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Signal failure? Real economy signals for developing country climate finance and the future of the Green Climate Fund

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About Climate Change Capital

Climate Change Capital (CCC) is an environmental investment manager and advisory group specialising in the opportunities generated by the global transition to a low carbon economy. It advises and invests in companies that recognise combating global warming is both a necessity and an economic opportunity.

Since CCC was established we have shared our comprehensive knowledge of the low carbon sector to help policy makers develop the most effective and efficient policies for the rapid global transition to a low carbon economy. Given the fundamental role of public policy in channelling significant amounts of capital into the solutions to climate change, it's critically important for policy makers to better understand finance and vice versa.

Many of our policy advice and thought leadership activities are centred on the CCC **ThinkTank**. This independent non-political think tank conducts research into the policies needed to successfully deploy capital into the solutions to climate change and the protection of the natural world.

About the authors

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In relation to CCC's research programme he focuses on financing mechanisms and financial products to support policy incentives. He is active in the discussions around new flexible mechanisms and the evolution of carbon finance under the United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol. Steven leads CCC's finance work for the EU Commission's "Global Sectoral Approaches" project with CCAP (Centre for Clean Air Policy), focusing on Mexico and China. He Chairs the Post 2012 and Institutional Reform working group of the Carbon Markets and Investors Association. He is also involved in the creation of a new platform to facilitate a dialogue between business, decision makers and representatives from the international community around climate finance and broader policies related to climate change.

Executive summary

1. Private capital needs 'real economy' signals in the form of clear and predictable revenues and assets, as well as visibility on costs and liabilities, before private investment into developing country climate change mitigation will occur at the scale and speed necessary to help tackle climate change.
2. The dialogue on international climate finance is too often focused on risk reduction mechanisms as the way to secure the quantum of investment needed and often ignores the more fundamental question of how we address the incremental costs of decarbonisation in the developing world¹. For example, financing structures such as 'green' bonds need to be underpinned by real cash-flows and by themselves cannot overcome the investment gap.

"The best way to shift investment onto a green growth path is to confront the need for real economy signals head-on."
3. International Financial Institutions (IFIs) have a valuable role in providing concessional loans or risk reduction mechanisms, such as credit enhancements, for developing countries. This role is, however, secondary in importance to domestic policies and international incentive structures that create real economy signals. In designing the Green Climate Fund (GCF) decision makers must ensure that the GCF is designed primarily to support the creation of economic projects.
4. While the European Commission's preference is for the carbon market to deliver up to US\$45bn of investment per year by 2020, an international carbon market based on offset demand is not materialising. This signal failure means that other international instruments, such as those created by a new GCF, together with domestic measures in developing countries themselves, will need to take on a greater share of the burden for generating the bankable assets required to attract developing country climate finance.
5. The development of the GCF is an opportunity to successfully leverage significant quantities of private capital through the introduction of new and innovative mechanisms. In particular, the GCF should consider creating Emission Reduction Underwriting Mechanisms (ERUMs). ERUMs can generate a forward price for emission reductions through the use of fixed prices and reverse auctions, enabling significant private investment today while minimising costs and maximising the leverage and effectiveness of public funds committed to the GCF.
6. In addition to creating real economy signals that can supplement local policies and measures, an ERUM can build on the existing architecture of the Clean Development Mechanism (CDM). An overlooked strength of the CDM is that Certified Emission Reductions (CERs) represent international units of collateral which reduce overall financing risk by mitigating sovereign, counterparty credit and currency exposure. Even in the absence of a market for offsets the GCF should look to replicate this strength.
7. The High Level Advisory Group on Climate Change Financing (AGF) highlighted a fundamental disagreement over what constitutes the commitment made at Copenhagen in December 2009 for 'US\$100 billion per annum by 2020 for climate change mitigation and adaptation in developing countries'. It is unclear as to whether the US\$100 billion refers to incremental cost or the total amount invested. Resolution of this will be critical for providing clarity on financing flows, determining need and moving forward on the international climate finance agenda.

References:

1. See: World Bank Working Paper 203: *A financing facility for low-carbon development*

Introduction

At the heart of successfully creating climate change mitigation projects in developing countries that are economic and therefore financeable, is the presence of suitable domestic policies and international incentive structures, such as carbon pricing and regulation. Without such frameworks it will not be possible to deliver developing country investment at the scale and pace necessary to help tackle climate change.

Private investment is predominantly driven by these 'real economy' signals. Yet the emphasis in discussions on international climate finance is on risk reduction mechanisms aimed at financing barriers and lowering the cost of capital, rather than addressing the incremental cost of dealing with the greenhouse gas externality itself². The best way to shift investment onto a green growth path is to confront the need for real economy signals head-on.

This paper looks to do this and set out how proposed instruments, such as the Green Climate Fund (GCF), can support the creation of climate change projects in developing countries able to attract the private investment required.

Real economy signals

In the real world businesses think about revenue and opportunity before they think about ways to reduce the risk associated with capital expenditure. If a project is not Net Present Value (NPV) positive when the interest rate is 'risk free', no amount of credit enhancement or concessional debt will drive investment. And although there may be low or negative cost energy efficiency investment opportunities, and co-benefits to low carbon investment such as energy security and 'green' jobs, the fact remains that decarbonisation as a whole has a cost, which needs to be reflected in assets and liabilities on a balance sheet.

The argument that incentives or signals could be made less expensive with the help of risk reduction mechanisms is only true up to a point. For example, it is perfectly valid for the proposed UK Green Investment Bank (GIB)³ to temporarily improve the risk profile for a new class of

green infrastructure bond in order to help develop a self sustaining market and to show that government has 'skin in the game'⁴. But the assets and cash flows that underpin the green infrastructure bonds will remain dependent on signals created by the electricity market, regulation, incentives and carbon pricing.

There is also a view, expressed in a number of recent papers⁵, that low carbon investment fails to occur because investors are excessively risk-averse, and that many investment risks are only *perceived* risks and not real ones. The implication is that the deft use of risk reduction tools can fundamentally transform project economics. Unfortunately, most risks are *real*, or in the case of forward foreign exchange rates, for example, simply arithmetic costs. Institutional investors may ask for such risks to be addressed with public money, but the reality must be that developed country public funds will simply not be prepared to underwrite all such risks, and in many instances most risks would be better managed by private finance or addressed in a different way altogether.

“In the real world businesses think about revenue and opportunity before they think about ways to reduce the risk associated with capital expenditure.”

It is clear then, that private actors will be driven primarily by real economy signals rather than the opportunity to piggy-back off financing risk reduction mechanisms. Even with a much increased capacity to provide risk reduction mechanisms and credit enhancements, it is hard to see how this alone can drive developing country decarbonisation at the speed and scale required.

Another reason why we should be urgently supporting the development of bankable real assets for developing country climate finance is that private capital provides entrepreneurial drive. This results in efficient technology solutions, a pipeline of projects and the development of related businesses – in other words more than just providing a pool of capital that can reduce government liabilities.

References:

2. See: Temperton, I. (2011) *Essays on climate change and finance*. Climate Change Capital (London, UK).
3. Green Investment Bank Commission (2010) *Unlocking investment to deliver Britain's low carbon future*.
4. Caldecott, B.L. (2010) *Green Infrastructure Bonds: Accessing the scale of low cost capital required to tackle climate change*. Climate Change Capital (London, UK).
5. For example: Asian Development Bank & United National Environment Programme (2010) *Engaging private sector capital at scale in financing low carbon infrastructure in developing countries*.

Signal failure?

There are plenty of savings in the world, and, therefore, by definition plenty of investments taking place. For example, in the developing world we are seeing more indigenous and foreign investment than ever before. So even though developing countries often face barriers to securing investment, particularly foreign direct investment, unprecedented economic growth is nevertheless still being successfully financed in many developing countries.

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Replicating this success in order to deliver a step-change in investment for developing country decarbonisation can be achieved. But while there are numerous drivers for investment into a wide variety of sectors in developing countries, creating the real economy signals needed to drive low carbon investment in the same countries has proved more demanding.

One reason for this is a complex interrelationship between local policies and international support mechanisms, whether that is the carbon market or other instruments. This interaction is the result of an implicit promise, made in the Cancun Agreement and in other international climate change agreements, that some of the costs of low carbon investment in developing countries will be borne by developed countries.

The traditional way in which developed countries have supported developing country climate finance has been through grants and concessional lending. More recently the international carbon market⁶ has played an important role too. But while the European Commission, for example, would like the international carbon market to deliver up

to US\$45bn of investment into developing countries per year by 2020⁷, significant progress through the use of existing international mechanisms, such as the CDM, is not materialising. There is little sign of the situation changing and as a result, efforts to create real economy signals via existing international mechanisms are faltering.

This signal failure means that other international instruments, such as those created by a new GCF, together with domestic measures in developing countries themselves, will need to take on a greater share of the burden for generating the signals required to attract developing country climate finance. Ensuring the right interactions between new international instruments on the one hand, and domestic measures in developing countries on the other, will be critical if this is to work successfully. Fortunately, the design and creation of the GCF creates an opportunity to get this right.

References:

6. Clean Development Mechanism (CDM), Joint Implementation (JI) and voluntary credits
7. European Commission (2010) *International climate policy post-Copenhagen: Acting now to reinvigorate global action on climate change*.

The future of the Green Climate Fund

Green Climate Fund (GCF)

One of the main decisions contained in the Cancun Agreement is the establishment of the GCF. The GCF is meant to support climate change projects, programmes and policies in developing countries and it could play an important role in meeting the goal of US\$100 billion per year by 2020 for developing country climate finance.

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The GCF will be governed by a Board comprising 24 members, as well as alternate members, with an equal number of members from developing and developed country Parties. The assets of the GCF will be administered by a trustee only for the purpose of, and in accordance with, the relevant decisions of the GCF Board. The World Bank was invited by the Conference of the Parties (COP) to serve as the interim trustee of the GCF, subject to a review three years after operationalisation of the Fund. The COP also decided that an independent secretariat shall support the operations of the GCF.

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In order to advance the design and set-up of the GCF a Transitional Committee (TC) has been established and this will provide recommendations to the COP at its 17th session to be held in Durban, South Africa, from 28 November to 9 December 2011. Such recommendations will cover, *inter alia*, legal and institutional arrangements, rules of procedure, financing instruments, funding windows, access modalities and mechanisms to ensure accountability and the evaluation of performance⁸.

References:

8. Decision 1/CP.16 UNFCCC

9. For a more comprehensive treatment on ERUMs, see: Edwards, R. (2010) *Advance Market Commitments / Emission Reduction Underwriting Mechanisms for climate change finance*. Climate Change Capital (London, UK).

The importance of the TC's recommendations for scaling up developing country climate finance cannot be overstated. Our current international funding architecture for developing country climate finance has not delivered enough in terms of innovation or in successfully catalysing private investment. The deliberations and recommendations made by the TC have the potential to either reinforce the incumbent system or lay the foundation for a new and more effective architecture that can better reward performance, incentivise innovation and attract the quantum of capital required.

To achieve the latter, the GCF needs a flexible structure so it can create a variety of tailored vehicles and innovative mechanisms able to attract investors. It should not be constrained by only using existing conduits, such as UN agencies, the Global Environment Facility (GEF) and Multilateral Development Banks (MDBs).

“The new GCF can be an opportunity to support the development of real economy signals for climate finance in developing countries.”

Emission Reduction Underwriting Mechanisms (ERUMs)

There is certainly an opportunity for the GCF to enhance the capacity of MDBs to bolster local bank balance sheets for energy efficiency projects or to seed low carbon funds and local clean tech businesses with equity in order to boost on-the-ground origination capacity. But although this may be attractive from the point of view of simplicity, only using the GCF to enhance the capital base of existing conduits risks missing an important opportunity to think about new mechanisms and vehicles.

Instead, the development of the new GCF can be an opportunity to support the development of real economy signals for climate finance in developing countries. Through new and innovative mechanisms, which could include Emission Reduction Underwriting Mechanisms (ERUMs), the GCF can successfully leverage significant quantities of private capital.

ERUMs⁹ created by the GCF would be temporary underwriting facilities for emission reductions. They would create a guaranteed price for certain types of emission reductions with delivery dates in the future and thus create

a forward price curve for projects against which investors could then deploy capital. It is a tool that can enable significant private investment today, while maximising the leverage and effectiveness of public funds committed to the GCF. If designed properly, ERUMs could have the following characteristics:

- Create a transparent performance-based set of cash flows that could be treated as ‘AAA international collateral’. This would make emissions reductions bankable for investors, while providing predictability for developing country governments and local actors by guaranteeing payment for performance in delivering emission reductions. It would work in a similar manner to a Power Purchase Agreement plus Feed-in-Tariff and create the ability to plug a guaranteed carbon price revenue line into spreadsheets, thereby transforming investor expectations.
- ERUMs could be created that were specific to technologies, sectors and countries, or alternatively they could be neutral to such factors. Price setting could be done by a committee of experts as close as possible to incremental cost, or via a reverse auction to enable the price discovery of emission reductions and to ensure that the guaranteed price was set at an appropriate level by competitive forces.
- The units of performance under an ERUM would be akin to carbon credits. They would be based on tonnes of CO₂e of emission reductions versus a pre-agreed baseline. Approaches to baselines could include ‘sectoral crediting’, the existing CDM (including standardised baselines), or directly targeting local domestic market mechanisms such as renewable energy or energy savings certificates.

“It is a tool that can enable significant private investment today, while maximising the leverage and effectiveness of public funds committed to the GCF.”

- Using the CDM architecture can also avoid the need for the GCF to make politically and technically difficult choices by having to ‘pick winners’ by supporting different sectors and technologies in different countries with different tools. ERUMs can supplement local policies and measures rather than trying to discriminate between them.

- ERUMs could go beyond the demand from developed countries for offsets, thereby securing additionality. This would prevent them contributing to the anxiety surrounding non-additionality and offsets being a means for developed countries to increase emissions without taking domestic action.
- An ERUM mitigates some of the difficulties of the carbon market (e.g. price volatility and rents) with performance payments closer to incremental costs and clear downside protection to developing countries and investors. But if the international community wants to have all the economic and efficiency benefits of trading too, an ERUM can mitigate risk and volatility, while working alongside the market.

ERUMs temporarily underwriting a certain number of emission reductions can have a magnetic effect and has the potential to create a ‘seek and destroy’ attitude in the business and investment community. An ERUM directly addresses the key issue, instead of skirting around it and provides certainty based on performance, while also using price discovery to limit costs and rent-seeking. It also has the potential to be quick and scalable, is consistent with the unit of universal account for emission reductions (i.e. CO₂e) and provides a clear framework for supplementing developing countries own efforts. If the externality is confronted head-on, successful investments can create their own momentum and unleash global savings.

The importance of ‘AAA international collateral’

Institutional investor behaviour in the international carbon market has proven the value of UN issued carbon credits – Certified Emission Reductions (CERs) – in helping to mitigate the sovereign, foreign exchange, and counterparty risks associated with investing in developing countries. Regardless of whether a market for offsets exists or not, the GCF should be looking to replicate this aspect of the existing Kyoto architecture.

CERs have ‘AAA international collateral’ characteristics because the CDM regulatory and UN issuance process is able to significantly reduce the risks associated with credits paid for on delivery. In contrast, Joint Implementation (JI) has been much less successful at reducing sovereign risk due to the fact that Emission Reduction Units (ERUs) are issued by countries (rather than by the CDM Executive

Board) that often have low or sub-investment grade credit ratings, particularly in Eastern Europe and the former Soviet Republics.

The 'AAA international collateral' status of CERs has helped drive upfront risk capital, and would drive a lot more with longer-term certainty over the future of the CDM and CER demand. An ERUM which built on or recreated these features would thus not only create much needed real economy signals, but also efficiently reduce financing risk, killing two birds with one stone.

Incremental versus total cost

The IEA has calculated that the *incremental* mitigation and adaptation investment requirement by 2020 for developing countries is approximately \$200 billion per annum¹⁰. But behind these incremental costs lie trillions of dollars in actual financing flows¹¹. Though there are huge co-benefits to clean development in terms of energy security, energy savings, green growth and less local pollution, greenhouse gas emissions represent an externality that someone will have to pay for.

Prime Minister Brown and President Obama at Copenhagen in December 2009 successfully secured the international commitment to deliver 'US\$100bn per annum by 2020 for

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climate change mitigation and adaptation in developing countries'. This has created an expectation amongst many nations and groups that this US\$100bn is for 'incremental costs'¹² rather than total costs.

The High Level Advisory Group on Climate Change Financing (AGF) raised and then left unsettled this fundamental disagreement over what constitutes US\$100 billion per annum by 2020. Some on the committee

suggested that it should include all the financing associated with low carbon investments¹³. This might, for example, include all the equity and debt associated with 1 gigawatt of wind farm, as opposed to the incremental cost of generating electrons from wind power over and above the costs from a predominantly coal based system. Clearly the difference between the two definitions is significant and it still remains unclear as to whether the US\$100 billion refers to incremental cost or the total amount invested.

Resolution of the incremental cost versus total amount invested issue will be critical for providing clarity on financing flows, determining need and moving forward on the international climate finance agenda. The latter approach reduces pressure on developed country public funds, but could also create a bias for high capex and more expensive mitigation options. Policy makers will need to clarify this one way or the other, as it will be hard to implement credible financing mechanisms with such a large political issue left undecided.

Conclusion

As we have seen, private actors will be driven primarily by real economy signals rather than by the opportunity to piggyback off risk reduction mechanisms. As a result, creating the right economic signals to drive forward our low carbon transformation in a cost-effective way is at the heart of climate change policy – domestic and international, and in developed and developing countries the like.

But efforts to create real economy signals in developing countries via existing mechanisms, such as the international carbon market, are faltering at exactly the moment they are needed to scale up. This signal failure means that other international instruments, such as those created by a new GCF, will need to take on a greater share of the burden for generating the signals required to attract developing country climate finance at the scale and pace necessary.

References:

10. International Energy Agency (2009) *World Energy Outlook 2009*.
11. Asian Development Bank & United Nations Environment Programme (2010) *Engaging private sector capital at scale in financing low carbon infrastructure in developing countries*.
12. International Energy Agency (2009) *World Economic Outlook 2009*.
13. Report of the Secretary-General's High-level Advisory Group on Climate Change Financing (2010)

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