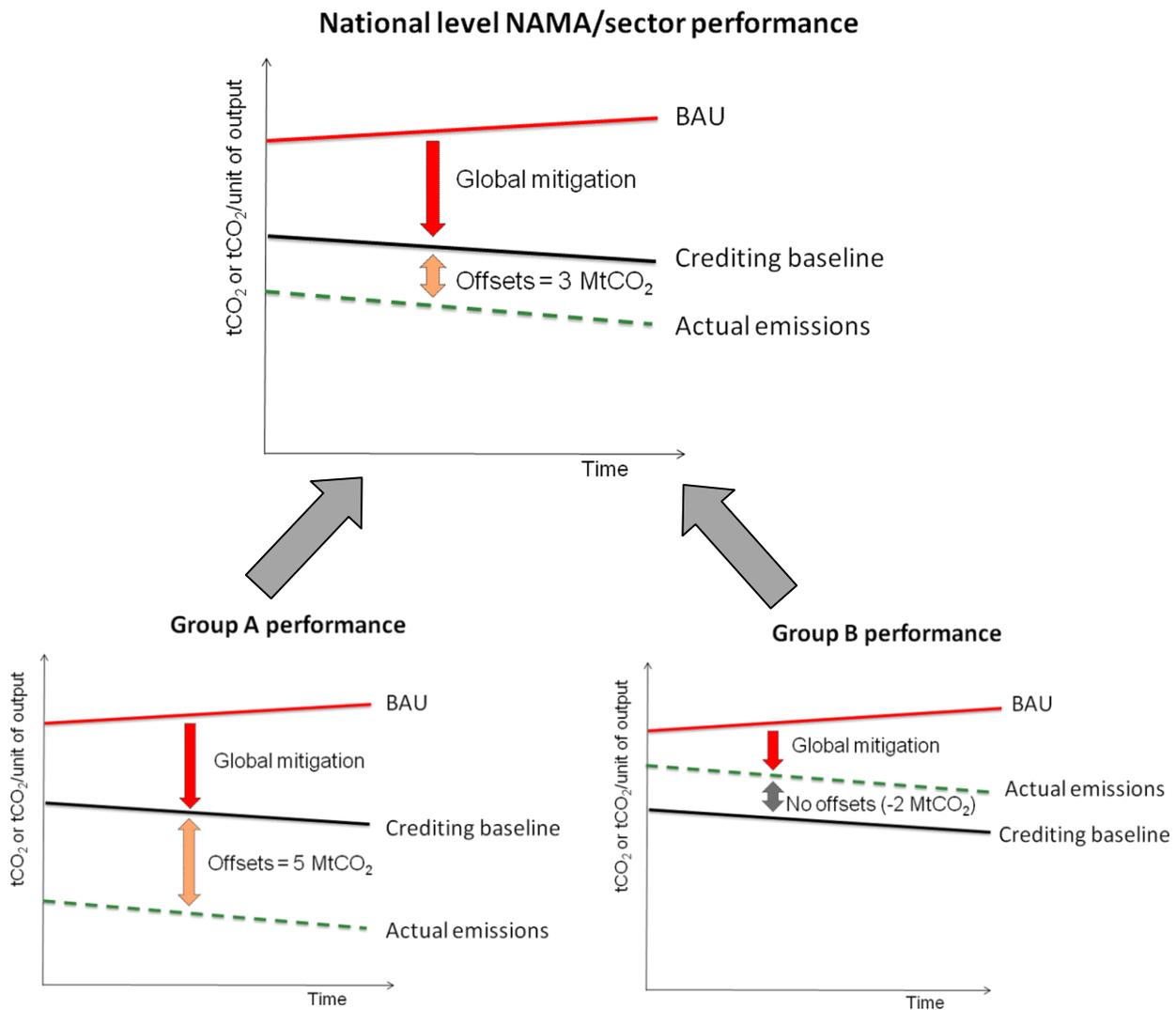
Implementing scaled-up market mechanisms will face domestic and international challenges

Unlike the CDM, an agreement on a baseline for the sector or policy does not necessarily provide immediate incentives for mitigation action. These incentives depend on how the scaled-up mechanism is implemented at a domestic level – which is likely to vary country-by-country. An entity that invests to reduce emissions below an agreed country baseline would not necessarily have any guarantee of receiving credits, as these would be issued on the basis of the country's *overall* performance.

Figure 1 shows that if Group A emits below baseline (by 5 MtCO₂) while Group B over-emits (by 2 MtCO₂), this limits the quantity of credits issued to the country as a whole to 3 MtCO₂; Group A cannot be rewarded for its full effort unless Group B or someone else takes liability for over-emission.

Faced with this possibility – or the possibility that no credits be issued at all if most entities perform inadequately – investors are unlikely to act on the basis of a the NAMA or sector baseline alone. A baseline agreement would therefore need to be complemented by a domestic policy framework, *i.e.* an engagement by the host country government to drive the needed change, as well as a clear message to firm-level actors about how/if the carbon price incentive will be devolved to them.

Figure 1: Domestic implementation challenges (crediting)



Domestic implementation measures need to overcome the mismatch in incentives

As described above, to be effective, a scaled-up *crediting* mechanism requires government to introduce policy instruments to move the sources of emissions to a lower-emissions pathway. In the case of an absolute baseline (a fixed quantity of emissions), the country could implement a domestic emissions trading system – this is also the logical solution for sector/NAMA-based trading. It would directly link entities’ performance to the carbon market and its price signal. At this stage though, few developing countries have expressed an interest in implementing cap-and-trade.

An intensity baseline makes it more difficult to link individual investment to the carbon price signal, as explained above. The government needs to introduce a mix of policy instruments to guide GHG sources in the sector in the right direction. A range of policy tools, with a more or less direct link to the carbon market, could be adopted by governments to reach NAMAs or sectoral goals, some examples include:

- Baseline-and-crediting at entity level: Such a system will not put entities under an aggregate cap, but would allow them to generate credits by reducing their emissions below an intensity baseline level. To implement the system, the national sector/NAMA baseline would have to be translated into a series of entity-specific baselines.² This may only be feasible with a limited number of individual players in the sector/NAMA at stake.
- Subsidies and regulatory approaches: A range of policies from subsidies to performance targets at installation level could be adopted to encourage changes needed to outperform the baseline or target. Mandated performance standards for new (and possibly old) installations could also improve the sector/NAMA performance below the baseline. Some of the possible carbon revenues, if the country performs below the baseline, could be used to finance some of the government programmes; they could also be used to reward entities out-performing targets.³

Issues for scaled-up market mechanisms going forward

Establishing NAMA or sector market mechanisms is a complex task and represents only one step towards a more cost-effective international climate change policy regime. New market mechanisms are not an end in themselves; the end is, rather, their ability to deliver scaled-up global GHG mitigation cost-effectively through enhanced finance in developing countries. In addition to the issues outlined above, there are other important questions to consider before moving forward with scaled-up market mechanisms.

- Market readiness: Increasing the understanding of the role market mechanisms in GHG mitigation efforts could serve as a stepping stone for advancing the development of scaled-up market mechanisms. Market readiness also involves establishing the necessary technical, policy and institutional frameworks for a country to be able to employ market mechanisms.
- Sector specific solutions: The characteristics of a sector in a specific country will also define what is most practical, and will therefore influence the role, design and effectiveness of scaled-up mechanisms. Many of the issues summarised above need to be addressed by looking at specific sectors and country policies, and not in general terms.
- Timing and transition: The scaled-up mechanisms will take time to become effective, in light of their underlying data requirements and baseline setting process. The time lag between their

² A variation of this would be to systematically apply the national sectoral baseline to all installations. CCAP recently recommended this approach to solve the problem of getting the international market price incentive to individual entities in a country. CCAP (2009): *A tradable intensity standard for sector crediting*, Center for Clean Air Policy, November 2, 2009. www.ccap.org.

The downside of this approach is that it would immediately penalize entities with performance below, and reward entities with performance above the baseline, a configuration that is not likely to attract governments.

³ Experience shows that policy packages for GHG reductions, even in the presence of a carbon market instrument, can be useful in delivering structural changes (see renewable energy policy support, end-use efficiency policy, etc.)

announcement and their operation may throw uncertainty on CDM. Parties to the UNFCCC should give an early signal to investors on the future treatment of CDM going forward, if new scaled-up market mechanisms are introduced.

- *Supply and demand balance*: A possible evolution in the carbon market through these mechanisms is welcome from an economic perspective. This evolution should however fit with expectations on the demand and supply sides, and reflect the environmental imperatives and political realities of global mitigation goals. Estimates today show that potential supply of credits through scaled-up market mechanisms could be significantly larger than demand. The creation of new market mechanisms to expand the supply of credits should be accompanied by ambitious mitigation goals to establish the demand for credits. The demand side may also choose to constrain the purchase of credits. Balancing expectations about carbon finance coming through these mechanisms will be important for the sustainability of the future regime.

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