The Green Climate Fund:

Options for Mobilizing the Private Sector

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Executive Summary

This paper has been developed by the Brookings Institution with funding from the Climate and Development Knowledge Network (CDKN) in parallel with the work of the Transitional Committee for the design of the Green Climate Fund. Its purpose is to outline options for how private sector funds could be mobilised.

The Need for Private Sector Investment

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. To have a chance at maintaining the climate at two 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 and households will be responsible for the bulk of the investment needed, and will need access to finance.

Private sector investors 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. These elements are not in place in many developing countries where country and currency risks, uncertain sector regulations, execution risks, capacity and knowledge gaps deter investment. Even if these barriers to investment can be addressed through risk reduction mechanisms, technology cost gaps between high and low-emission alternatives remain in many sectors, particularly in the absence of a price on carbon.

Thus far, international public funds have been used to provide subsidies to the private sector through concessional loans or grants to close the technology cost gap, but in amounts that are far below what is needed. While stepped up funding will be needed as an important bridge, this approach will not be sustainable over the longer term. Climate finance that focuses on closing the cost gap should have a clear transformative intent of achieving sufficient scale to reach environmental, economic and financial sustainability. Climate finance should be used to accelerate the reduction in technology costs or provide a pathway for policy and/or international markets to price carbon or fully internalize environmental costs associated with greenhouse gas emissions.

This paper outlines the need for, and barriers to, private sector investment, and presents a range of complementary strategies for overcoming these barriers including:

- 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 and thus pave 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

Private sector stakeholders give consistent feedback asserting that unless the enabling environment is in place, including price signals, true scale-up of climate compatible investment will not happen. One of the objectives of the Green Climate Fund should be to support policy reforms and institutional development, along with providing funding to cover at least part of the transitional costs that come with these reforms. The GCF can provide this through the use of tools like budget support. In doing so it must be aware of the lessons learned from other experiences in these types of operations, which warn against using these tools

where there is weak country ownership, overly ambitious objectives or unrealistic assessments of the political economy or institutional capacity. The extent to which policy support operations can contribute to market transformation, and thus lead to significant reductions in emissions, will depend on the strength of the reform program itself. Countries will need to go beyond removing specific sector barriers since a poor business investment climate is perhaps the most significant obstacle.

GCF support to countries to strengthen the enabling environment for private sector investment will be critical, but not sufficient. Indeed, while support for the enabling environment is important, stopping here would represent a lost opportunity. The GCF should look to ways to use its funds to catalyze the private sector more directly for scale-up and leverage. The paper outlines the ways in which the GCF could capture this opportunity, outlining three options to catalyze the private sector.

- **Option 1**, the GCF supports country-based private sector operations within the same windows that the public sector would access for support.

- **Option 2**, the GCF supports a private sector facility that 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 3** combines options 1 and 2. Country-based, private sector projects would be financed under the same window that supports public sector operations (e.g., as in Option 1 above) while a dedicated facility could support the innovation agenda outlined in Option 2.

Option 1 would provide support for early entrants.

It is ready for implementation and builds on experience from the Global Environment Facility, the Climate Investment Funds, and numerous bilateral engagements being supported by the Fast Start funding agreed in Copenhagen and reaffirmed in Cancun. By focusing on removing barriers to early entrant investors, it can set the stage for transformational change. More work is needed however, to reduce transaction costs and to understand barriers to the use of the full range of risk reduction mechanisms. On its own, this option does not offer a strong pathway for tapping large pools of private capital, which limits the prospect for catalyzing investments at a scale needed to fully realize significant transformational impact.

Option 2 presents a stronger opportunity to partner with the private sector in ways that could significantly scale up private investment.

It could provide differentiated tools and approaches for the least developed countries that are still cultivating an enabling environment for climate compatible investment, but also focus on business models that meet the needs of middle income nations with stronger investment climates. Examples include investing public funds in private equity funds that invest in mitigation or adaptation using either pledge or challenge mechanisms. These could encourage public-private partnerships with public development institutions such as the International Finance Corporation, Regional Development Banks, or international bilateral or domestic development finance institutions. Alternatively, the facility could deploy 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. In scaling-up a number of promising experiments that aim at tapping into pools of private capital, it could provide developing countries with new sources of capital, along with support to bridge the costs between new and traditional technologies. This option would allow the GCF to build on approaches that have proven to work while also supporting innovative structures and mechanisms. It would need a governance structure that includes both public and private sector skills. The facility's governing body would need to balance the quest for innovation with its appetite for risk since not all of the investments and approaches will succeed. It would also be crucial to ensure low transaction costs in order to attract private capital, while striving for a lean organizational model that relies on competitive processes that build on the competencies of others in the market.

Option 3 also allows the GCF to pursue both early entrant and scale-up strategies.

The choice between Option 2 (having a single private sector facility) and Option 3 (two access points for private sector support) will eventually be one of judgement based on balancing stakeholder views. Option 2 has the edge on innovation, partnership and efficiency. Option 3 gives more weight to least developed country desires to have the private sector operations more firmly part of the country strategy and linked to public sector activities. Both can be made to work.

The Options and the Emerging Design of the Green Climate Fund

This paper has been developed in parallel with the work of the Transitional Committee charged with designing the GCF. An earlier version, which outlined the options discussed above with preliminary considerations for their assessment, was presented to the Transitional Committee in August 2011.[i] Since then, the Transitional Committee has completed its work, and submitted a report to the UNFCCC Seventeenth Conference of the Parties, which will be meeting in Durban starting November 29, 2011.

The previous report includes provisions for a dedicated Private Sector Facility, which is in line with the broad outline of Option 2. It would finance private sector activities both directly and indirectly. This language would be consistent with the idea outlined in this paper of supporting project based investment as well as for using new structures, like fund of fund approaches. Concerns over access to the fund for the Least Developed Countries (LDCs) and Small Island States (SIDs) is reflected in the language, which spells out the need to support such activities, and the report also makes the important point that the facility needs to be consistent with a country-driven approach.

Assuming that this language is adopted in Durban, the next steps will be to give life to the decision. Despite this apparent convergence around creation of a private sector facility, developing countries are still concerned about the proposal, so implementation details will matter. Private sector stakeholders will still need assurance that the operation of the facility will be managed in a clear and consistent manner, with low transaction costs.

Recommendations

A GCF Private Sector Facility can achieve the goals of scale-up and transformation while meeting country needs for climate compatible development by having the following:

- A governing body that includes representatives of the public and private sector as decision-makers. To avoid conflict of interests, private sector representatives should no longer be active in the investment field.

- A strategy that emphasizes market transformation, scale and leverage, yet provides differentiated approaches to the needs of least developed countries, small island states and middle income countries. This should include incentives to also meet the needs of pro-poor investments. But this differentiated approach should be underpinned by a goal of supporting all countries to put in place the enabling environment, which will be critical to help them meet their climate and development objectives.

- The full array of risk mitigation and subsidy tools that have been designed by previous international efforts.

- Scope to build on new approaches to scale-up access to private capital and to use new innovative mechanisms, like performance based instruments.

- Competitive processes that can seek out new business models which will scale-up and leverage private capital. Instead of designing *ex ante* business models that it will invest in, the facility can set criteria and a transparent selection process that will put a premium on scale, while selecting those proposals that hold the most promise for results and impact.

- A business model that is lean and builds on capabilities in the market. It can do this by emphasizing competitive processes to attract high quality proposals from public international financial institutions, domestic development finance institutions and private sector financial institution to handle the intermediation for direct and indirect parts of the business. These can be global, regional or domestic.

- Goals that go beyond the clean energy space to develop new approaches for public support to catalyze private sector investment for land use, land use change and forestry (LULUCF) and adaptation solutions.

- A world class set of metrics that will provide transparency and support accountability. The facility can set the pace for measurement for all private sector operations that tap public funding.

- Practices that meet the needs for social and environmental sustainability, while promoting country-owned processes.

- Strong approaches to knowledge management, learning and partnership that promote learning by doing and allow the GCF to takes risks while scaling up those activities that show the best results. In doing so, the GCF can also build on lessons learned from earlier international cooperation, including ongoing Fast Start financing.

I. The Role of the Private Sector in Combating Climate Change

The private sector is a critical player in moving toward a climate compatible future.

To have a chance at maintaining the climate at two 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 from their low-emission development and resilience strategies to create new businesses and jobs.[ii] Private sector investment in climate compatible development does bring economic development opportunities, but it also requires sufficient access to finance.

Climate 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.[iii] 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 between 2010 and 2020 and almost 1 trillion dollars per year between 2020 and 2030.[iv] Even if the two 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,[v] 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.

One estimate of global investments in 2010 indicated that about $200 billion were invested in low-carbon energy, energy efficiency and low carbon transport in developing countries, almost the same level as the investment in developed countries of $220 billion. Some $95 billion of this went to China, representing half of the funding to developing countries, and a quarter of global investment. Brazil, India, Mexico and Turkey, with $26 billion in investment, represented another 10 percent of developing country investment in clean energy. A recent UNCTAD estimate suggests that low-emission Foreign Direct Investment flowing from developed to developing countries in 2009 was $37 billion, though this is likely an underestimate.[vi] The Climate Policy initiative estimates the total amount of global climate funding at $97 billion per year, of which $55 billion is provided by the private sector in the form of direct equity and debt investments.[vii]

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, 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 face 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 (Annex 1). Overall, four broad categories are most commonly cited.[viii] While many of these issues, particularly technology cost gaps, exist in both developed and developing countries, they are more acute in developing countries. Specific and tailored mitigation strategies to reduce these barriers need to be framed in a developing country context.

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 including: the longevity of power purchase agreements of feed-in-tariff programs or uncertainty over compliance with domestic forest governance policies and international enforcement of REDD+ programs; technology risks for investments in new and relatively untried technologies and systems, whether these be in newer forms of clean technology or demonstration of a track record for new approaches to managing land use; 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 potential for scale up is another barrier with projects in sectors like energy efficiency, which are small with high transaction costs. ***Capacity and knowledge gaps*** concern the low capacity available to prepare project pipelines and to structure projects; lack of skilled and semi-skilled labor for new industries; lack of established engineering, procurement and construction contractors; inadequate consumer awareness to generate demand for new products; and difficulty of monitoring land use changes. Finally**, *technology cost gaps*** need to be bridged**.** These are the residual cost gaps between high and low-emission alternatives after accounting for the cost of carbon built into existing international policy and reflected in carbon markets or domestic policies (such as efficiency standards, carbon taxes, removal of fossil fuel subsidies, and feed-in-tariffs). These costs may 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 the cost of domestic subsidies during a transition period. This approach is not sustainable over the longer term. 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 Greenhouse Gas (GHG) emissions. Climate finance that focuses on bridging these costs should have a clear transformative intent of achieving sufficient scale to reach environmental, economic and financial sustainability over a reasonable period.

Financing needs and challenges also differ by scale of investment and organization.

Both *multinational and national corporations* have access to a large capital base, the ability to engage in longer term projects, and from government policies focused on scaling up and the deployment of more established clean technologies. Corporations typically engage larger scale investment projects and place strong emphasis on risk-adjusted rates of return. However, reliable estimates for risk-adjusted returns are not always credible in many developing markets with incomplete financial markets, along with a lack of financial instruments to diversify risk over long-term, larger scale projects.[ix] Infrastructure barriers are also especially relevant in large scale clean energy projects. In particular, project sponsors may face added regulatory barriers when involved in multiple countries for regional projects. *Smaller enterprises* are better suited for high-risk, high-reward projects, yet suffer the investment barrier of limited track records and/or inability to leverage capital significantly. Many lenders require larger equity shares and lower leverage for projects involving less established, newer technologies, yet the nature of being a Small-Medium Scale Enterprise (SME) implies a smaller capital base and thus less equity.[x] For *early stage start-ups in clean technology*, barriers to secure funding include longer investment periods before exit, developments that require large follow-on financing, smaller investment sizes with higher fees, and higher execution risks.[xi] *Social enterprises* aim to solve both social and environmental challenges, including both climate mitigation and adaptation, while generating financial returns through impact investing. Although growing rapidly, this relatively young type of organization faces key barriers in transparency, reporting, and measuring the environmental and social performance of their capital, adding to transaction costs. Social enterprises increase their chances of finding private investors if their projects offer an expectation of market returns, risk mitigation guarantees, liquidity, measurement of social returns, and managers with good track records.[xii] Many of these barriers are shared with small and medium sized enterprises, but the reporting standards and added transaction costs are especially relevant for social enterprises. Investors also face challenges. Some developing countries limit the capacity for some public investors, like *public pension schemes*, to invest in newer and riskier clean energy projects.[xiii]

These barriers have been well studied for mitigation[xiv] and there have been a number of prominent public-private dialogues on ways to mobilize private sector finance.[xv]

These have concluded that the barriers to private sector participation are well understood at a high level, although 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 2) with elements of concessionality added through vehicles like the Global Environmental Facility (GEF) and the Climate Investment Funds (CIF).[xvi] And other investments, including bilateral initiatives, under the Fast Start Funding are also using many of these tools. 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.

More work needs to be done to understand the private sector's role in, and investment barriers to, investment in adaptation to climate change.

Most of the literature relates to the insurance markets, but more research is needed to understand the ways that the private sector will build resiliency into its own assets. In addition, options to catalyze private sector interest in investment opportunities in the development of new products and services that will support strengthening of resiliency need to be explored.[xvii] As such, while this paper focuses on the mitigation challenge since it is likely that initial funds for private sector action will be targeted for this use, further research on the role of public climate finance in catalyzing private investment in adaptation will be important.

II. Catalyze Private Climate Investment: Existing and Emerging Practices

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 use public funds to support market and sector transformation that attracts private sector investment at a scale sufficient to achieve significant reductions in greenhouse gases without recourse to subsidies. Climate finance can support the private sector as a recipient of public funds, which help encourage private sector investment projects directly by reducing costs and risks. Climate finance can also look to the private sector as a co-investor and encourage private capital to invest in climate friendly solutions. Both of these will need a strong domestic and international enabling environment. Public climate finance should not be a substitute for good international and domestic policies. It is worth re-emphasizing the need for international goals and mechanisms that set a price on carbon, like a carbon market, taxes 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 goal should be to have public instruments phase-out as domestic and international investors and capital move in. So, an exit strategy should be embedded in any approach to the use of public funds for private sector investment.

The Green Climate Fund can support this more ambitious goal by building on a body of existing and emerging practice while supporting new innovative mechanisms.

There are a number of existing models and emerging ideas and concepts that are testing ways that public funds can be used to catalyze private investment. (Annex 3 and Box 1). Briefly described below, these are further elaborated in Annex 4.

Develop a supportive enabling environment.

International funding can support governments in the design and implementation of strategies and policies for low emission development[xviii] 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[xix] and policies. Country led public sector programs can strengthen the enabling environment for private sector investment by integrating policy reform with sector investment programs or into budget support mechanisms. It should be noted that instruments that support policy reform through budget support do not provide direct funding for private sector activities. Instead, funds go into the general national government budget accounts and are not earmarked for particular investments. In this sense the money does not provide any direct financial leverage. Nonetheless, these funds do provide leverage in that they can help to mobilize the private sector by involving them in the policy design / reform process. Examples include 10 World Bank Development Policy Operations (DPO), which provide budget support for the introduction of country-led climate policy frameworks (Box 1).

The effectiveness and impact of this type of support depends on the strength of country ownership and of the underlying depth of the reform agenda. While budget support instruments are well known and widely used in the development assistance world, their use for climate programs is relatively new and therefore not yet been subject to evaluation. But one independent evaluation of the broader World Bank portfolio of policy support operations shows that their performance is, on average, better that project based operations.[xx] Eighty-one percent of policy-based operations supporting economic policy reform, often linked to improvement in the enabling environment for private sector investment, were successful in meeting expected outcomes. In addition to weak country ownership, unsatisfactory project outcomes tended to reflect overly ambitious objectives or unrealistic assessments of the political economy or institutional capacity.[xxi] Thus the extent to which policy support operations can contribute to market transformation, and thus to lead to significant reductions in emissions, will depend on the strength of the reform program itself. This will require leadership to build the political support for decisions that are needed to send price signals and reduce risks

to investors (like reduction in fossil fuel subsidies, transitional feed-in-tariffs, or introduction of enabling regulatory measures); strategies to ameliorate the impact on the inevitable losers; and strong institutional capacity to manage the transition. While the impact of policy support operations can be strong where leadership and capacities are in place, these need to be built. In many instances the impact may be muted, at least in the early stages, where the internal debate is not yet mature and/or institutions are weak. The GCF could in these instances still make a strong impact over the medium term by supporting a series of operations that build on one another, and provide at least part of the funding through budget support to sustain transitional policies that either reduce risks to investors or mitigate the impact on the losers.

Use project finance to transform markets by supporting early movers.

Climate finance can be used to accelerate implementing country strategies by catalyzing private sector investment in high priority sectors. 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 (see Annex 2) – with concessionality as needed, could support individual projects or groups of projects, working directly with individual project developers. This project based approach was piloted in the Global Environment Facility and scaled-up with a view toward domestic market transformation by the Clean Technology Fund. While public funds are expected to leverage other sources of finance –every dollar of CTF funds is expected to leverage four dollars from the private sector and another four dollars from bilateral Development Finance Institutions (DFIs) and Multilateral Development Banks (MDBs)[xxii] – the main objective is demonstrating and creating a track record through a few initial investments in ways that can transform the market. Replication is expected to occur without further subsidy once: the private sector understands the real market risks, the cost of the new technology decreases, and/or the cost of carbon becomes internalized.[xxiii]

Evaluation of similar interventions, often financed with GEF funds, found examples of high leverage interventions.[xxiv] These included support for energy service companies; energy efficiency projects with high returns and potentially very high demonstration and diffusion rates; and on-lending through financial intermediaries in countries with poorly developed credit markets. Interestingly, for the energy efficiency market, guarantees were not as catalytic as assumed in the residential market. The valuation stressed the need to closely complement direct private sector investment with the type of policy reforms outlined in the previous section, otherwise diffusion was unlikely. It also found that earlier International Finance Corporation (IFC) investments could have been more flexible. These lessons, along with experience from other MDBs active in this space, are introduced in the current generation of projects being supported by the CTF.[xxv] In addition, a recent evaluation by the Multilateral Development Banks' participating in the CTF outlined concerns that the trust fund committee that governs the Fund may be unduly risk averse. The MDBs asked for more flexibility regarding the terms under which finance is made available (minimum pricing, levels of subordination, use of local currencies etc.), so that the MDBs can engage in higher risk environments (and LDCs).[xxvi] Another example is the Critical Mass Initiative, which, with Capital Markets Change Initiative, is taking 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.[xxvii]

Performance based instruments have not yet routinely been part of existing multilateral climate funds, but their use should be considered. These risk mitigation tools could also include proposals to use climate finance subsidies to cover, for a transition period, feed-in-tariffs – a substitute for concessional up-front capital.[xxviii] Finally, a number of ideas are under development for carbon price support mechanisms that 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 funds could backstop these facilities.

Scale up through leveraging pools of private capital.

Given the magnitude of investment needs, new approaches that would go beyond supporting individual projects are needed. A familiar use of climate finance to scale-up by extending reach is the use of

domestic banks as intermediaries. Funds are channelled through local banks and other financial intermediaries with the objective of meeting the needs of small and medium scale project sponsors while building capacity of the domestic banking system to appraise and price low-emission projects. An example is the Inter-American Bank's Planet Banking,xxix which is focusing on lines of credit and technical assistance to private banks which want to develop new climate compatible products.

A number of new initiatives that aim to scale up by tapping pools of capital - private equity, or institutional investors like pension and sovereign wealth funds - are currently being tested or are in the planning stage. These focus on the private sector as an investor and aim at providing developing countries with new sources of capital, along with support to bridge the costs between new and traditional technologies. Pledge funds[xxx] aim to mobilize private equity, sovereign wealth funds and pension funds by investing equity or near equity alongside pooled funds. This approach is most appropriate where investors do not have access to capital for projects that have, on paper, strong financial rates of return but private capital is reluctant to invest based on geographic, country, and execution risks. These can be global funds, sector specific funds, or regional funds. Fund of Funds approaches are still in a nascent stage for climate finance. These would allow the public funder to invest as a limited partner into a private fund, which, in turn, holds a portfolio of other private investment funds. The Fund of Funds general partner is responsible for selecting the best performing funds to invest in based upon the past performance and other due diligence.[xxxi] This approach could provide for diversification of risk and can provide the large scale needed by institutional investors. Like the Pledge Fund, a Fund of Funds approach aims to increase access to private capital by allowing investment in a wide range of funds with different risk profiles. The public funder's focus would be on creating the criteria for use of its resources (sector, regional, venture) and on building a transparent process for selection of the Fund of Fund manager, and on monitoring and evaluation. Mechanisms that allow investors to bid for subsidies would have to be considered if the risk profile of investments warranted a concessional element.

A variant on these approaches is a more explicit ***Public-Private Partnership Mode*l,**[xxxii] which would use MDB or other international financial institutions to anchor the initiative.[xxxiii] Funders contribute equity to a Fund of Fund and investments are complemented by IFI risk reduction mechanism's technical and project development assistance. Another variant is to focus on technology development by investing in venture capital funds.[xxxiv] 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 for institutional investors who do not know the market.[xxxv]

Other emerging ideas for the use of public finance to catalyze private capital call for adapting instruments from other domains. A low-carbon Export Credits Facility could 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 channels to leverage private sector finance. An export-credit facility could potentially target low-carbon development and other green projects.[xxxvi] Alternatively, climate finance could support Green or Climate Bonds by holding first-loss tranches or partial guarantees from early bond issuances in developing countries, thereby helping create a market. 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.

Box 1: Use of Public Funds to Scale-Up Private Capital: New Initiatives and Ideas

Budget Support:

Development Policy Operations (DPO) of IFIs provide 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 World Bank 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

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.

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 the cost of funds is low with OPIC passing 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. The proposal would create two fund-of-funds to invest in development and subsequent deployment of renewable energy technology in developing countries. The EIB's fund-of-funds, the Global Energy Efficiency and Renewable Energy Fund, that is now gearing up to mobilize private investment to complement public investment into the funds.

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. Fund-of-funds structures may be used.

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).

III. Options for Green Climate Fund to Support Private Sector Action

The GCF will be a new element in the international financial architecture.

The Copenhagen and Cancun agreements committed to mobilizing $100 billion a year in annual climate finance to be deployed through a wide variety of bilateral and multilateral sources, with public and private components. The question for the Green Climate Fund is where it sits in this network of funding, and the scale at which it will operate. The extent to which it becomes a significant financing mechanism will depend, in part, on the level of public funds that contributing countries wish to place in a global multilateral vehicle. That will then depend on the attractiveness of the vehicle, particularly as a catalyst for private sector investment. Rather than pre-judging the scale of the GCF in this architecture, the options below present a range of ideas that could be attractive to contributors. In turn, this would allow the GCF to become a significant public player in the climate finance architecture.[xxxvii] One option not considered here is to convert the GCF into a Green Investment Bank (GIB), which would imply a significantly different institutional form than that agreed in Cancun. While a number of Green Investment Banks are being created or are being consideredxxxviii under the options below these GIBs could be used by the GCF to either channel funding to the country level, or along with DFIs and IFIs, to take on the banking functions needed to operationalize some of the proposals discussed earlier (such as Green Bonds).

GCF support to build an enabling environment will be key.

As a first order of business, the GCF can support public sector projects and programs that build an enabling environment for private investment. Private sector stakeholders are consistent with their feedback that unless the enabling environment is in place, including price signals, true scale-up of climate compatible investment will not happen. Supporting policy reforms and institutional development should indeed be one of the objectives of the GCF. The GCF should support use of tools like budget support, but in doing do be aware of the lessons, including the importance of a supportive broader business climate. In doing so, it can 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. GCF support could also come in the form of concessional loans or grants for public sector network infrastructure projects where these need an element of concessionality. Using GCF funds for this purpose responds to consistent feedback from the private sector asserting that unless a supportive enabling environment is in place, private capital will not be mobilized in a sustained way. Ultimately, while risk mitigation tools are useful, the most powerful driver of private investment is the enabling environment itself, including policies that send the appropriate price signals. By definition it would support programs that reflect country strategies and priorities. A particular feature of this option – support for policy reform through budget support operations – has the added advantage of being consistent with developing country expectations for direct access. The downside to this option is that some developing countries will be concerned about such a direct link between funding and domestic policy reforms, fearing they 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 and policies supported by international public finance will inevitably be needed. Governments would need to own the reform programs, and civil society's participation in policy development will be critical to strike the right balance.

But using the GCF to focus simply on helping countries build an enabling environment will not be sufficient. The impact on scaling up private investment would only be indirect and would depend on the strength of the policy and institutional reforms that it would support, as well as the quality of the broader investment climate. Even when supportive policies are in place, investors will still need risk mitigation instruments to allay concerns over policy reversals. Unless the policy package provides for price signals, needed tools to bring technology costs to levels that can compete with traditional technologies will be missing. If the GCF does not have a provision for directly leveraging private investment and capital, contributors would likely direct at least some of their contributions to other institutions within the broader climate finance architecture which are, or could be, set up to meet the leverage objective.

So while supporting the enabling environment will be critical, stopping there will be a lost opportunity. The GCF would not have the ability to use its funds to catalyze the private sector more directly, forgoing the opportunity for scale-up and leverage. And the quality of GCF public sector operations will not benefit from the learning and innovation that would come with partnership with the private sector.

The Green Climate Fund could be structured in a number of ways that would directly catalyze private sector investment. These could include the following three options:

- Option 1, the GCF supports country-based private sector operations, but within the same windows that the public sector would access for support.

- Option 2, a Private Sector Facility 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 3 combines options 1 and 2.

This section lays out these options and discusses their strengths and weaknesses. It takes as a starting point that these options are in addition to expected design features that will provide support for public sector programs and investments in both mitigation and adaptation. In all options, the private sector needs to be actively involved in the testing and design of approaches from the outset.

- Criteria for assessing the options include:

- Alignment: How well are they aligned with the broader GCF design principles, particularly that of "country ownership"?

- 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?

- Scale: Which best uses scarce public funds to achieve leverage and scale?

- Efficiency: Do they provide the private sector with the clarity and certainty needed to inspire confidence? Can they deliver money with as little "friction" losses from costs of intermediation as possible? What are the organizational cost implications? How do these interact with the broader climate finance architecture? Are the strategies that underpin the options mature, or are they still under development and testing?

- Innovation, Learning and Partnership: How well do they support learning while doing and converging best practices? Which best promotes partnership with the private sector?

This assessment looks at the climate finance tools outlined in Section II of this paper, and compares them in terms of readiness, impact, scalability, leverage, and transaction costs (Annex 5). This analysis is then used as an input to show how the various GCF options compare when criteria like alignment with principles of country ownership, innovation, learning and partnership are added (Box 2).

Option 1: Combined Public and Private Sector Window – for Engagement at the Country Level

The Option

Under this option the GCF would supports country-specific, private sector operations. Public and private sector operations are carried out within the same window. Private sector operations focus on funding early market entrants, and on significant high-impact projects or programs that accelerate market transformation and reduce technology costs such that they will eventually be sustainable without subsidies. The amount of GCF (essentially public) funding to privately sponsored projects should be calibrated to reduce the risk or increase the return to norms needed by private investors. 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 2) could be part of the menu. IFIs and DFIs 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 that is made up of separate mitigation and adaptation windows. These would simply need to designate these types of private sector operations as eligible for funding, and set criteria.

The Assessment

This option is attractive because it builds on a body of experience in the private sector arms of the MDBs and bilateral DFIs. In this option, **alignment** with the country ownership principle would be assured since support for country-specific, private sector operations would be expected to be consistent with the priorities in the NAMAs. Indeed, funding private sector operations within the same window as those that aim to build a positive enabling environment will provide an incentive for aligning objectives. The extent to which this option can **transform markets** will depend on how well the private sector operations build on, and contribute to, the development of a strong enabling environment while focusing on removing barriers for early entrants in strategically important sectors. Operations will need to be large enough to provide a significant demonstration, but not so large as to crowd out the private sector. This approach will lay the groundwork for further **scaling-up**, but the impact will be indirect. Because this option focuses on financing projects and companies, it is not geared to tapping pools of private capital. For this reason, the potential for scaling-up is relatively lower than that of Option 2. For the same reason, while these types of demonstration projects could lay the groundwork for sector-wide transformation and emission reductions, the projects supported will on their own will most likely have low to moderate **GHG reductions** in terms of economy-wide impact. Most recent evidence from the EBRD and IFC climate portfolios show that public funds have been able to achieve significant **leverage**, in the range of a 1-4 to 1-8 ratio (the Clean Technology Fund private sector operations expect a 1-4 leverage ratio). But while leverage is an important goal, leverage ratios themselves need to be considered with caution. They depend on the nature of the project – energy efficiency projects, which need relatively little public support having a higher leverage rate than those that will require significant subsidy because of the underlying project economics – so a higher or lower ratio may not be significant when comparing GCF options.

A focus on supporting early market entrants has relatively higher transaction costs and lower transactional **efficiency**. Because they focus on early entrants, the operations will be in sectors where there is relatively less experience and barriers are more pronounced. In the schemes that are currently under implementation, 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 that has been identified. This requires extensive analysis and negotiation with the private sector sponsor. Feedback from the private sector suggests many are deterred by the uncertainties and delays that come from project by project negotiation.

Under this option, there is also a risk that recipient governments would prefer to use GCF funding to support public sector investment, thereby crowding out private sector projects. If this happens, private sector partners could become discouraged from attempting to access the fund.xxxix To mitigate this risk, the GCF should consider setting a reasonable goal for funding of private sector investments.xl With respect to the international climate architecture, the expectation would be that the Clean Technology Fund private sector operations would phase out in line with that Fund's sunset provisions, obviating a potential overlap. However, organizational cost implications for the GCF will vary depending on the business model chosen. To the extent that the GCF uses the MDBs and other qualified IFIs as intermediaries, it will not have to invest in building project appraisal, evaluation and banking operation capabilities (like treasury and risk management). Otherwise, the costs could be substantial. This could be mitigated by contracting, after an open competition, qualified public (international and domestic DFIs) and private players who could be carry out all or some of these functions, leveraging their existing capabilities.

This option has the advantage of linking work on public sector policies and institutions to real, practical on-the-ground knowledge of what works and what does not. As early market entrants deal with barriers they encounter as they seek investment opportunities, lessons can be fed into public policy deliberations. So it has the potential to score high on knowledge and learning, especially if it is accompanied with a strong knowledge management system. But because it focuses on a more narrow set of private sector players (mainly project sponsors) than other options, the prospects for innovation are lower, especially on topics that have proven to be relatively more difficult (like ways to tap pension and sovereign wealth funds). Perhaps because of the complex nature of the case-by-case approach of this strategy, or because the public sector contributors are not always comfortable with some of the available risk mitigation tools, some commentators report that only the most straightforward tools (concessional debt) are routinely used. This also limits innovation. Barriers to use of full range of instruments would need to be better understood and remedied.

Summary Assessment:

A support model for early entrants is ready for implementation in the GCF, which builds on experience and can set the stage for transformational change. More work is needed however, to reduce transaction costs and to understand barriers to using the full range of risk reduction mechanisms. However, on its own it does not offer a strong pathway for tapping large pools of private capital, which limits the prospect for catalyzing investments at significant scale needed to fully realize transformational impact.

Option 2: Reach Scale through a Dedicated Private Sector Facility

The Option

This option would focus all GCF private sector operations into a single facility.[xli] The idea would be to allow for a single funding source that would handle the transition from projects that would meet the learning and demonstration goals through removing barriers for early market entrants, while also providing support to mechanisms that will achieve scale. The facility could have two modalities.

- *The first modality* would include provisions for the same type of country-based, private sector operations that are consistent with NAMAs, and that have a focus on early market entrants and market transformation, as outlined in Option 1. The difference with Option 1 would be that GCF funds would be dedicated for this private sector investment, and not competing within the same window with public sector investment opportunities. This would provide clarity for the private sector on the amounts 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 or global 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.[xlii] Except for the largest countries, these ideas would likely be best applied at a global, regional or sector scale. Given 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 facility could have a governing body and senior level advisory support, which would be designed to tap private sector skills and knowledge. The balance of funds within the facility 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 unreasonably concentrated in support of a limited set of countries. At the same time, competition would incentivize creativity, maximize leverage, and to minimize the need for subsidies. Competition could be accomplished through use of challenge fund approaches, which provide for transparent calls for proposals and evaluation against criteria that take into account the quality of the partners but also align with GCF goals. If concessionality to close the technology cost gap in certain sectors or markets was needed, a reverse auction could be set up so that partners bid against a pool of subsidy funding, with awards going to proposals that minimize the level of subsidy required. This would help drive down costs and allow for price discovery. Finally, in line with current climate finance experience, most of the private sector operations would initially be for mitigation in the clean energy space. However, this facility could begin to experiment with promising private sector investment for land use, land use change and forestry (LULUCF) and adaptation solutions.

The Assessment

This option has many attractive features. It has a better chance at achieving **scale and leverage** than Option 1 on its own. A broadly defined private sector facility would allow a more seamless transition between those instruments that focus on supporting early entrants, with potential instruments that are designed to tap pools of private capital. By supporting a broader continuum of instruments, it could provide differentiated solutions for countries and sectors where the investment grade policies are still in incipient stages with funding vehicles more suited to more rapidly industrializing countries with stronger business climates. The latter instruments are still in early stage of development and implementation, and many of the business models are untested. Estimates of potential leverage provided in the various proposals are not yet tested on the ground. As such, they should be treated with caution. But the facility could accelerate movement through the learning curve through the use of competitive, demand-led approaches, which challenge players to design new business models. In this way the GCF private sector facility could become a vanguard for **innovation.** Its governance could reinforce this if it is designed to combine representatives from the public sector, who will be concerned about the proper use of public funds, with representatives who have private sector skills and experiences. The latter would also focus on making the facility attractive to the private sector by calling for processes that lower transaction costs and ensure timely decision-making. The GCF private sector facility could become a premier vehicle for partnership with the private sector, building into its charter an expectation for rapid **learning and knowledge** management that takes into account not only the results from initiatives it supports, but also from the broader set of private sector initiatives that will be carried out by the large number of players in this space. The GCF private sector facility could, for example, develop the metrics - including a consistent ways of calculating leverage of public sector funding - that would become industry standard bearer.

The option would also face a number of challenges. **Alignment with the country ownership principle**, while certainly possible, would be more difficult than in Option 1. The link with NAMA's could be weaker since decisions would be made by a different governing body that would oversee public sector operations. Those operations by their nature would be strongly linked to the NAMA. For project funding, this could be mitigated by using the processes that are currently in place in the CTF, which ask the project sponsor to demonstrate how the investment contributes to the country's strategy, and which provide for government consultation in advance of investments. But care would be needed to ensure such processes are not introduced in ways that would deter private sector investors interested in more indirect funding vehicles (like Fund of Funds). These would target countries that have taken proactive measures to attract the private sector by strengthening the policy environment, and investors would of course need to comply with domestic laws. As such, prior consultation beyond complying with domestic laws and practices may not be needed,

though it is understandable that governments may want to know what investments are occurring in their territory using GCF funding. Management of public-private partnerships (PPPs), which require GCF support on both the public and private sides of the investment, would be more complex, and processes would be needed to marshal the different private and public tools in a coordinated fashion for infrastructure projects that use PPP modalities.

In terms of **readiness** for implementation, the GCF board would need to accept that the private sector facility would take risks since it would be experimenting with new business models, not all of which will succeed. Depending on risk appetite, the facility could lead the way by piloting some of these new approaches. Alternatively the GCF could position itself to scale up promising experiments, which are now underway, once they have shown results. The latter approach might appeal to governments that are more risk averse. It also recognizes that there will be some time before the facility is actually funded and able to learn from the experiments now underway. This option has the potential for considerably higher transactional **efficiency** than Option 1. It could use clear and transparent competitive processes to fund investor-led pooled funding business initiatives. These processes could include low transaction costs as one selection criteria. And the governing body could contract out the technical assessment of the tenders, allowing for a lean organizational structure that focuses on strategy, oversight, and learning.

Summary Assessment: This option presents a strong opportunity to partner with the private sector in ways that could significantly scale up private investment. It could place a premium on innovation and results with supportive governance that includes both the public and private sector skills. It could provide differentiated tools and approaches for countries that are still developing an enabling environment for climate compatible investment, but also focus on business models that meet the needs of countries with stronger investment climates. It could scale up a number of promising experiments, which aim at tapping into pools of private capital. In doing so, it could provide developing countries with new sources of capital, along with support to bridge the costs between new and traditional technologies. But innovation comes with risks and challenges. The facility would need to ensure that the principle of country ownership is embedded into the way it does business, and overcome the risk of disconnect between public and private activities in a country. It will need to understand its risk appetite, since not all of the investments will succeed. It would need to lower transaction costs so as to attract private capital, while striving for a lean organizational model that relies on competitive processes that build on the competencies of others in the market.

Option 3: Transform and Scale – Using both Options 1 and 2

The Option

- 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 1 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 Facility. This would focus on proposals that fall under the second modality of Option 2 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 Facility. Programs could be global, regional or sectoral.

In order to mitigate the risk that the two modalities would compete against each other and to avoid a situation where each is poorly funded, the GCF might include in its governing charter the ability to create the Private Sector Innovation and Scale-up Facility, but to then only open the Facility once the country-based windows were operating at a sufficient scale.

The Assessment

This option has the strategies and tools for attracting private investment and capital that are discussed in Option 2 above. As such, this section does not repeat the case for GCF support of the substantive elements in that Option. Instead, it focuses on what would be different – both positive and negative – in this model as compared with Option 2.

This option helps allay the concerns of some developing countries with respect to alignment with country ownership, since project level support would be considered in the same window as public sector operations, thus providing a more assured reference to country NAMA's. It would allay concerns of least developed countries, which worry that they may not get access to the private sector funding under the facility given their more challenging business climates. They would likely most benefit from support for strengthening the enabling environment and for risk reduction mechanisms that would be delivered under a country based window. Middle Income Countries would be the main recipients of the innovative products under the private sector facility. While both could be accomplished under Option 3 as well, separating the two functions would provide some comfort to LDCs and help build confidence. 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.

But, there could be a disconnect at the country level between the support for early entry projects and those that are supported by the instruments designed for scale. This could impact the ability to innovate, since knowledge, relationships and capabilities from the two modalities could also become disconnected. The model could be less efficient than Option 2. It could be confusing to stakeholders, since the private sector would need to navigate two different entry points, each with different rules and possibly different organizational cultures. Given the different governing bodies and stakeholders, there could be inconsistent approaches and criteria between the GCF Windows and the Facility. Having separate modalities for private sector engagement could increase costs within the GCF organization, though the skills needed to operate both modalities could be combined within the GCF secretariat.

Summary Assessment:

Like Option 2, this option allows the GCF to pursue both early entrant and scale-up strategies. It also provides a stronger platform than Options 1 for scale, leverage, innovation and partnership. The choice between having a single private sector facility (Option 2) and separate private sector modalities (Option 3) will eventually be one of judgement and stakeholder considerations. Option 2 has the edge on innovation, partnership and efficiency. Option 3 gives more weight to least developed country desires to have the private sector operations, particularly more traditional project based-support programs, more firmly part of the country strategy and linked to public sector activities. Both can be made to work.

Box 2: Assessment of Global Climate Fund Structural Options

Criteria*	Single Window for Public and Private Sector Option 1	Scale through a Dedicated Private Sector Facility Option 2	Transform and Scale Using both Options 1 and 2 Option 3
Alignment with Country Ownership Principle	Strong	Strong for Country Level Interventions Indirect for Scaled interventions. Funds will flow to countries which have good supporting policies. Mechanisms to ensure alignment with country strategies needed.	Strong for Country Level Interventions Indirect for Scaled interventions. Funds will flow to countries which have put in place supporting policies
Implementation Readiness	Mature	Mature for Country Level Interventions. Concept to Emerging for scale-up initiatives. GCF could build on results from emerging initiatives but seek pilot testing from partners on new concepts before moving on these.	Mature for Country Level Interventions. Concept to Emerging for scale-up initiatives. GCF could build on results from emerging initiatives but seek pilot testing from partners on new concepts before moving on these.
Market Transformation	Low - Moderate Depends on strength of policies. Lacks complementary business models to scale up beyond first mover investments	Moderate - Strong Combining instruments allows for smooth transition between early mover and scale initiatives	Moderate - Strong Separating instruments could create disconnects
GHG impact	Low-Moderate Depends on strength of policies. Lacks complementary business models to scale up beyond first mover investments needed	Moderate - Strong Potential for leveraging significant amount of private capital, which in turn depends on strength of enabling environment	Moderate - Strong Potential for leveraging significant amount of private capital could be muted by diffusion of funding between two entry points
Leverage	1-4 to 1-8	1-2 to 1-10	1-2 to 1-10
Scalability	Low	Strong	Strong
Transactional efficiency	Low	Moderate to High	Moderate Two windows for private sector initiatives could add complexity and limit investor interest
Innovation, Learning and Partnership with Private Sector	Moderate	Strong Need to find ways to link with country level public sector operations	Moderate Needs to find ways to transfer knowledge and innovations from private sector transactions gained via different windows

IV. Beyond the Options: Common issues

As the work moves from creating the GCF to making it operational, concerns from stakeholders on the uses of public funds to catalyze private investment remain, irrespective of the option chosen.

Transparency and measurement will be critical for ensuring that funds are allocated and used effectively. On transparency, existing climate finance programs have been criticized for insufficient metrics.xliii The assessment of options prepared for this paper, for example, was developed for most variables based on input from experts operating in the field. This is because independent evaluation of the effectiveness of climate finance being deployed today- in terms of actual outcomes by type of instrument -is thin.xliv Public sector evaluation techniques used by the major multilateral and bilateral funders have not yet been fully adapted to look at climate indicators like GHG reductions and leverage .xlv While groups like the MDBs are working to establish consistent methodologies, these are not yet in place. In addition, the larger funds like the CTF are relatively new, with projects only now reaching the implementation stage. Other ideas, like investing public funds into private equity funds, are still in early stages of deployment and it is too soon for ex-post evaluation. Measurement – for example, of additionality and 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, methodologies and approaches.xlvi 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 Organization for Economic Co-operation and Development (OECD), and the private sector to fill this gap. From the private sector, one proposal is to use standards and labelling - like the Climate Bond Standard[xlvii] - for financial products to measure additionality and 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. The need to ensure that programs be gender-sensitive has been highlighted. At the same time, institutional investors caution that the imposition of international standards, like the Equator Principlesxlviii, would be a deterrent to investment. This concern is the same voiced by developing countries 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.xlix

Finally, lessons learnt from bilateral and multilateral development assistance activities and global funds for development will be important in informing future climate financing mechanisms.[l]

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.

V. Recommendations: Moving Forward with a Private Sector Facility

State of play in the design of the GCF by the Transitional Committee.

This paper has been developed in parallel with the work of the Transitional Committee charged with designing the GCF. An earlier version, which outlined the options discussed above with preliminary considerations for their assessment, was presented to the Transitional Committee in August 2011.[li] It noted that strengthening the enabling environment for private sector participation will be critical, and that climate finance can help countries develop supportive policies and manage transition costs by supporting and financing public policy reforms and institutional capacity development. However, by confining itself to this objective the GCF would give up the ability to catalyze private investment more directly. Given the focus on the importance of maximizing private sector investment and leverage, options that support developing the enabling environment, while also allowing both country-specific private sector operations and innovation to catalyze private capital, have particular merit. The options to support country led operations in the same window as public sector projects and programs has an emerging track record under the GEF and the Clean Technology Fund, and therefore could be introduced into the GCF relatively easily. The earlier version of this paper argued that if the GCF is looking to make significant breakthroughs, providing a focus on private sector leverage and innovation, it should consider options that focus on tapping private capital as well.

Since then, the TC has completed its work, and submitted a report to the UNFCCC Seventeenth Conference of the Parties which will be meeting in Durban starting November 29th, 2011. The TC report presents a proposed governing instrument for COP 17 approval.[lii]

That report includes provisions for a dedicated private sector facility.

It would operate separately from Windows for Mitigation and Adaptation. The specific language provides for:

"*5.3.2 Private Sector*

41. The Fund will have a private sector facility that enables it to directly and indirectly finance private sector mitigation and adaptation activities at the national, regional and international levels.

42. The operation of the facility will be consistent with a country-driven approach.

43. The facility will promote the participation of private sector actors in developing countries, in particular local actors, including small and medium-sized enterprises and local financial intermediaries. The facility will also support activities to enable private sector involvement in SIDS and LDCs.

44. The Board will develop the necessary arrangements, including access modalities, to operationalise the facility."[liii]

This recommendation is consistent with the broad outline of Option 2 discussed in the previous section. It would finance private sector activities both directly and indirectly, which is consistent with the idea of allowing support for project based investment as well as for using new structures, like fund of fund approaches. The concerns over access to the fund for the LDCs and SIDs is reflected in the language, which spells out the need to support such activities, and the language makes the important point that the facility needs to be consistent with a country-driven approach.

Assuming that this language is adopted in Durban, the next steps will be to give life to the decision. The details matter, and the GCF Board would be empowered to name the necessary arrangements to operationalize the facility. Despite this apparent convergence around creation of a private sector facility, developing countries are still concerned about the proposal, so implementation details will matter. Private sector stakeholders will still need assurance that the operation of the facility will be operated in a clear and

consistent manner, with low transaction costs. The following recommendations draw from the analysis in this paper to provide a set of recommendations for the GCF Board as it moves to create the facility.

Recommendations

The GCF Private Sector Facility can achieve the goals of scale-up and transformation while meeting country needs for climate compatible development by having:

- A governing body that includes representatives of the public and private sector as decision-makers. To avoid conflict of interests, private sector representatives should no longer be active in the investment field.

- A strategy that emphasizes market transformation, scale and leverage, yet provides differentiated approaches to the needs of least developed countries, small island states and middle income countries. This should include incentives to also meet the needs of pro-poor investments. But this differentiated approach should be underpinned by a goal of supporting all countries to put in place the enabling environment, which will be critical to will help them meet their climate and development objectives.

- The full array of risk mitigation and subsidy tools that have been designed by previous international efforts.

- Scope to build on new approaches to scale-up access to private capital and to use new innovative mechanisms, like performance based instruments.

- Competitive processes that can seek out new business models that will scale up and leverage private capital. Instead of designing *ex ante* business models that it will invest in, the facility can set criteria and a transparent selection process that will put a premium on scale, and select those proposals that hold the most promise for results and impact.

- A business model that is lean and builds on capabilities in the market. It can do this by emphasizing competitive processes to attract high quality proposals from both the public international financial institutions and domestic development finance institutions and private sector financial institution to handle the intermediation for direct and indirect parts of the business. These can be global, regional or domestic.

- Goals that go beyond the clean energy space to develop new approaches for public support to catalyze private sector investment for land use, land use change and forestry (LULUCF) and adaptation solutions.

- A world class set of metrics, which will provide transparency and support accountability. The facility can set the pace for measurement for all private sector operations that tap public funding.

- Practices that meet the needs for social and environmental sustainability, while promoting country-owned processes.

- Strong approaches to knowledge management, learning and partnership that promote learning by doing and allow the GCF to takes risks while scaling up those activities that show the best results. In doing so, the GCF can also build on lessons learned from earlier international cooperation, including ongoing Fast Start financing.

Annex 1: Barriers to Private Sector Investment

Barrier	Example
Common Barriers Across Sectors	
Country and Policy Barriers	
Business conditions	Political climate, enforceability of contracts and agreements
Investment climate	Intellectual property rights, capital controls, currency risks
Regulatory environment	Lack of well established and resourced regulator
Price controls	Subsidies, government interventions that deviate price from market
Market Barriers	
Incomplete financial markets	Lack of liquid and deep domestic equity and debt markets
Capital restrictions	Restrictions by investment type: corporate vs. household
Mispriced risk	Lack of information and incorrect risk-adjusted return estimates
Lack of insurance	No protection against climate related damage (e.g. natural disasters)
Start-up barriers	Higher for low-carbon investments
Implementation barriers	Lack of established engineering, procurement and construction contractors
Sector Specific Barriers	
Energy, Transport, and Biofuels	
Technology risk	Uncertain returns from specific technologies
Consumer demand	Uncertain demand for renewable energy and alternative fuel vehicles
Fossil fuel subsidies	Distorts market price and increases required rate of return
Cost recovery	Returns to investment often not realized by initial investor (agency problem)
Network effects	Many technologies require networks (e.g. solar and fuel require grid capacity)
Technology cost gap	Technology costs higher than fossil fuel competitors
Forestry	
International Policy Risk	Uncertain international enforcement for programs (e.g. REDD+)
REDD+ Credit Price	An overflow of credits into specific markets could reduce price

Opt in/out clause in Article 3 of Kyoto Protocol	Most countries opt out of accounting for sink/source values of forest practices in domestic emission trading regimes
Temporary credits	The temporary nature of credits generated by CDM forest projects hinders international investment
Compliance market policy uncertainty	First commitment period of Kyoto ends in 2012 and future policy is uncertain
Competing interests of stakeholders in forests	Local interests may not always be aligned with investment interests
Forest governance	Seed planning zones, reforestation standards and hydrologic and wildlife management guidelines are designed for the current climate regime
Agriculture and Land Use	
Food security and economic growth	Climate friendly agriculture projects may slow or curtail the speed of economic development, trade, and food security in developing countries reliant on this sector for growth
Limited track record for emissions reduction	Need to demonstrate on-the-ground that shifts in management can lead to reduced net emissions
Difficulty in monitoring and reporting	Monitoring, reporting and verification is difficult due to the high potential for reversibility in agriculture, difficulties in measuring nitrous oxide and methane, and the cost of measuring diverse and changing farm practices
Farmer knowledge and information	Farmers lack information about benefits and liabilites associated with carbon market contracts and other technical options for mitigation
Carbon market alone is not enough incentive	Credibility and value of agricultural offset credits has been hindered by slow progress toward cap-and-trade markets and by challenges in setting national standards for monitoring, reporting, and verification
Ineffective carbon credit deployment	Low demand in agricultural sector and limited focus on productivity
High initial risks and low returns	Slow accumulation of carbon and productivity benefit over years or decades
Waste Management	
Time required for plant set up	Average time for a waste management company to get a plant up and running can be up to seven years in *developed* countries.
Landfill alternative	Operating a landfill is a low cost alternative to other, climate friendly waste management processes
Small market for recycled products and compost	More common in developing countries.
Small rural populations	High operating costs difficult to recover in areas of low population density

Recycled concrete production	Recycled concrete can provide positive environmental and economic benefits, but its availability faces logistical challenges and new quarry sites are difficult to obtain
Inconsistent definitions of waste	Different regulatory bodies define waste differently, affecting the strategic use of waste. More consistent and stable global regulatory standards would enable long term strategic investment
Limited integration with manufacturing processes	Increases costs and reduces opportunity for systematic and consistent waste retrieval

Annex 2: How Public Funds can be used to 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 3: Examples of Investment Initiatives for Scaled-Up Private Sector Climate Finance from Public, Private, and PPP Sources

Initiative	Type of Initiative	Promoting Institution(s)	Purpose	Scale (millions)	Ownership Share (in millions or % share)	Financing Instruments	Sectors	Geographic Scope	Working Methods	Institutional Linkages
Global Energy Efficiency and Renewable Energy Fund (GEEREF)	Public Private investment mechanism	EIB, Patient Capital Initiative	Provide global risk capital through private investment for energy efficiency and renewable energy projects in developing countries	108	EU, Germany, and Norway founding investors	Investments in private equity funds	Renewable energy, energy efficiency	Focus on ACP, also invests in LA, Asia, and Neighboring EU states		Berkeley Energy, Evolution One Fund, Barefoot Power, Danish Industries Frontier Market Energy and Carbon Fund, Solar for All
Energy Sustainability and Security of Supply Facility (ESF)	Public investment mechanism	EIB	Dedicated multi-annual facility to finance investment grade energy projects outside the EC	4500		Direct or indirect loans at attractive interest rates Fixed and floating rate loans	Energy	EU neighborhood countries ACP Asia Latin America	Loans are project-linked, oriented to the financing of the fixed asset component of an investment. Max 50% of total project costs.	
Global Climate Partnership Fund	Public Private financing mechanism	KfW BMU/ICI	Enable environmentally friendly economic growth in emerging and developing countries while contributing to mitigation of climate change; achieve economic sustainability for the fund; attract private and public capital into climate finance	200	€22.5 BMU, $75m IFC, $7m Denmark. Waterfall shareholding structure to attract multiple risk/return profiles	Refinancing local financial institutions, and in the future (co)investing directly	Renewable energy, energy efficiency	Chile, China, India, Indonesia, Mexico, Morocco, South Africa, Philippines, Tunisia, Turkey, Ukraine, Vietnam	Shareholders represented on Board of Directors which appoints the Investment Committee which approves proposals by the investment manager	Investment manager: Deutsche Bank external contributions from IFC, Denmark,
Sustainable Energy and Climate Change Initiative	Public financing mechanism	IDB	Provision of comprehensive sustainability options	40	$20 IDB, $10 Spain, €5 Germany, $5 Japan, £1.4 UK, €1 Finland, €.95 Italy, $1 Austria, Korea	Technical cooperation	Energy, transportation, water and environment, climate resilience	Latin America Caribbean		
ADB Solar Energy Initiative	Public investment mechanism	ADB	Identify and develop 3,000MW large scale solar in Asia	9000	$2,250 - ADB$6,750 - private investors (anticipated)	Loans, donor contributions, grants, innovative risk mitigation mechanisms, carbon market, direct support	Solar	Asia	Knowledge management, project development, innovative finance	

Initiative	Type of Initiative	Promoting Institution(s)	Purpose	Scale (millions)	Ownership Share (in millions or % share)	Financing Instruments	Sectors	Geographic Scope	Working Methods	Institutional Linkages
PLAC+E	Public investment mechanism	Corporación Andina de Fomento (CAF)	Promotes the use of clean and alternative energies through the development and funding of innovative projects		CAF membership share: Argentina, Bolivia, Brazil, Colombia, Ecuador, Panama, Peru, Uruguay, Venezuela. "C" shares held by: Chile, Costa Rica, Spain, Jamaica, Mexico, Paraguay, Dominican Republic, Portugal, Trinidad & Tobago	Project development assistance, Technical Assistance, Loans,	Clean energy electric grid interconnections ,methane capture, energy efficiency ,forest sequestration, long-term programmatic projects, fuel switch, transport	Latin America	Primarily facilitates carbon marketing	KFW, BMU, IFC, Denmark, Deutsche bank
Sustainable Energy Initiative	Public financing mechanism	EBRD	Focus and drive the Bank's work on sustainable energy and climate change at both the strategic and operational level	€6,600 since 2006	EBRD shareholders: 61 countries, EU, EIB	Technical cooperation facility, credit lines with technical assistance for financial intermediaries, project investment loans, policy dialogue	Industrial energy efficiency, sustainable energy financing facilities, cleaner energy in power sector, renewable energy, EE in municipal infrastructure, carbon market support	Central/ Eastern Europe and Central Asia		EU Neighborhood Investment Facility, Western Balkans Fund, the ETC Fund,
Climate Investment Funds	Public financing mechanism	ADB AfDB EBRD IDB WBG	Demonstrate the role international climate finance can play in catalyzing a transformation to low carbon economic development	$6,500, of which $1.5 from the private sector	Pledged$2,000 USA $1,414 UK $1,200 Japan$813 Germany$300 France$194 Norway$152 Spain $135 Australia$97 Canada$92 Sweden$76 Netherlands$38 Denmark$20 Switzerland$3 Korea	Grants, concessional loans, other risk mitigation instruments (e.g. guarantees)	Energy (clean technologies),Forests (REDD),Cross-sectoral (adaptation/ resilience)	Developing and transition countries	Managed as a trust fund with four funding windows - clean energy technology, RE in low-income countries, REDD and adaptation. Committees of funding and recipient governments serving as the decision-making body. Trustee and secretariat services are provided by the WB.	ADB, AfDB, EBRD, IDB, WBG serve as intermediating institutions, channeling resources from the fund to projects or other financial institutions in developing countries.

Initiative	Type of Initiative	Promoting Institution(s)	Purpose	Scale (millions)	Ownership Share (in millions or % share)	Financing Instruments	Sectors	Geographic Scope	Working Methods	Institutional Linkages
Energy+	International partnership for energy access and climate mitigation assistance	Government of Norway	Promote access to energy and low carbon development in developing countries	In design	Gov. of Norway led initiative, but will seek international partners	Result-based payments	Renewable energy, energy efficiency, energy access	Global	International partnership, pilot countries	
Deutsche Bank Climate Change Advisors	Private investment mechanism, Climate Change and Climate Change Policy Research	Deutsche Bank Asset Management	Institutional and alternatives business	4000		Mutual funds, equity, debt, lending, corporate finance, arranging markets for IPOs, bonds, commodities, FX, credit default swaps, interest rate default swaps and options		25 countries	Asset manager- steer investments into low-carbon companies; Trader- provide liquidity in carbon market raise debt and equity capital to fund clean tech companies and projects; Advisor- provide solutions to clients Climate change ;research- e.g. GET FiT	
Interact Climate Change Fund	Public investment mechanism	AFD, EIB, EDFI	Demonstrate the financial attractiveness of climate friendly projects in developing countries and catalyze long-term investments.	400	€100 AFD €50 EIB (Contonou Investment Facility)€150 EDFI (UK, Belgium, Spain, Finland, Germany, The Netherlands, Norway, Austria, France, Switzerland, Sweden)	Senior loans and mezzanine debt	climate-friendly private sector projects in developing countries	developing countries	Promoting EDFI member/ shareholders may propose eligible investments for streamlined authorization by the investment committee for up to 75% ICCF financing. Investment oversight responsibility is delegated to promoting partner	
OPIC Renewable Resources Investment Funds		OPIC	Support clean technology, renewable energy, and enhance farm sectors	$500, co financing projected at $1,000		Private equity	RE, EE, infrastructure, farming, agricultural services	South and Southeast Asia, Sub-Saharan Africa, North Africa	OPIC provides debt investments across five private equity funds who then invest in and manage projects	

Annex 4: Catalyzing Private Investment: Approaches to Addressing Barriers and Providing Incentives

Develop a Supportive Enabling Environment: Focus is on building a country's low-emission investment climate		
Requirement	Barriers Overcome / Incentives for Private Sector	Tools / Approaches
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 (PPAs)	Grants for Advisory Services and Capacity Building for Low Emission Development Policies Development Policy Operations and Budget Support Operations *Example: Mexico Low-Carbon DPO*
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		
Requirement	Barriers Overcome / Incentives for Private Sector	Tools / Approaches
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 from lower technology costs

	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	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

Requirements	Barriers Overcome / Incentives for Private Sector	Tools / Approaches
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 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, target to $1.5 billion* **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 scale and diversification of risk. *Example: EIB's GEEREF, CP3, Green Venture Fund*

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 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. 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.*
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.

Annex 5: Assessment of Potential Effectiveness of Specific Tools to Catalyze Private Investment

Goal	Tool	Potential Effectiveness of the Tool					
		Implementation Readiness	Effectiveness: Market Transformation	Effectiveness: GHG impact	Effectiveness: Private Capital Leverage	Effectiveness: Scalability	Transactional Efficiency: (Assessed by Relative Transaction Costs)
Overall Assessment: Develop a Supportive Enabling Environment/Investment Climate		Mature	Moderate-Strong	Moderate-Strong	Indirect only	Moderate	Moderate
Well defined government strategy and policies	Grants for Advisory Services and Capacity Building for NAMAs and Low Carbon Policies	Mature	Moderate. Necessary but not sufficient to overcome non-climate barriers. Implementation critical for impact	Moderate. Impact depends on strength of policy measures	Indirect only Necessary but not sufficient to overcome non-climate barriers. Implementation critical for impact	Moderate	High (relatively low transaction costs)
Attractive low-carbon policy and regulatory environment	Development Policy /Budget Support Operations	Mature instrument. Emerging for climate policies	Moderate – Strong Necessary but not sufficient to remove non-climate barriers Impact also depends on strength of policy measures and country ownership	Moderate - Strong Impact depends on strength of policy measures	Indirect only Necessary but not sufficient to remove all non-climate barriers	Moderate	Moderate (Moderate transaction costs)
Supporting infrastructure	Conventional IFI financing and risk mitigation tools. May require concessionality.	Mature	Moderate, but can be strong if it removes a major barrier		Can indirectly catalyze significant private investment (e.g in renewable power generation which depends on grid availability)	Low-Moderate Very specific to country & sector economics	Low: High transaction costs

		Implementation Readiness	Effectiveness: Market Transformation	Effectiveness: GHG impact	Effectiveness: Private Capital Leverage	Effectiveness: Scalability	Transactional Efficiency: Relative Transaction Costs
Overall Assessment: Early Mover Investments		Mature	Moderate	Low-Moderate	1:4 – 1:8	Low	Low
Reduce High Costs for Early Entrants Reduce gap between real and perceived regulatory and policy risks	Concessional loans, combined with policy guarantees, insurance, first lost instruments, subordinated debt or equity Grants for advisory services and TA	Mature	Moderate Transformation also depends on supportive policy framework	Low-moderate Individual projects may not have a major impact. Broader Impact depends on strength of market transformation	Direct: 1:4 – 1:8 Leverage also varies by sector	Low Strategy is to exit from this mode after initial demonstrations and let other instruments go to scale	Low (relatively high transaction costs)
Enhance project economics	Grants, concessional debt, equity. Pay for performance: International public support to cover domestic incentives e.g. payment of feed-in-tariffs	Mature Concept	Moderate However, potentially high, if subsidy allows sufficient scale of investment to bring down costs to levels competitive with fossil fuel alternatives	Low-Moderate Impact depends on size of intervention, linked to availability of subsidy	Depends on project economics. Methodologies aim to minimize subsidy, but will vary depending on technology	Low-Moderate Depends on availability of otherwise scarce public funding. Subsidies not sustainable over medium term	Low (High transaction costs) Pay for performance could reduce transaction costs since due diligence concentrates on measuring performance rather than on up-front project development

		Implementation Readiness	Effectiveness: Market Transformation	Effectiveness: GHG impact	Effectiveness: Private Capital Leverage	Effectiveness: Scalability	Transactional Efficiency: Relative Transaction Costs
Going to Scale		Most of these proposals are still in the testing phase for use of public climate funds to catalyze private finance, without track record for evaluation. Assessment based on expert views formed from initial experiences plus data from other sectoral applications.					
		Ranges from Nascent to Concept	Potential: Strong	Potential: Moderate to Strong	Potential: Wide range estimates of leverage: 1:2– 1:10	Potential: Strong	Potential: Moderate to High Efficiency Depends on GCF adopting clear and simple processes
Increase access to private capital for climate projects with strong returns	**Pledge Funds,** with public contributing equity/near-equity alongside private capital **Fund of Funds,** with public contributing to a Fund alongside private capital. Fund managed by a General Partner	Emerging for Climate	Strong (operating in sectors/countries which are ready to take off)	Moderate to Strong Fund criteria can drive investments to high impact No subsidy element to cover technology gap between clean versus fossil fuel alternative	1:3 to 1:10	Strong	High Fund Fees structures could add additional costs but may add value to investors
Increase access to private capital for climate projects in less mature markets while building track record and capacity	**Public-Private Partnership:** public contribution equity/near equity, alongside private capital to a Fund of Funds. IFI risk reducing mechanisms are applied as well.	Emerging	Moderate (operating in less favorable contexts)	Moderate to Strong Fund criteria can drive investments to high impact **No subsidy element**	1:2 – 1:5 Depending on riskiness of project, company track record	Moderate - Strong	Moderate Fund Fees structures could add additional costs but may add value to investors IFI due diligence adds to transaction costs but can provide comfort needed to investors

		Implementation Readiness	Effectiveness: Market Transformation	Effectiveness: GHG impact	Effectiveness: Private Capital Leverage	Effectiveness: Scalability	Transactional Efficiency: Relative Transaction Costs
Increase access to venture capital in developing countries	**Venture Capital PPP:** Public funds provide equity investment in Venture Capital Fund of Funds could be a single fund, need not be FoF	Concept	Depends on size of intervention	Not determined	Direct 1:2 – 1:4 Leverage at the project level could be higher.	Strong	Low to Moderate Public sector support for venture capital investing in developing countries still nascent and only supported in niche applications. Will likely require testing of rules of engagement and heightened M&E to build public funder confidence, increasing transaction costs at least initially
Provide incentives through price signals	**Carbon Price Support Mechanisms**	Concept	Depends on implicit carbon price and size of intervention. Could be substantial if this concept replaces other public finance interventions.				High
Create Bond market for climate investments	**Green or Climate Bonds.** Public climate finance supports first-loss tranches or partial guarantees from early bond issuances in developing countries.	Emerging	Strong	Moderate-Strong Appetite from institiutional investors for low-risk projects may limit scope for transformational projects	Strong But depends on action in developing a pipeline of low-risk projects which will be attractive to institutional investors. Removal of policy barriers critical.	Strong But depends on action in developing a pipeline of low-risk projects which will be attractive to institutional investors	High

		Implementation Readiness	Effectiveness: Market Transformation	Effectiveness: GHG impact	Effectiveness: Private Capital Leverage	Effectiveness: Scalability	Transactional Efficiency: Relative Transaction Costs
Mitigate risks in trade finance to leverage private finance for developing country 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.	Emerging	Moderate Transformation also depends on supportive policy framework	Low-moderate Individual projects may not have a major impact. Broader Impact depends on strength of market transformation	Direct: 1:4 – 1:8 Leverage likely similar to other project interventions (1:4 – 1:8) but depends on how combined with other risk mitigation tools.	Low Strategy is to exit from this mode after initial demonstrations and let other instruments go to scale	Moderate

Definitions:

Implementation Readiness: **Mature:** many examples at significant scale; **Emerging:** first significant examples under implementation; **Concept:** at idea stage, first pilots may be under development or launched

Private Capital Leverage: **1** dollar public money to **Y** dollars private capital

Source: author's analysis

ENDNOTES

[i] Sierra, K (2011). "The Green Climate Fund: Options for Mobilizing the Private Sector: A Brief for the GCF Transitional Committee", August 26, 2011. Climate and Development Knowledge Network http://unfccc.int/files/cancun_agreements/green_climate_fund/application/pdf/cdkn_submission_on_private_sector_options.pdf

[ii] 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 solar photovoltaic and 12 million in biofuels-related agriculture and industry (UNEP/ILO/IOE/ITEC 2008)

[iii] World Bank (2010)

[iv] IEA (2010) and Ward (2010)

[v] World Bank (2011)

[vi] Taken from IFC (2011 Forthcoming) with its analysis in turn based on PEW Charitable Trust (2010) and HSBC (2010) and UNCTAD (2010).

[vii] Buchner, B, et al. (2011)

[viii] Categories adapted from Brown, J (2010) and draw from United Nations 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 and 2011).

[ix] AGF Workstream 7 Paper: Public Interventions to Stimulate Private Investment in Adaptation and Mitigation.

[x] Forms of subordinated debt or equity are ways to secure more senior loan or equity financing.

[xi] Nassiry and Wheeler (2008), New Energy Finance and UNEP (2008) and Crespo (2008).

[xii] Hill (2011)

[xiii] AGF Workstream 7 Paper: Public Interventions to Stimulate Private Investment in Adaptation and Mitigation.

[xiv] 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).

[xv] 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). The Critical Mass Initiative continues its work through the United Kingdom Government's Capital Markets Climate Initiative (http://europa.eu/epc/pdf/workshop/5-3_cmci_overview_en.pdf). The MDBs, UNEP and UNDP have actively participated in these dialogues.

[xvi] CIF (2009 and 2010)

[xvii] The recently created Global Adaptation Institute, a private sector led non-profit, is about to launch a Global Adaptation Index along with has a pilot program of investments. This is one example of work being done to support private sector investment.

[xviii] 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).

[xix] 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).

[xx] World Bank IEG (2010a) Table A.2

[xxi] Data from projects evaluated by IEG in FY08-11. World Bank IEG (2010a).

[xxii] 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[xxii].

[xxiii] CIF (2009).

[xxiv] IFC's internal tracking of ongoing clean energy and energy efficiency projects in the 1992-2009 cohort suggested that 85% were progressing successfully. (World Bank IEG 2010b).

[xxv] World Bank IEG (2010b) See Table 6.1 for summary of findings by sector

[xxvi] CIF (2011)

[xxvii] 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.

[xxviii] This is one of the tools proposed under the GET Fit initiative (Deutsche Bank 2010)

[xxix] http://www.iadb.org/en/resources-for-businesses/beyondbanking/planetbanking,2081.html

[xxx] Brown and Jacobs (2011) and Center for American Progress (2010)

[xxxi] One caution for Fund of Funds structures is that fees may 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 of scale, diversification and reach into new countries and technologies that institutional investors lack previous experience with from these structures are sufficient to warrant the costs

[xxxii] See Brown and Jacobs (2011) and WEF (2011)

[xxxiii] 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.

[xxxiv] Nassiry and Wheeler (2010) provides the Center for Global Development proposal for a Green Venture Fund.
[xxxv] See Brown, and Jacobs (2011) and WEF (2011)
[xxxvi] OECD: "Monitoring and Tracking Long-Term Finance to Support Climate Action" (forthcoming)
[xxxvii] See Liebreich (2011) who outlines the opposite argument – that since the GCF will not be attractive as a direct funder, it should position itself as a grant maker to cover residual technology costs between clean and fossil fuel alternatives, within a broader Climate Finance Framework that is made up of many institutions, public and private.
[xxxviii] Della Croce et al (2011 forthcoming)
[xxxix] The MDBs participating in the CIFs recommended approaches to fund design which would explicitly allocate resources to private sector interventions, given the historic lack of support by recipient governments for private sector projects. CIF (2011).
[xl] 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.
[xli] Earlier versions of the paper refered to this as a "Window". The language has been changed to reflect the Draft Governing Instrument for the Green Climate Fund (TC-4/3, 18 October 2011) submitted by the Transitional Committee to the COP16 which will consider it at the UNFCCC climate meetings in Durban. These documents and the broader Transitional Committee discussions refer to creation of a "Private Sector Facility". While not explicit in the draft Governing Instrument, in this context, the difference between a window and a facility refers to the governance arrangements. As currently envisaged by the Transitional Committee, GCF windows would not have sub-boards, but instead would be governed by the GCF Board directly. Designating the Private Sector entry point as a "Facility" would allow the GCF Board to create a sub-governing body which would have the set of skills needed for private sector operations. The GCF Board would be able to delegate decision-making powers to it.
[xlii] 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 global capital markets."
[xliii] For example, see Bretton Woods Project (June 2011)
[xliv] See recent literature review by EDF/CPI/ODI/Brookings, Chaum et al (2011). Improving the Effectiveness of Climate Finance: Key Lessons
[xlv] The World Bank's Independent Evaluation Group conducted a review of World Bank Group climate programs. (World Bank IEG 2010a).
[xlvi] Brown, J. et al, "Leveraging Climate Finance: a survey of methodologies", *Climate Finance Effectiveness Background Paper (Forthcoming 2011)*
[xlvii] For more on Climate Bond Standards, go to http://climatebonds.net/proposals/standards/
[xlviii] 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/
[xlix] Agrawala et al (2009)
[l] OECD (2009 and 2011)
[li] Sierra, K (2011). "The Green Climate Fund: Options for Mobilizing the Private Sector: A Brief for the GCF Transitional Committee", August 26, 2011. Climate and Development Knowledge Network
http://unfccc.int/files/cancun_agreements/green_climate_fund/application/pdf/cdkn_submission_on_private_sector_options.pdf
[lii] UNFCCC, Transitional Committee (2011)
[liii] UNFCCC, Transitional Committee (2011), page 13-14.

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