

Meeting the Climate Challenge: Using Public Funds to Leverage Private Investment in Developing Countries

Section 1 - Introduction

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The high-carbon growth of developed countries is responsible for the bulk of current concentrations of greenhouse gas emissions (GHGs) in the atmosphere. On current trends, **developing countries will be responsible for much of the future growth.** While their per capita emissions are far lower than those of developed countries, developing countries' expected economic growth and population size (90% of world population in 2050) imply that they need to be central to a global deal on climate change. The global target of reducing emissions to around 20Gt down from around 50Gt today cannot be achieved unless developing countries play a strong role.

Growth, though, will remain crucial for developing countries to tackle poverty, which is the key challenge of our time along with climate change. Hence developing countries, along with developed countries, must find a low-carbon route to growth in sharp contrast to that followed by the developed countries to date.

Furthermore, while they bare little responsibility for the existing concentrations of GHGs, **developing countries will be hit earliest and hardest by climate change and will need to adapt quickly in order to continue sustainable growth and development.**

For these three core reasons, a global deal on climate change must respond to the needs of developing countries. Crucially, a deal must support developing countries' in their own plans and actions to achieve low-carbon and climate resilient economic growth with **adequate levels of finance that can be delivered quickly and at scale.**

The scale of the mitigation challenge in developing countries is significant. Containing the probability of significant damages from climate change, implies halving global emissions by 2050 in order to stay on a 450ppm CO₂e pathway. This would bring emissions per capita to approximately 2t. The linear path to that objective implies emission being as low as 35Gt by 2030, and approximately 44Gt by 2020. McKinsey estimates that **17Gt of annual abatement**

will be necessary by 2020 (given a BAU projection of 61Gt), of which approximately 12Gt could be found in developing countries.¹

Mitigation on this scale would require **transformation across all main economic sectors** including buildings, industry, transport, power and forestry. The more fundamental challenge of policy reform is to strengthen existing and create new institutions to promote frameworks for low carbon economic growth. Adaptation will be also necessary on a similar scale, requiring developing countries to “climate-proof” all aspects of their development in order to remain on a sustainable growth path.

These challenges will require **new approaches to development** focused on achieving low carbon and climate resilient growth in developing countries. Central to this must be the provision of an adequate level of finance from the developed world. **Although agreeing the level of public finance required is key to reach an equitable deal, attracting private finance worldwide at the scale and speed required to support necessary investment in core areas such as energy efficiency, clean technology, forestry and adaptation is even more crucial.** With national plans as a starting point, a significant and targeted package of finance to support developing countries policies and measures to achieve low carbon growth is therefore a crucial part of the global deal.

Many developing countries are already coming forward with their own plans to transform key sectors of their economies and place themselves on a pathway to achieve low carbon growth. The Indian Government has, for example, proposed an ambitious plan to use solar energy to generate 20GW of electricity by 2020, which represents over 75 percent of the predicted global capacity from solar by that time. Similarly, the Chinese Government has an ambitious target for cutting energy intensity by 20% by 2020 as part of its 11th Five Year Plan. In June 2008, Brazil launched its own plan to halt deforestation and sought international support. The Government of Mexico has produced a Special Programme for Climate Change, outlining an economy wide long-term vision for both mitigation and adaptation. The Indonesian National Council for Climate Change together with McKinsey released a report in August 2009 outlining what the key options for abatement are in the country. Other developing countries are increasingly expressing interest in establishing their own national plans as the basis for low carbon, sustainable development in the future. As a result, the bases for international flows of public and private climate finance to developing countries are beginning to emerge.

The costs of achieving mitigation and adaptation on the scale required are significant but manageable. At a global level, the Stern Review indicated costs of around 1% of GDP to limit GHG concentrations at 550ppm of CO₂e. For the developing world, the challenge is to meet the immense demand for new energy supplies over the coming decade, delivering basic

¹ Project Catalyst (2009). This is the potential in developing countries at a cost lower or equal to US\$40 per tonne.

needs, whilst containing and reducing emissions growth². The IEA estimated that of the US\$26.3trillion needed in new energy investment between 2007 and 2030 to meet rising energy demand, of which US\$16trillion will be in non-OECD countries, an average of over US\$600bn a year. To put this into context, in 2008 total new investment in clean energy in non-OECD countries was approximately US\$35 billion.³

Overall additional capital required in developing countries to achieve abatement on the scale required is 10-25% above energy investment under business as usual, somewhere between US\$80-190bn between 2010 and 2020.⁴ Incremental cost and finance flows for abatement would be around US\$80-120bn per year over the same period across key sectors such as energy, transport, agriculture and so on, with a major role being played by the carbon market.⁵ Other estimates confirm the scale of the required additional capital requirements: the UNFCCC⁶ estimated that by 2030, developing countries would require US\$100 billion additional investment annually for climate mitigation across all key economic sectors. The costs of adaptation in developing countries are also significant. UNDP estimate these could be as high as US\$85 billion already by 2015 and growing steadily from there. Naturally these estimates need to be used with caution: we know little about how quickly the cost of some of the key technologies involved will decrease over time, or how efficient the private and public sector be in adopting them. Also, it is difficult to estimate what the dynamic effect of these new technologies will be on global macroeconomic trends, particularly with regard to terms of trade.

These costs should be borne by both developed and developing countries. A mix of public instruments and private financial flows will be needed, given the scope and complexity of the issue. With national plans as the starting point, the financial package to support low carbon growth in developing country could be broken down as follows:

- **Actions developing countries are prepared to take on their own, mainly including efficiency measures.** In the developing world, these are estimated to account for 3Gt out of the 12Gt of total abatement potential. These would require upfront capital, but over time they could potentially achieve savings of as much \$40bn p.a. between 2010 and 2020.⁷
- **Actions to reduce emissions that will require significant upfront capital and would result in a positive incremental cost to the economy.** The potential for these measures in the developing world is approximately of 9Gt by 2020 and the estimated incremental cost is \$80-120 billion p.a. between 2010 and 2020. Upfront capital costs over the same period could be higher, in the range of \$80-190bn.

² UNCTAD, *Developing Countries interests in climate change action and the implications for a post-2012 Climate Change Regime*, 2007

³ IEA (2008)

⁴ Project Catalyst (2009)

⁵ This is the potential in developing countries at a cost lower or equal to US\$40 per tonne

⁶ UNFCCC (2007)

⁷ Project Catalyst (2009).

- Developing countries will undertake part of these actions as their contributions to the international efforts to reduce emissions. These are likely to be investments that will generate co-benefits or can be financed relatively easily (managed forestry, bio fuels, public transport, etc).
- Other actions will be more costly or more difficult to finance, and therefore will be undertaken by developing countries only with additional support from developed countries (decarbonising the power sector, CCS, electric vehicles, etc).

Finance generated by carbon markets will inevitably play a crucial role. The revenues created by selling emission credits on a scaled-up market would constitute a key incentive for private investors. Whilst it is often assumed that carbon market finance will be sufficient to generate the incremental investment necessary to meet stringent targets, this is only true in the long-term. The scale of revenues necessary to generate the quantum of investment required will not appear overnight.

Figure 1 – Market development steps

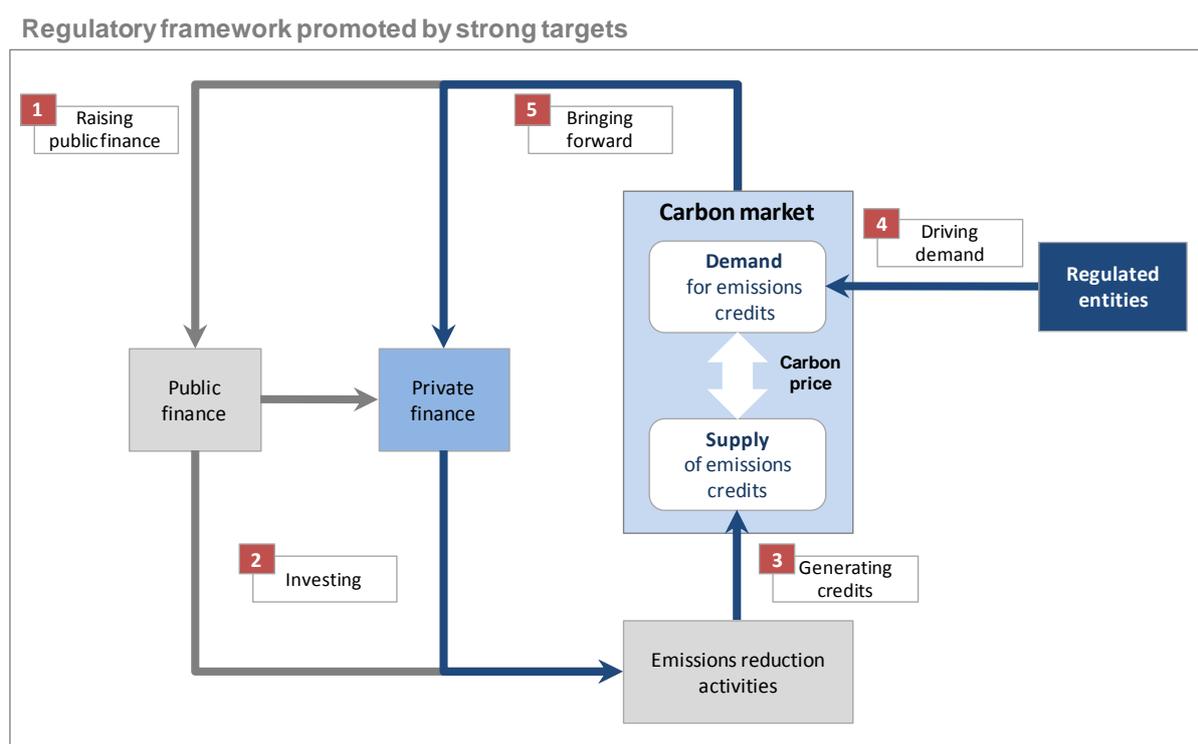


Figure 1 describes the possible steps of market development and highlights the importance of public finance in this context. **First of all the regulatory framework needs to be comprehensive and long-term**, to give as much certainty as possible to market participants, particularly in terms of identifying caps and regulated entities, as they will constitute the demand for the carbon market. **Demand and supply for carbon permits will emerge**

gradually as the regulatory framework is implemented, incentives improved and the credibility of the market established. **Public finance needs to be raised upfront** as commitment of public funds and incentives for governments to deliver the announced regulatory framework are important. **The expectation of the future revenues, if the commitments are credible, will attract private finance** which, together with public finance instruments aimed at leveraging private finance, enables investment in emission reduction projects. **Once monitored, reported and verified, these emission reductions will constitute the supply of emission credits. As the market starts operating, and demand and supply meet, the carbon price is formed and markets clear.**

It is important to define clearly what types of finance we are discussing to avoid confusion:

- a. On one side **raising public finance** from capital markets – for instance through issuing government bonds, or raising taxes;
- b. On the other side about **spending public money in climate change related activities** in developing countries. Some of this money will take the form of direct public transfers to developing countries, which may take the form of grants. Public money could be also used to back finance instruments to leverage private investment, for example debt guarantees or feed in tariffs.
- c. Ultimately some investment will be purely **private funds from private investors**.
- d. **Carbon finance**, which is the financial flows created by regulated entities purchasing on the market emission reduction credits from suppliers, will start appearing at scale only once the markets will be established. The more credible and transparent the regulatory framework, the more certain and substantial will be the expected carbon finance flows, and hence the more appetite from private investors to finance the early stages of market formation and the lesser the risk for upfront government funding.

Confusion can arise as these forms of finance are not independent from each other. As indicated by the large arrow in Figure 1, public and private financial instruments for upfront capital can be built by ‘bringing forward’ future carbon market flows.⁸

The global economic crisis has created some substantial problems in terms of financial flows to climate change related investment in developing world. A combination of lack of access to credit, the closure of commercial syndications markets and the increased macroeconomic risk caused a substantial decline in investment in alternative energy in developing countries. Global investment in alternative energy decreased from US\$28.3bn in Q1 2008 to US\$13.3bn in Q1 2009, year-on-year.⁹ The decline in energy prices also

⁸ Bringing forward future carbon market flows consists in selling up-front emissions credits that are expected to be issued as a result of emissions reductions. This provides an additional source of capital for the private sector and hence promotes investments in emission reductions activities.

⁹ New Energy Finance (2009)

contributed to a slow down of investment in energy efficiency, even though this may be short-lived given energy prices recovered quickly. **The crisis also had impacts on carbon markets**, with the EUA allowance price forecast under the EU ETS going well below 10 EUR/tCO₂. CDM projects without secured funding risked cancellation or delay. In this context, some of the fiscal stimulus packages around the world had a substantial ‘green’ element which mobilized public funds contributing to keeping investment levels up.

The challenges discussed above prompt a central question: **how scarce public funds can be used efficiently and innovatively to leverage private sector flows for mitigation and adaptation in developing countries whilst carbon markets are in the early stages of development.** There are several key dimensions to this question in which policy makers are currently taking an interest:

- The potential use of **financial instruments** (e.g. bonds) to tap private capital to raise finance for upfront deployment to support countries’ integration into the global carbon market.
- The use and expansion of “**public finance mechanisms**” (PFMs)¹⁰ to mobilise commercial finance early on and build commercially sustainable markets for mitigation investments.
- How to support “**deal flow**” in developing countries through increasing the number of bankable projects as the basis for larger scale inflows of private finance. Building developing country capacity to formulate and present business plans for mitigation and adaptation investment, linked to “nationally appropriate” mitigation and adaptation actions (NAMAs/ NAPAs) is crucial for this.
- How to design the **global financial architecture** for climate finance in a way that supports private sector involvement and delivery of private funds to developing countries.

¹⁰ UNEP SEFI, *Public Finance Mechanisms to mobilise investment in climate change mitigation*, 2009