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## Advance Market Commitments/Emission Reduction Underwriting Mechanisms for climate change finance

Rupert Edwards, July 2010

## Summary

1. There is widespread agreement about the importance of catalysing trillions of dollars in private capital flows for climate change finance. The international carbon market, alongside other support mechanisms, can clearly play a significant role in providing the scale of finance necessary for developing countries. In fact, it was one of the few areas of consensus at Copenhagen, partly because developing countries have been so supportive of the Clean Development Mechanism (CDM).
2. New bilateral mechanisms between developed and developing countries will have a role in financing emission reductions, but may not send investment signals with sufficient scale and urgency for the period 2010–20. Building on the existing Kyoto system should help different countries' domestic legislation achieve comparability by using internationally recognised units of CO<sub>2</sub>e to measure both domestic compliance and the implementation of international climate financing mechanisms.
3. In addition to scaling up the deployment of capital, if ambitious domestic climate change legislation is to be introduced or extended in OECD countries, it is important for many countries to have a visible supply of offsets from the international carbon market to constrain costs in the face of steep marginal abatement cost curves. A lack of confidence in offset supply will undermine developed country domestic ambition further limiting the role of offset demand in supporting developing country mitigation actions.
4. For these and other reasons, the European Commission has stated that it would like to see the international carbon market deliver up to US\$45 billion (€38 billion) per year by 2020 in climate change finance for developing countries.<sup>1</sup> In 2009, however, the international carbon market<sup>2</sup> delivered only US\$3.4 billion of investment, which compared with US\$7.3 billion in 2008 or a 54% drop in one year.<sup>3</sup> This follows a trend, as 2008 investment was 12% below 2007 levels.<sup>4</sup>
5. So despite a willingness and requirement to scale up the international carbon market via new and existing mechanisms, the evidence suggests that the international carbon market is withering away, at exactly the moment it must scale up rapidly to make a meaningful contribution to meeting international commitments for climate change finance. This is a massive policy failure that suits no one.  

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6. The central reason for the scale of the decline in international carbon market investment is the fact that without a post-Kyoto framework or OECD domestic climate legislation in place creating offset demand (apart from the EU target of 20% below 1990 emissions levels), there is no forward price curve for post-2012 CDM or Reduced Emissions from Deforestation and Degradation (REDD) credits. Without a sufficient level of future price certainty, investors cannot be confident of securing a return and will reduce investment in areas that can generate offsets.
7. This is a significant challenge. If the existing international carbon market contracts, it will be hard to persuade investors to deploy their capital in new or similar financing mechanisms that might be created in the future. As a result, it will make meeting the US\$100 billion per year from 2020 commitment for developing country mitigation and adaptation actions much more difficult. This will undermine effective international action to tackle climate change.
8. Another important consequence of investment in the international carbon market drying up is the fact that the evolution of the CDM towards standardised baselines, performance standards and sectoral mechanisms is being further delayed. So is the opportunity to move REDD financing to more visible performance-based payments immediately (building on, for example, the capacity building done by the Brazilian state of Mato Grosso in partnership with the US states of California, Illinois and Wisconsin).

### References:

1. European Commission (2010) *[International climate policy post-Copenhagen: Acting now to reinvigorate global action on climate change.]*
2. Clean Development Mechanism (CDM), Joint Implementation (JI) and voluntary credits.
3. World Bank (2010) *[State and trends of the carbon market 2010.]*
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9. To solve these problems and ensure that investment in the international carbon market increases on a meaningful pathway to 2020, an Advance Market Commitment (AMC) or Emission Reduction Underwriting Mechanism (ERUM) should be created. This would be an opportunity for the international community, through the Copenhagen Green Climate Fund (CGCF) to generate a carbon forward price curve, as well as transparency, market continuity and predictability for developing country governments,

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local developing country private actors and FDI, by guaranteeing payment for performance in delivering emission reductions.

10. A forward curve for CDM and REDD prices post 2012 will leverage equity, debt and risk capital and make emissions reductions bankable, create supply for cost containment, accelerate CDM reform, commit (not necessarily spend) money today ‘Fast’ on an existing mechanism without loss of momentum in the narrow window to 2020, help to lock in BASIC Copenhagen pledges and would take REDD financing and action to the next level.

## The mechanics of an Advance Market Commitment for CDM and REDD

There would be a transitional fixed price regime or underwriting facility for CERs and REDD credits in advance of (and for a while parallel with) OECD domestic legislation creating demand. This would have a similar effect to bank underwriting of bond issues in anticipation of end investor demand, or advance market commitments providing a market to the pharmaceutical industry for drugs.

The Copenhagen Green Climate Fund (CGCF), with some initial support from ‘Fast Start’ finance, could create two windows committing public funds to underwriting the CDM and REDD. By way of example, this might take the form of an AMC for 3GtCO<sub>2</sub>e (2GtCO<sub>2</sub>e of CDM, 1GtCO<sub>2</sub>e of REDD) with a fixed price for CERs of US\$10 and of US\$5 for REDD credits (i.e. of US\$25 billion) over an 8 year period from 2013.

The commitment of, in this example, US\$25 billion may actually have to be drawn down if there turns out to be less than 3 gigatonnes of additional demand for offsets from OECD countries over the period to 2020. However, this is unlikely as there ought to be demand from the EU ETS and other new OECD ETSS, which means that any committed funds could be recycled once market demand picked up. The AMC would commit no more than \$3.125 billion per annum, could therefore contribute to investment and developing country mitigation actions and increase the supply of offsets for cost containment without the funds necessarily ever being spent.

A developing country government, or project developer would see a forward price of \$10 (or \$5) from the CDM AMC (or REDD AMC) once a project was registered, but could retain the option to sell into the market at higher prices in the future. If CERs or REDD credits were sold into the open market and the ‘put option’ to exercise at the CGCF windows expired, then each year the CGCF could simply recycle the AMC funds into other international climate financing mechanisms (grants for adaptation, concessional loans etc).

## Underwriting prices

In the absence of a market clearing mechanism, the level at which to underwrite the guaranteed fixed price (or ‘put option strike’), would necessarily be a technocratic decision, but with the aim of being sufficiently high to ensure scaled up investment without generating excessive rents, while avoiding complexity. The ability to plug a guaranteed carbon price revenue line into spreadsheets would transform investor expectations. It would also signal an intention on the part of industrialised countries to develop the carbon market through compliance demand. This would have the effect of de-risking the downside of many de-carbonisation investments while holding out the potential for further upside from higher market prices. The AMC should therefore be able to set the fixed price at closer to incremental costs than a market clearing price.

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The UN Report of the Informal Working Group on Interim Finance for REDD+ suggested a mixture of grants and payments for performance (of €4 or US\$5.3 per tonne) versus the baseline deforestation scenario. Although some regions might argue that the opportunity costs of avoided deforestation are higher (or lower) than this, attempts to

target particular forest regions with particular prices would be technically complex, and politically difficult, and would undermine the purpose of using the AMC to scale up investment 'Fast'. The REDD AMC could potentially evolve over time into a fund infrastructure providing ongoing performance based funding in parallel with a developing market based mechanism.

A universal fixed price of US\$10 for CDM would drive investment towards the 'lowest hanging fruit' in terms of cost, would not be sufficient for the more expensive mitigation technologies, and would create rents for the cheapest abatement opportunities.

However, there is a strong need to drive theoretically low cost mitigation opportunities by, for example, collateralising energy savings; and also to develop offset supply, which will not occur without the prospect of investment returns above incremental cost, and existence of this supply will reduce the overall costs of compliance for OECD countries. The illustrative prices of \$10 and \$5 are clearly below marginal cost of abatement for developed countries which take on meaningful domestic emission reduction targets. The major emerging economies, perhaps with the support of other financing mechanisms and technology assistance, would need to use domestic efforts to support the more expensive abatement options (such as CCS), and LDCs would certainly expect additional support to carbon pricing for help in, for instance, developing renewable energy infrastructure. The AMC would only be one weapon in the armoury of the CGCF. However, it has the potential to be extremely cost effective.

The CDM and REDD AMC windows at the CGCF would be able to add some complexity by differentiating between different CERs or REDD credits by price or some other filter. Thus CERs from LDCs, opposed to large emerging economies, could receive a higher bid of \$12 for example. Or CERs from industrial gas methodologies might be excluded. A special window could be created reserving some demand for sectoral credits. But making the AMC overly complex might undermine its effectiveness in

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generating market continuity and investment, as well as being politically difficult. Policy makers may want to consider using other tools for LDC development or regional and sectoral distribution of CER supply.

More analysis needs to be done on whether the CDM and REDD AMC windows operate on a 'first come first serve'

basis, or whether projects contract with the AMC after project registration on the basis of conservative projected credit delivery schedules.

## Evolution of the CDM and REDD crediting

The effect of the AMC, would be not only to galvanise investment, but it could also spur progressive improvements in the effectiveness of the CDM and REDD crediting mechanisms, incentivising developing countries to position themselves as good investment environments, including though data collection and transparency, allowing for the development of standardised baselines and performance standards for CDM and progressively more ambitious REDD targets. Private actors would also be encouraged to develop methodologies to fit more progressive and dynamic baselines over time, including through a special sectoral window. This in turn would help progress global GHG inventory management and accounting, for the future when the major emerging economies move away from dependency on offset demand for mitigation.

Trying to develop standardised baselines or sectoral mechanisms from scratch, while abandoning project based CDM, will be less effective than looking to evolve the existing mechanism within the context of market continuity and visible demand, without which developing countries and private actors will disengage.

In parallel to the AMC, therefore, it is desirable that UN institutions (the UNFCCC Secretariat, SBSTA, CDM EB and Methodology Panel), multi-lateral development banks and other agencies like the US EPA are engaged to progress the efficacy of baseline and monitoring modalities for REDD and CDM.

Over time the AMC could evolve toward a system which supported the development of sectoral mechanisms, for example sharing with developing countries liabilities created by guaranteeing credits to projects which perform in sectors which do not meet sectoral baselines.

## Existing post 2012 supply

The purpose of the AMC would be to drive new investment. To what extent might the CDM AMC end up underwriting investments which have already been made and therefore be, to some extent, non-additional? Whilst it would be desirable to send a positive signal to investors that early action will be rewarded and market continuity supported, the effectiveness of the CDM AMC might be undermined if it simply ended up purchasing CERs from

existing registered projects. However, delays in the CDM approval process and reduced investment caused by the global recession and post 2012 policy uncertainty has

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already limited the supply of first crediting period post-2012 CERs from projects registered pre-2012. Although more projects will be registered by 2012, existing Kyoto CP1 sovereign, Japanese private sector and EU ETS demand post 2012 is likely to be sufficient to absorb most of this supply. It might be appropriate for the AMC to exclude industrial gas CERs and if industrial gas projects are excluded, Barcap [March 2010] forecasts only 759 million CERs issued post 2012 from projects already registered and in their first Kyoto crediting period. The CDM AMC would therefore be driving new investment, not least because of its signal of intent about broader multi-lateral sources of offset demand than the EU.

## For how long should the CDM AMC and REDD AMC run?

Developing country governments and project developers would welcome the certainty provided by a public underwriting commitment for a full 10 year crediting period. However, maximum leverage of necessarily limited public funds might make some time restrictions appropriate for individual registered REDD or CDM projects with the window only open for 7 years from registration or with a final date of 2020. Some thought could also be given to choosing an appropriate date for closing the windows to new projects under the AMC, perhaps December 2016. In the meantime of course, the CDM EB or REDD administrator would continue to improve the efficacy and integrity of methodologies.

## Market volatility and the potential for longer-term public underwriting of compliance offset demand

An alternative to an end-date for the AMC would be for it to evolve over time toward providing a continued underwriting mechanism even after developed country compliance demand is secure. Carbon prices could be volatile given the steepness of OECD marginal abatement cost curves (as witnessed during the current recession) and a continued role for the AMC would reassure

developing countries and investors about downside price protection. Increasing investor confidence would increase supply and thus would also protect developed countries against volatility, by providing a safety valve in the form of increased access to cost containment. OECD countries can manage volatility within domestic cap and trade schemes, given their ability to flex other policies, without resorting to caps and floors if they wish. But a longer-term commitment to underwriting the offset market may be worth considering. By 2020 however, the international carbon market should be evolving toward linked cap and trade schemes for the major economies.

## Accounting

It is envisaged that if the AMC windows did purchase CERs or REDD credits, these would be retired and the cost would be part of developed country financial contributions to the CGCF. Finance ministries would need to account for the liability represented by their capital commitment to the AMC. Using the example above of 3 GtCO<sub>2</sub>e of demand over the period to 2020 (2 GtCO<sub>2</sub>e for CDM and 1 GtCO<sub>2</sub>e for REDD at US\$10 and US\$5) the liability would be: (US\$25 billion \* the probability of the underwriting facility being exercised every year and the offsets retired) / (1+rt)). Of course, offsets purchased in any given year by the CGCF could be used by funding countries for compliance with domestic targets, and given that the cost would almost certainly be below the domestic abatement cost, the AMC could therefore be said to have a negative cost. However, use for domestic compliance would not be additional financing under the CGCF, except to the extent that prices paid were demonstrated to be above incremental cost. It would, in any case, be the commitment to retire offsets and credits which would give the AMC the strongest impact in terms of creating investor confidence that developed countries would create additional compliance demand. ‘Retiring’ credits is not ‘burning money’ any more than is a grant for a successfully implemented NAMA. An AMC is not like the EU Common Agricultural Policy: paying for MRV-ed tonnes of CO<sub>2</sub>e taken out of the atmosphere is not like a ‘wine lake’ or a ‘butter mountain.’ Accounting for such a financing mechanism is not straightforward, but given the underlying unit of CO<sub>2</sub>e and the pay for performance characteristics of the AMC, no harder than quantifying the cost and impact of other financing mechanisms and NAMAs.

## Conclusion

Given the magnitude of private sector investment required for developing country mitigation over the coming decade, while savings in the major emerging economies are keeping up with financing high economic growth rates, and with tight fiscal constraints in developed country budgets, FDI will be crucial in delivering capital, technology and knowledge transfer. The CGCF will use public funds to support a range of financing mechanisms, including grants, risk mitigation tools and concessional loans. These could directly contribute to developing country government climate change costs, could reduce projects' cost of capital, improve risk adjusted returns and support sectors where carbon pricing may be less effective. But a price for the carbon externality would be very helpful in creating revenue lines on investment spreadsheets. CERs represent a hard currency issued by the UN and reduce sovereign and counterparty risk. It cannot be over-emphasised how important this has been and could continue to be in the future for attracting FDI in emerging markets, in turn catalysing further local developing country risk capital.

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