The Green Climate Fund:

Options for Mobilizing the Private Sector

A brief for the GCF Transitional Committee
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Prepared by:

Katherine Sierra
Senior Fellow, Global Economy and Development
Brookings Institution

www.cdkn.org

Key Messages

- *There is a strong case for the Green Climate Fund to support private sector investment in the move towards a low carbon, climate resilient – or 'climate compatible' – future. This brief outlines the need for, and barriers to, private sector investment, and presents a range of strategies for overcoming these barriers. These strategies include:*

    - *Putting in place a strong enabling environment*
    - *Using public funds to support early entry projects at the country level that will be of sufficient scale to help transform markets thus paving the way for further private investment*
    - *Catalyzing private capital with innovative tools that will attract the private sector as an investor at scale*

- *Structural options for the Green Climate Fund can take advantage of some or all of these strategies:*

    - ***Option 1**, the GCF supports the public sector efforts to strengthen the enabling environment.*
    - ***Option 2**, the GCF also supports country-based private sector operations, but within the same windows that the public sector would access for support.*
    - ***Option 3**, a Private Sector Window would focus on reaching scale by combining country-based private sector operations with support for emerging innovative modalities – like investment in private funds -- to scale up access to private capital.*
    - ***Option 4** combines options 2 and 3.*

- *Given the focus on the importance of maximizing private sector investment and leverage, options which support developing the enabling environment while also allowing both country-specific private sector operations and for innovation to catalyze private capital, have particular merit. Option 2 has an emerging track record under the Clean Technology Fund, and can be introduced into the GCF relatively easily. However, if the GCF is looking to make significant breakthroughs, providing a focus on private sector leverage and innovation through either Option 3 or 4 should be seriously considered by the Transitional Committee.*

- *Future work will summarize barriers for different regional, institutional, sector and market settings; consider and analyze additional ideas and options which come from stakeholder consultations; and assess the opportunities from the strategies and options outlined in the paper against a set of a set of principles and metrics. A set of recommendations, along with practical advice for their implementation, will be prepared. A detailed consultation draft will be available by mid-September, with a final paper issued in November 2011.*

The Green Climate Fund: Options for Mobilizing the Private Sector

The Role of the Private Sector in Combating Climate Change

The private sector is a critical player in moving to a climate compatible future. To have a chance at maintaining the climate at 2 degrees over pre-industrial levels, economies will need to transform. This implies significant investment in both mitigation and adaptation to help move countries onto climate compatible pathways. The public sector has a critical role in setting goals, building the enabling environment, and investing in research, development and public infrastructure in ways that support the transition. But businesses, households and the capital markets that fund them will be responsible for the bulk of the investment needed. Developing countries are looking to use the momentum coming from their low-emission development and resilience strategies to create new businesses and jobs[i]. Private sector investment in climate compatible development does bring economic development opportunities, but it also requires sufficient access to finance.

These financing needs are large, and public finance is insufficient. Net mitigation costs in developing countries, over and above the cost of business-as-usual investment needed for economic development, are estimated in the range of $60 –to $175 billion a year[ii]. The latest International Energy Agency estimates of the total cost of investment to meet climate goals are in the order of 220 billion dollars per year in the decade 2010-2020 and almost 1 trillion dollars per year between 2020 and 2030[iii]. Even if the 2 degree goal is achieved, countries are already facing the costs of a changing climate. Adaptation costs are estimated to range from $75 to $100 billion a year[iv], over and above the investment costs of a business as usual development trajectory. The $100 billion per year by 2020 in climate finance pledged at Copenhagen, while significant, is still below these needs. Developing countries, and in particular those that do not have well-developed capital markets, will require not just support to reduce the additional costs of moving to low emission alternatives, but also to gain access to capital for the underlying --often infrastructure related-- investments. Strategies to use scarce public resources to maximize leverage of private capital will therefore be critical.

Climate finance can help address the barriers that have deterred climate compatible investments in developing countries. The private sector will deploy their capabilities and capital on low-emission investments only to the extent that risk-adjusted returns are positive and competitive. Investors look to countries with good investment climates and well-developed capital markets where the regulatory environment and pricing signals are clear and stable, and where the real economics of projects produce adequate returns. Where these elements are not in place, or where investors perceive high risks because of a lack of track record, risk reduction or cost reduction mechanisms will be required.

Barriers are very country specific, and will differ by sector and industry**.** Overall, four broad categories are most commonly cited.[v] Non-climate specific ***country and currency risks*** relate to concerns about political stability, security of property rights, rule of law, governance, and losses from the value of local currency. ***Sector specific barriers*** include concerns over the stability and certainty of the sector policy and regulatory framework -- like longevity of power purchase agreements or feed-in-tariff programs; technology risks for investments in new and relatively untried technologies and systems; execution and

unfamiliarity risks where there are concerns about developer capacity to execute projects or international investor concerns about operating in an unfamiliar country. The lack of scale is another barrier, with projects in sectors like energy efficiency that are small with high transaction costs. ***Capacity and knowledge gaps*** concern low capacity to prepare project pipelines and to structure projects; lack of skilled and semi-skilled labor for new industries; and/or inadequate consumer awareness to generate demand for new products. Finally**, *technology cost gaps*** need to be bridged**.** This is the residual cost gap between high and low-emission alternatives after accounting for the cost of carbon built into international policy and reflected in carbon markets or domestic policy -- standards, carbon taxes or domestic markets, removal of fossil fuel subsidies, domestic programs like feed-in-tariffs. These costs may also be derived from inadequate network infrastructure such as transmission lines to link renewable resources to the main grid. In the absence of a price on carbon that reflects environmental externalities, public funds have been used to provide subsidies through concessional loans or grants or to underwrite during a transition period the cost of domestic subsidies. This approach is not sustainable over the longer term however. So, climate finance should aim to accelerate the reduction in technology costs or provide a pathway for policy and/or markets to price carbon to fully internalize environmental costs associated with GHG emissions. Climate finance that focuses on bridging these costs should have a clear transformative intent of achieving environmental, economic and financial sustainability over a reasonable period.

These barriers have been well studied[vi] and there have been a number of prominent public-private dialogues on ways to mobilize private sector finance[vii]. These have concluded that the barriers to private sector participation are well understood at a high level, though the specific details will matter at the country and sector level. There is a long track record of use of a wide range of risk mitigation tools (Annex 1) with elements of concessionality added through vehicles like the GEF and the Clean Technology Fund (CTF) [viii] At the same time, while many of the needed risk mitigation tools are available, they are not yet appropriately bundled and scaled. These dialogues point to the need for action, supported by new business models with sufficient funding to extend reach and coverage.

Strategies for the Green Climate Fund to Catalyze Private Investment

Public sector financial support for private sector climate investments should set ambitious goals. Climate finance could have a limited objective – fund climate compatible projects that otherwise would not happen. Or, it can have a more ambitious goal – to support market transformation that attracts private sector investment at a scale sufficient to achieve significant reductions in green house gases (GHG) without recourse to subsidies. Public climate finance should not be a substitute for good international and domestic policies. It is worth re-emphasizing the need for international targets and mechanisms to set a price on carbon, like a carbon market or regulations. Nor should public climate finance crowd out private capital. While the more ambitious vision may take years to materialize, particularly in less developed countries, the end game should aim to have public instruments phase-out as domestic and international investors and capital move in.

There are two kinds of strategies outlined below for use of public funds: The first looks at the private sector as a recipient of public funds, which help encourage private sector investment projects directly by reducing costs and risks. The second looks to the private sector as an investor and addresses how to encourage private capital to invest in climate friendly solutions. Both of these will need a strong domestic and international enabling environment. But the funding strategies may differ, but can also be complementary.

The Green Climate Fund can support this more ambitious goal by building on the body of existing and emerging practice while supporting new innovative mechanisms. Existing practices and emerging ideas and concepts can be categorized into three complementary strategies. Briefly described below, these are further elaborated in Annex 2, with interesting examples given in Annex 3.

- **Develop a supportive enabling environment**.

International cooperation can support governments in the design and implementation of strategies and policies for low emission development[ix] critical for enabling private sector investment. Examples include the advisory and capacity building support for Nationally Appropriate Mitigation Actions (NAMAS), Low Emission and Climate Resilient Development Strategies[x] and policies. The GCF could support actionable country-led programs through the use of public sector operations, which would strengthen the enabling environment for private sector investment by integrating policy reform with sector investment programs or the use of budget support mechanisms. Examples of budget support include ten World Bank Development Policy Operations that provide budget support for country-led climate policy frameworks.

- **Transform markets at the country level by supporting early movers.**

This strategy focuses on the private sector as a funding recipient. The GCF could build on examples of climate finance that have been used to accelerate implementing country strategies by catalyzing private sector investment in the sectors that have been identified as high priority. The objective is to reduce the barriers for early market entrants, so that later investors, developers and financial intermediaries will subsequently enter the market without additional support. Risk mitigation tools – like subordinated debt, guarantees, equity -- with concessionality as needed, could support individual projects or groups of projects, working directly with individual project developers. Performance based instruments have not yet been part of these types of funds, but should be considered. These include proposals to use climate finance subsidies to cover, for a transition period, feed-in-tariffs -- a substitute for up-front capital subsidies[xi] . Funds may also be channeled through local banks and other financial intermediaries, with the added objective of meeting the needs of small and medium scale investors, while building capacity of the domestic banking system to appraise and price low-emission projects.

These are the approaches that the CTF takes, where every dollar of CTF funds have leveraged 4 dollars from the private sector and another 4 dollars from bilateral Development Finance Institutions (DFIs) and Multilateral Development Banks (MDBs)[xii]. Demonstrating and creating a track record through a few initial investments, aims to transform the market once the private sector understands the real market risks, the cost of the new technology decreases, and/o*r* the cost of carbon becomes internalized, and replication is expected to occur without further subsidy.[xiii] Another example is the Critical Mass Initiative, which has taken on significant challenges in a few countries and sectors while diving deep into the analysis of the enabling environment, and working with governments to introduce changes in the policy, institutional and regulatory environment that will address barriers, and developing "break-through" project finance models[xiv].

- **Scale up through leverage -- tap pools of private capital**.

This strategy focuses on the private sector as an investor. A number of ideas that are familiar in the capital markets, which are currently being tested for their suitability for climate investments or are in concept stage, could be supported by the GCF. A number of these proposal aim to scale up the funding available, albeit indirectly, for project support. ***Pledge Funds***[xv] aims to catalyze private capital -- private

equity, sovereign wealth funds and pension funds -- by investing equity or near equity alongside pooled funds. Under ***Fund of Funds*** approaches, the public funder invests as a limited partner into a private Fund, which also holds a portfolio of other private investment funds. This approach can provide for diversification of risk. ***Public-Private Partnership Models***[xvi] can use the Fund of Funds approach, but use MDB or other international financial institutions to anchor the initiative[xvii]. Under this model, funders contribute equity to a Fund of Funds and investments are complemented by IFI risk reduction mechanisms technical and Project development assistance. Another variant is to focus on technology development by investing in venture capital funds[xviii]. One caution for Fund of Funds structures is that fees can be higher because they include two layers of investment fees. This might deter some large pension funds which prefer to make investments directly while others feel that the value from these structures are sufficient to warrant the costs.

Other proposals tap instruments from other fields that have not yet been widely used for public sector support for climate investments. ***Export Credits*** provide a form of trade finance that can help encourage private investment in developing countries. Private export-credits, offered by private financial institutions and often backed by governments, facilitate trade by mitigating non-payment risk between parties involved in an export transaction. Export-credit agencies assume the risk of non-payment through direct export-credit financing, export-credit insurance, or export guarantees, thereby offering channel to leverage private sector finance. An export-credit facility could potentially target low-carbon development and other green projects[xix]. ***Carbon Price Support Mechanisms*** seek to create financial products that can convert carbon-linked cash flows into equity and debt funding. These include proposals like guaranteed carbon sales contracts to address the concern that carbon revenues do not contribute to the initial capital funding of low-carbon projects. Other proposals call for carbon price support facilities that reflect the uncertain nature and volatile price of carbon offsets. Public climate funds could backstop these facilities. ***Green or Climate Bonds*** are usually asset-linked or asset-backed bonds where the proceeds are used to undertake or re-finance environmental projects or climate change solutions[xx]. Public institutions such as the MDBs or potentially Green Investment Banks with public climate finance support, could hold first-loss tranches or partial guarantees from early bond issuances in developing countries, thereby helping create a market[xxi]. A strong market would in turn allow investors to access large pools of capital, reduce the average cost of capital, and provide a low-cost exit for construction phase capital and for bank long-term debt. The bonds would allow institutional investors of pension and insurance funds to match stable long-term returns from operational infrastructure with their liabilities[xxii].

Structural Options for Green Climate Fund support to the Private Sector

The Green Climate Fund can be structured in a number of ways that support some or all of these strategies. Four options to catalyze the private sector are:

- Option 1: Public Sector as Enabler
- Option 2: Transform Markets at the Country Level
- Option 3: Scale through a Dedicated Private Sector Window
- Option 4: Transform and Scale – combine options 2 and 3

The analysis below assumes that these options are *in addition* to expected design features that will provide support for public sector investment in both mitigation and adaptation.

➢ Option 1: Public Sector as Enabler

The GCF supports *country-based, public sector* projects and programs that build an enabling environment for private investment. Under this option, the GCF does not support private sector operations directly. Instead, it helps countries implement public sector policy reform programs that will provide a consistent, clear and reliable enabling environment. This could be accomplished using budget support techniques. Budget support operations have the added advantage of being consistent with developing country expectations for Direct Access. GCF support could also come in the form of concessional loans or grants for public sector network infrastructure projects, which need an element of concessionality. This option would be compatible with a GCF that is made up of separate mitigation and adaptation windows; or one where windows are organized by region. These would simply need to designate types of programs as eligible for funding, and set criteria.

Considerations for assessing this option:

- This option meets the criteria of being driven by country strategies (governments would make proposals to the GCF that are in line with the priorities set in their NAMAs). Governments would need to own the reform programs, and would be expected to build components related to the private sector using participatory techniques.
- This option misses the opportunity to gain practical knowledge at the country level of the barriers to private sector participation, thus weakening the design of policies, regulations and processes.
- This option misses the opportunity to leverage the private sector. It does not directly attract private sector investment, thereby reducing the scope of investments going into climate programs.
- This option limits potential fundraising. Developed country contributors who are looking for ways to leverage private capital are likely to direct their contributions away from the GCF, going instead to other institutions within the broader climate finance architecture which are, or could be, set up to meet the leverage objective.

➢ Option 2: Transform Markets at the Country Level

The GCF supports the objective of building the enabling environment as outlined in Option 1. *It also supports country-specific, private sector operations*. Public and Private sector operations are carried out within the same window. Private Sector operations focus on early market entrants, and on significant high-impact demonstration projects or programs that could demonstrate how they would accelerate market transformation and reduction of technology costs such that they will eventually be sustainable without subsidy or once a price of carbon has been established. This type of support would be transitional since once a market has been established, the private sector would be expected to tap into local and international capital markets. The risk mitigation tools that are already in use (Annex 1) could be part of the menu. IFI's and DFI's could be encouraged to add to this menu using their traditional project-based risk mitigation menu, and via co-financing. In addition, the GCF could add performance based tools like support for feed-in-tariffs. While mainly a country-based instrument, the GCF should also allow regional projects to be eligible. This option would be compatible with a GCF, which is made up of separate mitigation and adaptation windows, or one where windows are organized by region. These would simply need to designate these types of private sector operations as eligible for funding, and set criteria.

Considerations for assessing this option:

- In this option, support for country-specific, private sector operations would need to be consistent with the priorities in the NAMAs. However, Governments would not direct private sector investment.
- This option has the advantage of strengthening public sector policies based on real, practical knowledge based on what works and what does not. As early market entrants work through investment opportunities at the project level, lessons can be fed into public policy deliberations.
- Under this option, there is a risk that the public sector programs will crowd out this type of product, and/or private sector partners will be discouraged from attempting to access the fund. The GCF should consider setting a reasonable goal for funding of private sector investments. The CTF set a goal that the level of the Fund would have 30% of its funds used to support private sector operations, but this was not set at a country-by-country level, nor was it a hard, binding target.
- In most of these types of schemes, concessionality is highly tailored to provide the mix of instruments and the minimum concessionality needed to catalyze private sector support. Pricing and terms are determined on a case-by-case basis depending on the barrier which has been identified. To maximize the use of these instruments while ensuring that the private sector does not profit from excess subsidy, GCF concessional finance could be channeled through an eligible public entity accustomed to appraising the need for subsidies (like an MDB or a bilateral or local DFI).
- Scaling up under this option is limited because the nature of these operations implies high transaction costs.

➢ Option 3: Reach Scale through a Dedicated Private Sector Window

This option would focus all GCF private sector operations into a single window. The idea would be to allow for a smooth transition under a single window that would meet the learning and demonstration goals of projects that focus on removing barriers for early market entrants, while also providing support to mechanisms that will achieve scale. The Window could have two modalities.

- *The* first modality would include provisions for the same type of country-based, private sector operations which are consistent with NAMAs, and which have a focus on early market entrants and market transformation, as outlined in Option 2. The difference would be that GCF funds would be dedicated for this purpose, providing clarity for the private sector on the amounts and available.

- *The second modality* would be to support one or more of the ideas under development that seek to scale up by leveraging pools of private capital toward making significant reductions in GHG emissions. Strategies it might employ could include: investments in private equity funds using either pledge mechanisms or via a number of regional Fund of Funds with General Partners selected competitively; or making calls for proposals from interested sponsors of public-private partnerships funds, using competitive processes for their selection. Some of the funding could be used to seed Clean Venture Funds which focus on developing countries. Alternatively, the CGF could use its resources to support an export credit program, or to fund incentive mechanisms, such as underwriting Carbon Emission Reductions. Finally, it might support the development of green bonds, with GCF funding backstopping first losses of early issuances[xxiii]. Except for the largest countries, these ideas would likely be best applied at a global, regional or sectoral scale. Given that these tools aim to scale up, the main driver for use of the funds should be impact -- or effectiveness

in terms for GHG reductions. However, criteria for regional or sector balance could be used to ensure balanced coverage.

The balance of funds within the Window could shift over time. In early years, the first modality might be needed more, especially in countries with weaker investment climates. As the market matures, funding could shift to the more wholesale, indirect mechanisms outlined in the second modality. Care would need to be taken in resource allocation mechanisms to ensure that funds are not disproportionately supporting a limited set of countries. At the same time, competition would be needed to incentivize creativity, maximize leverage, and to minimize the need for subsidies. Finally, though most of the experimentation on private sector would initially be expected to be for mitigation, this window could begin to experiment with promising adaptation solutions as well.

Considerations for assessing this option:

- The Private Sector Window could have a governing body with stronger private sector representation. This would enhance oversight, learning and receptivity to innovation, whilst also guarding against processes that are overly complex and can deter investor interest.
- This option has a higher chance of scaling up and maximizing leverage than Option 2.
- This option would be attractive to developing country contributors given its focus on leveraging the private sector.
- With the second modality, the GCF would be in a position to consider innovative tools. It could either immediately lead the way by piloting some of these approaches, or it could position itself to scale up promising experiments which are now underway once they have shown results.
- The Window could provide a strong platform for partnership, learning, monitoring and evaluation. It could set the international practices for measuring and monitoring leverage.
- The link with NAMA's might be weaker than in Option 2 since decisions over the country-based private sector operations would be made by a different governing body than that which oversees the GCF's public sector operations. This would also weaken the ability to marshal in a coordinated fashion the different private and public tools for Infrastructure projects that use Public-Private Partnership modalities.

➢ Option 4: Transform and Scale – combine Options 2 and 3.

This option balances the goal of strong country based programs with the desire to scale up access to private capital. Under this option, there would be two entry points for use of GCF funds to catalyze the private sector.

- The *first*, would be to support country-based, private sector projects in the same window that supports public sector operations (e.g., as in Option 2 above). While demonstration of impact in terms of environmental values will be important, support for projects that demonstrate ability to transform markets would be a hallmark of this window. Projects would be country based, but regional projects should also be considered.

- The *second* would be a dedicated *Private Sector Innovation and Scale-up Window.* This would focus on proposals that fall under the second modality of Option 3 above. Competitive processes to select innovative proposals and sponsors that seek to maximize impact in terms of GHG reduction, would be a hallmark of this window. Programs could be global, regional or sectoral.

In order to mitigate the risk that both modalities would compete against each other and in doing so each be poorly funded, The GCF might include in its governing charter the ability to create the Innovation and Scale-up Window, but only do so once the country-based windows were operating at a sufficient scale. Alternatively, it could open the Private Sector Window only when a significant funding source is identified.

Considerations for assessing this option:

- This options meets the concerns of some developing countries with respect to country ownership. It helps ensure that the early entry private sector projects are aligned with NAMAs and is easier to achieve geographic and country balance for these operations.
- Knowledge gained from country-based, private sector operations is more easily transferred to public sector, thereby helping to strengthen the enabling environment at the country level.
- This option meets the needs of stakeholders who are anxious to see results at scale by allowing at least a portion of the funds to be dedicated to new structures that go beyond a country level focus and to tap private capital more broadly.
- This option maintains the ability to innovate.
- It is more complex that Option 3. Given the different governing bodies and stakeholders, there could be inconsistent approaches and criteria between Windows. It may be harder for private sector players to navigate different entry mechanisms and it may increase costs.

Towards an evaluation of the options

These options, and the underlying approaches that are suggested to catalyze private sector investment, should be evaluated against a number of criteria. Given the focus on the importance of maximizing private sector investment and leverage, options which support developing the enabling environment while also allowing both country-specific private sector operations and for innovation to catalyze private capital, have particular merit. Option 2 has an emerging track record under the Clean Technology Fund, and can be introduced into the GCF relatively easily. However, if the GCF is looking to make significant breakthroughs, providing a focus on private sector leverage and innovation, then either Option 3 or 4 should be seriously considered by the Transitional Committee.

Further evaluation of these options will be included in forthcoming research, with final results available in November 2011. This research will evaluate and rate the various options based on criteria outlined below, and validate this with stakeholders in both the public and private sectors.

Specific evaluation criteria would include:

- **Alignment:** How well are they aligned with the broader GCF design principles?
- **Effectiveness -- Impact and Results**: which is more likely to transform markets? Which is likely to have a higher impact in terms of GHG reductions or sequestration benefits?
- **Efficiency:** which uses scarce public funds best to achieve leverage, speed and scale, while providing the private sector with the clarity and certainty needed to inspire confidence? What are the organizational cost implications? Which delivers money with as little "friction" losses from costs of intermediation as possible? Which best balances the efficiency losses from earmarking versus the desire for structures which will attract public funds? How do these interact with the broader climate finance architecture?

- **Innovation, Learning and Partnership**: how well do they support learning while doing and converging best practices? Do they balance structure with the nimbleness needed for innovation? Which best promotes partnership with the private sector?

In assessing the various approaches and options, the concerns from developing countries and other stakeholders on the uses of public funds to catalyze private investment need to be considered. One area of concern centers on country ownership and conditionality. Developing countries are concerned about the use of budget support linked to policy reforms. They are concerned that this type of support could become a new form of climate conditionality. At the same time, especially for mitigation, the objective is to reduce GHG emissions, and domestic public action supported by international public finance will inevitably be needed. So, country ownership and society participation in policy development will be critical to strike the right balance. Some of these options prioritize private sector investments at the country level. This allows a stronger link to NAMAs. Others options take the NAMAs as important to laying the enabling environment, but prioritize scaling up access to private capital as an objective. The challenge will be to strike a balance between these objectives.

Other concerns are on transparency and measurement. On transparency, existing climate finance programs have been criticized for insufficient metrics[xxiv] . Measurement – for example of leverage -- to increase the understanding of success rates of these projects and programs will be critical. A recent review of the measurement of leverage found inconsistent definitions and methodologies and approaches[xxv] The study found that it was almost impossible to compare different instruments to understand their effectiveness as evidenced by their ability to leverage public and private finance. The review also found that additionality or causality of finance was difficult to prove, and investors may have planned to invest without the climate finance and are simply taking advantage of the subsidy. Another concern relates to transparency of the level of subsidy. Because of confidentiality agreements with project developers, the financial terms and conditions are often not disclosed at a project level. As a result, it is not possible for external stakeholders to evaluate whether the level of concessional finance was appropriate and needed. Independent evaluation will be critical to ensure that these methods are seen as serving the public good. Several initiatives are also underway by think tanks, the OECD and the private sector to fill this gap. From the private sector, one proposal is to use standards and labeling (like the Climate Bond Standard[xxvi]) for financial products to measure leverage and improving transparency.

Environmental and social concerns have also been highlighted. Civil society is concerned that oversight of financial intermediary compliance with environmental and social safeguards will be weak. Ensuring that financial intermediaries and funds meet acceptable environmental and social standards will be important. At the same time, feedback from institutional investors cautions that imposition of international standards, like the Equator Principles[xxvii], would be a deterrent to investment. This concern is the same one that developing countries have voiced in their demand for "direct access" under the GCF, and it underscores the critical importance of helping countries put into place well-functioning environmental and social safeguards that all investors -- whether the public or private sector -- can rely on. In addition, there are concerns that insufficient incentives are in place to meet the needs of pro-poor investments. Models to extend the reach of these strategies to micro-finance will also be important[xxviii].

Finally, lessons learnt from bilateral and multilateral development assistance activities and global funds for development will be important in informing future climate financing mechanisms[xxix]. These lessons include the need to ensure that developing country partners exercise full ownership of climate change funding and integrate it within their own financial allocation mechanisms.

Annex 1: Financial Products That Address Private Sector Investment Barriers

Concessional interest rate loans: Donor funds are used to provide concessional interest rate loans that are used to off-set the high costs of early market entrants. This can be applied through direct project loans to project sponsors. They can also be applied via credit lines with domestic banks so as to target small and medium sized investments, achieving scale through the local bank's network and client relationships.

Credit Lines with performance incentives: Donor funds are used to provide performance bonuses or interest rate reductions that provide domestic financial intermediaries with the incentives to achieve certain milestones or targets established at the onset of the program. These instruments target banks that are comfortable with the risk of a new initiative but that need incentives either for their clients or loan officers to "kick-start" a new line of business (such as clean energy lending).

Risk Sharing: The risk of a portfolio of sub-projects with a local bank or financial institution is shared by donor funds, giving the local institution comfort that risks are mitigated while they are learning a new line of business. Donor funds cover the losses from the first few defaults (if any) which occur in a portfolio of projects (first loss).

Subordinated Debt and Mezzanine Finance: Loans, which in case of payment defaults or bankruptcy, have a lower repayment priority compared to other company or project loans. Leverage is achieved since subordinated debt strengthens a company/project's equity profile and encourages commercial lenders to provide senior debt financing. Concessional rates could also be used in cases where high capital costs and risk perception barriers are being addressed.

Guarantees and Insurance: Guarantees and insurance products enhance the credit worthiness of a transaction. The guarantor agrees it will cover some, or all, of any defaulted payment or repayment per an original contract. Guarantees can be used to cover risks that the market will not otherwise bare, such as credit risk, technology risks, or changes to the project's regulatory environment.

Equity: Equity is a capital investment in a company, project or fund. Equity provides unlimited revenue potential if the project is successful, but risks losing part or all of the investment if the project is not successful. Equity encourages developers to undertake risks they otherwise would not.

Source: Adapted from *CTF Financing Products, Terms and Review Procedures for Private Sector Operations*, March 17, 2010

Annex 2: Climate Finance Strategies

Goal	Approach	Tools
Develop a Supportive Enabling Environment: Focus is on building a country's low-emission investment climate		
Well defined government strategy	Signal strong public commitment to transformation that invites private sector investment	Grants for Advisory Services and Capacity Building for NAMAs
Attractive low-carbon policy and regulatory environment	Improved project economics through removal of fossil fuel subsidies. Introduction of standards, regulations, and approaches, like feed in tariffs or domestic carbon markets, that internalize a price of carbon. Supportive policies that regulate the public-private interface, like power purchase agreements	Grants for Advisory Services and Capacity Building for Low Emission Development Policies Development Policy Operations and Budget Support Operations *Example: Mexico Low-Carbon DPO (Annex 3)*
Supporting infrastructure	Public or Public-Private Partnership (PPP) investment in enabling network infrastructure, like extension of transmission lines to solar or wind resources.	Depending on network economics, could be public finance supported by conventional IFI financing and risk mitigation tools. May require concessionality. *Example: CTF Egypt Investment Program includes concessional support for transmission lines to remote wind resources*
Early Mover Investments: Address the relatively high costs associated with early mover demonstration projects or programs. The focus is on domestic market transformation and investment at sufficient scale to bring technology costs down		
Reduce High Costs for Early Entrants	Early entrants to a market often face higher costs from: • being among the first companies to negotiate contracts and establish procedural "precedents" within the country and sector. • use of a new and relatively untried technology or system that may not work out as expected. • use of more expensive technology inputs that are not yet manufactured at scale	Concessional loans Concessional loans can also be combined with policy guarantees, insurance, first lost instruments, subordinated debt or equity Grants for advisory services and TA • The concessional element is used to off-set some early entrant costs and encourages developers to enter the market. With scale up of the market, later entrants are expected to face lower costs as country and sector track records are established, and

	• higher debt service costs because investors perceive more risk in projects without a track record, including concerns that local developers may lack capacity or experience. • higher required returns as international firms may be reluctant to invest due to concerns about operating in an unfamiliar country	from lower technology costs due to production at scale. • Advisory services and TA can accelerate the development of a viable pipeline through feasibility studies, including technical, engineering, economic, financial, social and environment; support for legal and advisory services
Reduce gap between real and perceived regulatory and policy risks	Address concerns over stability and certainty of the policy framework, including the longevity of incentives available for low carbon investments and reliability of PPP instruments e.g., power purchase agreements. Risk mitigation tools are used where real market risks are lower than the market perceives them to be.	Policy guarantees, insurance, first loss instruments, subordinated debt or equity. These instruments can also be combined with concessional loans and grants for advisory services.
Enhance project economics	Address cost differential between business -as-usual and low-carbon alternatives in absence of a price of carbon that internalizes environmental externality	Grants, concessional debt, equity. Pay for performance: International public support to cover domestic incentives -- payment of feed-in-tariffs -- or pay for delivery of carbon reductions in absence of carbon market.
Going to Scale: Focus is to provide structures and incentives that will provide support at scale		
Increase access to private capital for climate projects with strong returns, but which otherwise cannot access capital	Public fund pledges to provide a small amount of equity private funds to pooled funds to encourage much larger pledges from private investors like sovereign wealth funds, private equity, pension funds. This approach is most appropriate where investors do not have access to capital for projects which have on paper strong financial rates of return but private capital is reluctant to invest based on perceived geographic, country, and execution risks. These can be global funds, sector specific funds, or regional funds. Investors , including public funders, can scale up investment by taking advantage of fund manager's networks and appraisal and structuring capabilities. Public funds are structured to reduce risk but otherwise are not passed on at concessional rates.	**Pledge Funds**: Public fund can be equity, subordinated equity or near equity (subordinated loan) *Example: OPIC investment of $500 million in five funds, raising $1.5 billion (Annex 3)* **Fund of Funds**: equity, subordinated equity or near equity (subordinated loan) Under this approach, the public funder invests as a limited partner into a private Fund which holds a portfolio of other private investment funds. Increases access to private capital by Investing in a range of funds with different geographic, sector or risk profiles, but with otherwise sound returns The Fund of Fund general partner is responsible for selecting the best performing funds to invest in, in based upon the past performance and other due diligence. This approach can provide for diversification of risk. *Example: EIB's GEEREF*

Increase access to private capital for climate projects in less mature markets while building track record and capacity	Public funds invested into funds as described above, however the initiative is anchored by an IFI, and combines Technical Assistance and Project Preparation support. Suited for less mature markets, sectors Could also be deployed to invest in technology development	**Public-Private Partnership:** Under this type of model, donor funds contribute cornerstone equity to a Fund of Funds, attracting institutional investors to invest alongside them. IFI risk reducing mechanisms are applied as well. Proponents of this model suggest that the involvement of an IFI, with its networks on the ground in developing countries, coupled with knowledge of the public sector players and complementary risk mitigation capabilities, will provide the comfort needed to institutional investors who do not know the market. *Example: Proposed CP3 (Annex 3)* **Venture Capital PPP**: Public funds provide investment in Venture Capital Funds with the aim of creating a diversified portfolio in early and deployment-stages of technology development *Example: Proposed Green Venture Fund (Annex 3). Note - while structured as a PPP, This proposal does not necessarily provide for anchoring in an IFI*
Provide incentives for investment through price signals	Public climate funds backstop carbon price support mechanisms. The proponents of these mechanisms argue that if properly priced and deployed at scale, these mechanisms could send a powerful market signals and incentives to the private sector, while also reducing the transaction costs associated with the case-by-case projects. Pay for Performance mechanisms	**Carbon Price Support Mechanisms**. Ideas include: • financial products that convert carbon-linked cash flows into equity and debt funding, such as guaranteed carbon sales contracts that address the concern that carbon revenues do not contribute to the initial capital funding of low-carbon projects. • carbon price support facilities that provided a guaranteed forward price for carbon. Addresses the uncertain nature and volatile price of carbon offsets. Example: Emission Reduction Underwriting Mechanism (Annex 3).
Create Bond market for climate investments	Speed up and deepen development of a strong bond market that would allow institutional investors to access large pools of capital, reduce the average cost of capital, and provide a low-cost exit for construction phase capital and for bank long-term debt.	**Green or Climate Bonds**. Public climate finance (through public institutions like the MDBs or new Green Investment Banks), supports first-loss tranches or partial guarantees from early bond issuances in developing countries.
Mitigate risks in trade finance to leverage private finance for developing country climate investments	Involve government or semi-government institutions to provide insurance for or to guarantee payments in export transactions relating to international capital flows for climate investments.	**Export Credits and Export Credit Agencies**. Public or semi-public guarantees and insurance against non-payment risks can encourage private finance to flow to climate investments in developing countries or riskier sectors.

Source: Author's analysis

Annex 3: Use of Public Funds to Scale-Up Private Capital: New Initiatives and Ideas

Budget Support: Development Policy Operations provides budget support to help countries implement policy actions in line with their own development (and in this case climate) strategies. An example is the $401 million Mexico Low-Carbon DPO which supports sector-specific policy and regulatory reforms in the energy, transportation, housing and forestry sectors. Examples of actions taken by the Government include adoption of new regulations and contracts for cogeneration and small scale renewable energy development, allowing small scale renewable energy producers to sell excess capacity to the grid; establishment of a sustainable housing program, that combines technical criteria for energy efficient housing with subsidies for low-income homeowners and introduction of a "green mortgage" product; and fuel efficiency standards for light duty and freight vehicles, along with TA to help transport businesses assess and improve their fuel performance

Pledge Fund: The US Overseas Private Investment Corporation (OPIC) announced in June an investment of $500 million into 5 private equity investment funds (three for region based renewable energy funds and two for sustainable agriculture focusing on Africa). These target raising an additional $1 billion in private capital. As an investor, OPIC expects a return on its investment. Funding is not concessional, but funds are passed on its contribution based on its AAA rating. This was accomplished through a transparent call for proposal process.

Fund of Funds: A Green Venture Fund has been proposed by the Center for Global Development to use this form to invest in development and subsequent deployment of technology in developing countries

Public-Private Partnership Model: Considerable work has gone into framing a public-private partnership between governments, IFI's and institutional investors (particularly the P-8 a group of Pensions Funds). The result is the proposed Climate Public-Private Partnership Fund (CP3) initiative currently being discussed between the UK Department for International Development and the Asian Development, with a similar initiative under discussion with the International Finance Corporation. The details are still being worked out.

Emission Reduction Underwriting Mechanisms: A guaranteed price of carbon. This concept is under development by Climate Change Capital Think Tank. It seeks to go beyond using public funds to provide risk reduction. Instead, the aim would be to provide the real economy with price signal and cash flows that investors can count on as they make investment decisions. ERUMs would be temporary underwriting facilities that would create a guaranteed price for certain types of emission reductions with delivery dates in the future. The mechanism would create a forward price for projects against which investors could deploy capital. It is seen as a vehicle for performance based cash flow, and could send similar signals to investors as a Power Purchase Agreement with a Feed-in-Tariff. The proposal is being designed to mitigate some of the risks of the carbon market, with performance payments closer to incremental costs

Green or Climate Bonds: Climate and Green Bonds can be in a variety of forms: sovereign or multi-national development bank bonds; tax credit sovereign bonds; corporate bonds (usually asset-linked); covered bonds (asset-backed with an institutional guarantee); asset-backed securities (including Portfolio Bonds, backed by a pool of loans); project development bonds. Some writers have focused on these bonds to support low-carbon infrastructure, others have included energy efficiency and broad spectrum of investments. In international markets, Green Bonds have largely, but not exclusively, involved IFI's (World Bank, IFC, EBRD, AfDB) issuing AAA-rated corporate bonds to finance climate change related lending programs. More recently Green Bonds have been proposed as a fundraising instruments for "Green Investment Banks" in the UK or the USA (in Australia Climate Bonds has been the term used for such proposals). The European Investment Bank has issued Climate Awareness Bonds to support its lending in the area; small banks have issued Climate Bond saving products, and a number of banks are preparing corporate Climate Bond issues under the new Climate Bond Standards Scheme.

Sources: World Bank website; OPIC website; Nassiry (2011); WEF (2011); Edwards (2011); Sean Kidney (personal communication).

Endnotes

[i] One study suggests that by 2030, given the increasing interest in energy alternatives, up to 20 million jobs could be created worldwide: 2.1 million jobs in wind energy production; 6.3 million in soloar photovoltaic and 12 million in biofuels-related agriculture and industry (UNEP/ILO/IOE/ITEC 2008)
[ii] World Bank (2010)
[iii] IEA (2010) and Ward (2010)
[iv] World Bank (2011)
[v] Categories adapted from Brown, J (2010) and draw from AGF (2010). More detailed and sector specific evaluations of barriers can be found in UNDP 2011, Project Catalyst, WEF (2011); Center for American Progress (2010); Deutsche Bank (April 2010), UNEP (2009), among others.
[vi] Of note is the report of Work Stream 7 of the UN Secretary-General's High-level Advisory Group on Climate Change Financing which summarized the barriers and tools for catalyzing private finance (AGF 2010).
[vii] These include Project Catalyst (2008) which laid out the economic and financing challenge, the World Economic Forum's Critical Mass Initiative (2010) , the GET Fit Plus initiative (2010) , and the United Kingdom's Climate Markets Climate Initiative (CMCI 2010) . The MDBs, UNEP and UNDP have actively participated in these dialogues
[viii] CTF (March 2010)
[ix] An initial OECD/IEA report on Low Emissions Development Strategies – overseen by the Climate Change Expert Group (CCXG) -- explored the range of domestic and international purposes or uses of a LEDS, and how these uses determine the contents of such a strategy. It shows that LEDS can provide useful clarification on economic development and climate change and help provide early signals to the private sector to direct investments, including in research and development (Clapp et al 2010)

[x] A recent high-level dialogue looked at ways to scale-up and make more coherent the numerous initiatives which are supporting low-emission development policy (World Bank July 2011)

[xi] This is one of the tools proposed under the GET Fit initiative (Deutsche Bank 2010)
[xii] To date, 13 country and regional investment plans have been approved under the CTF for a total of $4.2 billion. These include $1.5 billion for private sector operations. Every dollar of private sector CTF funding is expected to leverage 8 dollars of total finance (including from MDB's and bilateral DFI's) of which 4 dollars comes from private finance[xii].
[xiii] CTF (January 2009).
[xiv] The Critical Mass Initiative is working through approaches to scaling up solar in India, renewable energy in South Africa, as well as developing models to tackle energy efficiency scale up more broadly.

[xv] Brown, Jacobs (2011) and Center for American Progress (2010)
[xvi] See Brown, J op cit and WEF (2011)
[xvii] The GEF Earth Fund used a variant of this model, but with the funds that it invested in managed by a public entity (like an IFI) instead of a private fund. Lessons can be learned from an independent assessment which supported the model in principle but which was critical of the methods and approach taken in the first phase, calling for more clarity on the funds objectives and the role of the private sector, and for use of competitive processes for the selection of funds

[xviii]Nassiry 2010 provides the Center for Global Development proposal for a Green Venture Fund.
[xix] OECD: "Monitoring and Tracking Long-Term Finance to Support Climate Action" (forthcoming)
[xx] Some environmentally themed bonds have returns tied 'green' indicators, such as the FTSE4Good Index.
[xxi] Sean Kidney, personal communication. See also http://www.seankidney.com/articles/a-new-class-of-bonds
[xxii] Della Croce et al (2011, forthcoming)
[xxiii] This brief does not cover the sources of funds for the GCF. Nonetheless, in the discussion of Green Bonds the earlier idea of injecting capital into the GCF that it could use to issue debt securities is relevant. See

http://www.imf.org/external/pubs/ft/spn/2010/spn1006.pdf which advanced the idea that "To achieve the necessary scale, the Green Fund would use an initial capital injection by developed countries in the form of reserve assets, which could include SDRs, to leverage resources from private and official investors by issuing low-cost "green bonds" in globalcapital markets."

[xxiv] For example, see Bretton Woods Project (June 2011)
[xxv] Brown, J. et al, "Leveraging Climate Finance: a survey of methodologies", Climate Finance Effectiveness Background Paper (Forthcoming 2011)
[xxvi] For more on Climate Bond Standards, go to http://climatebonds.net/proposals/standards/
[xxvii] The Equator Principles (EPs) are a credit risk management framework for determining, assessing and managing environmental and social risk in project finance transactions. http://www.equator-principles.com/
[xxviii] Agrawala et al (2009)
[xxix] OECD (2011), OECD (2009)

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