KEY POINTS SUMMARY of

"Engaging private sector capital <u>at scale</u> in financing low carbon infrastructure in developing countries"

The Main Report of the

PRIVATE SECTOR INVESTMENT Project

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GtripleC

SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHOW ME THE MONEY SHOW ME SOME LIGHT SHOW ME THE MONEY SHOW ME SOME HEAT SHOW ME THE MONEY SHOW ME SOME COOL SHOW ME THE MONEY SHOW ME SOME MOVES SHOW ME THE MONEY SHOW ME SOME GREEN SHO

Introduction

The *Private Sector Investment* project is a policy project developed by GtripleC and made possible through funding by the United Nations Foundation and the Asian Development Bank. It seeks to understand and communicate the views between three key communities with respect to the question "What will it really take for there to be a rapid and massive scale-up in investments of zero and low carbon technologies and systems in developing countries?"

The three communities are:

- The climate change policy community, in particular country negotiators and senior policymakers working on the 'post-2012' global climate change deal;
- Experts in the finance and investment community who are focussed on this same question; and
- Key players in the public and private sectors whose daily decisions about infrastructure investments in developing countries currently reflect and perpetuate 'business-as-usual', so whose engagement is crucial to achieve the needed fundamental change.

The work of this *Private Sector Investment* (*PSI*) project has been based on three core premises:

1. The climate change policy community has limited experience, knowledge or understanding of finance and investment as it applies to major capital infrastructure projects in developing countries.
2. The experts in the finance and investment sector developing and promoting ideas about how to scale up finance for low carbon growth in developing countries have little understanding of the extent to which premise 1 applies.
3. As a result there is a high potential for these two communities to talk past each other.

This is a very serious matter. The climate policy community is in the final stages of a multi-year effort to establish a new international climate change policy regime that is specifically intended to have a transforming influence on investments in infrastructure and energy systems – especially in developing countries. The risk that there may be a disconnect between these two communities at this critical juncture is too concerning to leave aside and just hope things will resolve themselves in time. It needs to be approached head-on.

The work of this *PSI* project is presented in two forms:

- a full version **Main Report**
- this **Key Points Summary** for those wishing the highlights in a quick-read format.

Key Points Summary

On the investment challenge

In its World Energy Outlook 2009 (WEO 2009) the International Energy Agency (IEA) says "limiting temperature rise to 2°C requires a low-carbon energy **revolution**". This is a useful framing. Not only does it give a sense of the scale of the challenge, but also the need for a dramatic change in business-as-usual practices and decision making. While it is true that there will always be losers in a revolution, it is equally true that revolutions are times of great opportunities and, most often, of hope – that old ways that aren't working will get swept aside and something much better emerge.

Analysis by the IEA presented in WEO 2009 report shows that the scale of business-as-usual investment decision making that needs to be changed in a very short time is in the trillions of dollars. For example, the IEA's 450 Scenario (the scenario most connected to the potential of maintaining global warming below 2°C, the target now agreed by world political leaders) calls for investments globally in the power sector in the period 2010-2020 to be 71% zero-carbon at an investment value of over US$2 trillion. In 2021-2030 this expands to 91% zero-carbon and about $4.5 trillion. Investments in energy efficiency of over $2 trillion are also needed in 2010-2020, and over $5.5 trillion in 2021-2030.

This balance of investments on the demand side and the supply side is also critical. Under-investment in conservation and efficiency in the short term, means increases in investment on the supply side in the medium-long term – and, indeed, in the short term in economies that are developing quickly with high energy demands. The IEA 450 Scenario figures for supply side investments in the figures above are predicated on the very substantial level of investment in efficiency. Nearly two thirds of the mitigation achieved globally in 2020 in the 450 Scenario is from the efficiency investments over 2010-2020. Moreover, under-investment in energy efficiency not only affects the amount of increased supply that will be required, but also the nature of this, e.g. large central plants likely to be fossil-based with significant accompanying investment needs in transmission and distribution, versus smaller and more distributed/local generation that could be more renewables-based.

A large portion of these investments are in developing countries. The WEO2009 450 Scenario analysis shows the extent to which, in particular, China and India dominate the abatement potential and investment figures for the developing countries grouping. Investments in the United States and the EU are also large and crucially important to this 450 Scenario pathway to 2°C.

It has been common practice for high level reports about the challenge of reducing the emissions causing climate change to express this in terms of the additional costs of mitigation. While this setting out of figures in additional amounts is useful to compare and contrast these with the benefits of such incremental investment, it can serve to misconvey the scale of the challenge of redirecting investment from the 'brown path' to the 'green path'. It is the general magnitude that tends to get remembered from these reports (i.e. of the order of 10s to low 100s of $billions annually), not that these are just additional figures and the actual investments are in multiple 100s of $billions annually.

Then there is the issue of *costs* (of mitigation) versus *investments*. These are very different things, but because both are denominated in 'dollars' it is easy to get them mixed up. One key example how these are different is with investments in energy efficiency. While the investment amounts may be large, the mitigation cost of these measures may be negative because of subsequent cost savings. So this lowers any aggregate totals of cost, and additional cost, of the 'green' energy system.

Even when you separately identify investment figures of the green path versus brown and the additional investment amounts seem not that large, the nature of the investments are very different. For example, the latest best practice technology grid-connected solar power plants, such as those recently constructed in Spain, are of the order of 15 MW (with thermal storage) to 50 MW (without thermal storage). It would take, respectively, 67 or 20 of these plants to equal 1 GW, the size of a typical coal fired power station. India's recently announced **Solar Mission** seeks to have 18GW of grid connected solar power installed by 2022 (and another 2GW of off-grid). So this means hundreds of such plants in the next decade.

Understanding these points about the scale of needed investment provides a very different sense of the investment challenge than when numbers are just expressed as relatively low additional annual costs. Furthermore, if one considers the inertia that exists and helps to perpetuate business-as-usual, it can be seen that the switch of investment from the brown path to the green path is a much larger challenge than just providing money of a scale equal to the difference in costs – the apparent current focus of the finance debate in the UNFCCC negotiations. Business-as-usual is sustained by deeply ingrained policies and practices of a diverse group of public sector and private sector actors, only some of which are directly involved in finance and investment. Changing business-as-usual requires engaging at some level with all these actors.

Current multilateral/intergovernmental setting

Some clear messages that emerge from an objective assessment of this situation are:

1. Even with the most optimistic (and likely unrealistic) expectations of the scale of finances that can be raised through intergovernmental agreements – whether under a UNFCCC-struck deal or some other process – it is clear that public monies alone are not the solution to the needed levels of investment. As noted above, very substantial investments (trillions of dollars) by the private sector are going to be needed. The issue becomes how this is rapidly mobilised into priority areas at the needed scale.

2. Most of the energy in climate change policy innovation in the last decade has been around emissions trading and carbon markets. Without doubt this has played a crucial role in engaging the finance and investment sector in thinking about climate change and green investment. But significant enhancement in carbon market policy seems to be stalling. While there can be some optimism about enhanced carbon markets in the longer term (and the private sector involvement this implies), it is premature to believe these can be the substantial driver of the levels of private sector investment needed in clean energy in developing countries in the near term. We need additional means to mobilise private sector capital at scale if global emissions are to peak within a decade.

3. An often apparent misconception in climate change finance discussions is that private sector finance and carbon finance are one and the same thing – i.e. that private sector engagement means carbon markets and emissions trading. This misconception needs to be dispelled. While it can be an important element of the finances that makes projects viable (indeed is expected to be the 'deal tipper' when it exists for a given project), the amount of carbon finance is typically small compared with the underlying equity and debt capital that needs to be located within the private sector to finance the project.

Separate from these points, a high-level (and troubling) perspective is that climate change negotiations over many years seem to have got themselves tightly 'boxed in' with respect to finance. The story goes like this:

- Green technologies are seen as more costly than brown – and sustaining economic growth (to address millennium development goals) trumps sustainable development.
- Based on Article 4.3 of the UNFCCC, the position of developing countries is that industrialised countries must pay for this *green gap*.
- Industrialised country governments are unwilling and/or unable (given the state of their public finances) to fund this gap just with public funds.
- Carbon finance was seen as a solution – but has faltered as politically powerful private sector emitters have fought domestic emissions trading schemes in industrialised countries (and 'Kyoto style cap and trade' international emissions trading). Realistic policy practitioners see internalising a cost of carbon through a global carbon market as still an ideal for the future, but not something that is likely to happen in the near term (when, however they want global emissions to peak).
- Industrialised country governments (in response to pressures at home) demand that major developing country emitters commit to more action, that can be verified ('trust but verify' – i.e. don't trust). Lack of trust is at the heart of the current political stalemate.
- The policy 'nirvana' of internalising a cost of carbon is thus proving very difficult in industrialised and developing countries – and green remains more costly than brown, so the *green gap* remains unfilled.

What is the needed game changer?

How does business-as-usual finance and investment work?

If there is one common fact to proposed investments in either 'carbon heavy' or 'carbon light' projects, it is that to proceed they must get financed. Business-as-usual decision making in the finance and investment sector has a powerful inertia to it. This is sustained on a daily basis by millions of people and deeply ingrained working relationships. One must understand how the sector works to have any chance of initiating the fundamental, systemic and enduring change needed to help shift the world onto a 2^{o}C path.

Investible capital in the trillions of dollars does exist. The value of assets under management by the global fund management industry is estimated as being over $80 trillion at the end of 2008 – and this was after stock markets had suffered a large reversal because of the global economic crisis. It will be higher now. A significant portion of this wealth is invested in relatively liquid asset classes, so can potentially be available to invest in new and different asset classes in the near-medium term. Similarly, a significant portion of this investible capital is controlled by investor groups, especially institutional investors (such as pension funds, insurance funds and sovereign wealth funds) that have relatively conservative expectations of return on investment – but, and because of, a corresponding aversion to risk.

The first step of financing any major project or programme is to line up the equity investors. Because they take a higher risk position than the debt lenders who will also be necessary, equity investors' return expectations are commensurately higher. Efforts to lower the cost of capital, in particular preferentially for green path investments compared with brown alternatives, need to start with equity.

This issue is particularly salient in developing countries. Under prevailing circumstances the expected returns for regular equity investors in infrastructure funds in so-called *emerging markets* is high (median target *IRRs* about 20%, compared with around 12% in industrialised countries). This is because of the higher levels of perceived risk. Nevertheless, the finance sector seems very interested in infrastructure investments in developing countries. There are about as many fund managers 'on the road' raising funds for investment in the "Asia and rest-of-world" region as for North America and Europe combined. And while over 70% of the investors are likely to be from North America and Europe, over 70% of the fund managers who will be looking for projects in which to invest these funds are located in "Asia and rest-of-world". (Note, however, that these statistics are for infrastructure investments generally, not just those with greenhouse gas implications, nor of these the ones that might be encouraged to be green.)

There's an old saying in buying real estate "location, location, location"; what can be seen as relevant in infrastructure investments is "risk, risk, risk". The potential exists, then, for packages of risk management policies and instruments to be assembled so as to attract pools of institutional investor capital, at scale and at relatively low(er) return expectations. This base of lower cost-of-capital equity, along with the lowered risk environment needed to attract this, can then in turn attract debt lenders to come to the table with lower cost finance. For example, provisions of low cost debt through issues of *Green Bonds* (such as recent initiatives by the World Bank, the African Development Bank and the European Investment Bank) could be highly beneficial.

The multilateral development banks – the World Bank Group and the four regional development banks – are crucial players in development related investments in developing countries, including in energy supply and demand and transportation, the critical sectors for managing greenhouse gas emissions. While in the first instance these MDBs are public sector financial institutions, they increasingly are partnering with private sector players in the finance and investment sector – including fund managers and fund of fund managers. By doing this, they can substantially leverage their own balance sheet capital reserves. Other bilateral financial institutions involved in development finance, from both industrialised and developing countries, are similarly active players in developing countries.

The workings of capital markets can be likened to an **ecosystem** – that draws its resilience from diversity, independent (but linked) cells and competition. Between the sources of investible capital to those who need capital to develop projects and programmes to advance development for today's and tomorrow's generations, there also exists a myriad of intermediary players. These include both those through which capital flows, as well as a host of professional support players (e.g. analysis and information services, rating agencies, finance lawyers and accountants, financial management advisors and deal 'match makers'). And all this, in turn,

responds to the actions of policy regulators and influencers (e.g. government agencies, think tanks, financial media).

A critical point to note is that like most ecosystems that have sustained themselves over time in the face of potentially existential threats, the capital markets ecosystem does not work through, or just through, prescriptive and centralised structures and institutions.

Those working in the climate policy community might typically first think of the (struggling) private sector actors who are seeking to get green projects off the ground, doing the rounds of all the possible investors and banks. This may be the face of the private sector they recognise, empathise with and most want to help, or see helped. What is less understood is that globally there are many tens of thousands of private sector finance professionals who on a daily basis are out looking for investors and for good projects in their local patch to invest in. Harnessing this huge amount of on-the-ground private sector expertise to the interests of addressing climate change (to join in the revolution, as it were) represents an enormous opportunity to be seized.

The critical 'take away' message is that this finance and investment ecosystem is fundamental to, and underpins, current business-as-usual decisions on what gets invested in, and what doesn't. This is why business-as-usual decision making has such a powerful inertia to it. **Any plan to radically and rapidly change the nature of decisions will be more likely to succeed if it is able to use the regular processes of this well-tried system (its language, disciplines and relationships) and just change the inputs on which decisions are based – rather than attempt to make radical changes to the system itself.** Innovative ways of dealing to risk preferentially for green investments, and thereby attracting capital that expects significantly lower returns than is currently the case, is one such way that the inputs can be changed such that green path decisions progressively become made as a matter of regular business.

Conversely, if a different approach is taken to climate finance that tries to radically intervene at a system/institutions level, the potential exists for this to just become another mountain to climb for those seeking green investment outcomes. Meanwhile the brown path decisions will continue to be made, essentially unimpeded, by the current processes of the ecosystem.

Connecting the climate policy and financing 'stories'

Given the need for a "revolution", as the IEA puts it, the needed fit-for-purpose policies in the coming decade must vigorously seek to improve the likelihood of green side investments happening, and at the same time work to undercut the fortunes of the brown side. A critical point is that it is not what, on the surface, costs less that matters most; it is what can get financed (first).

While likely a new exercise for climate policy practitioners, it is possible to view standard climate change policy measures through the lens of what 'micro' effect they have on the financing of both green and brown approaches to providing needed infrastructure in developing countries – and, just as important, improve the efficiency of existing infrastructure. In particular, it is instructive to consider how each element of financing, and the associated return and interest costs of these, along with project income, is affected by policies such as the removal of fossil fuel subsidies, providing 'green side' incentives on both the supply and demand side, carbon pricing and carbon markets, and emerging ideas for mandated carbon risk assessment and disclosure to guide investment decisions.

The effect of risk is pervasive (and, for the green side, corrosive) in how it changes the economics of financing projects and programmes. In short, the presence of risk can considerably increase the returns expected by the providers of equity capital and the interest expected by the providers of debt finance. **And cost of capital really matters.** Over the long-life term of infrastructure investments, the difference in total project costs can be very substantial. Over 25 years, the total of capital expenditure (*capex*) plus costs of finance would be reduced by half if the effective interest rate were 4% versus 12%. While this example is illustrative only to get across the high level point, it is also true that, given current risk profiles, debt finance for renewables projects in developing countries from local financial institutions is typically in the mid teens percent per annum and recent issues of Green Bonds by the World Bank have had coupon rates (the interest rate) of between 2% and 5.23%.

Over the last fifteen years, climate policy makers have stressed, in particular, the importance of introducing a cost of carbon emissions into market prices of energy and other carbon-intensive commodities and products. While undoubtedly such policies can make, and are making, a valuable contribution to green investments globally, the scale of their reach is still small compared with the need. And this has proven to be a contentious area of climate policy, so revolutionary leaps forward are unlikely, in the near term anyway.

More importantly, the potential effect of carbon pricing and carbon market policy on total project costs (*capex* plus cost of finance) rather pales by comparison to the effect on green investments in developing countries that a major lowering in interest rates could have if applied preferentially on the green side. Yet, by comparison to all the attention and energy that has gone into carbon markets, this potential has received very little attention by climate policy makers, thus far.

A potentially 'game changing' proposition, therefore, is the development and implementation of new and innovative public policies and finance mechanisms aimed specifically at lowering the risk of the green side in developing countries, thereby attracting lower cost-of-capital finance from the private sector for green investments.

For this to occur at scale, these policies and mechanisms must be sufficiently effective in practice to engage the interest of institutional investors (such as pension funds, insurance funds and sovereign wealth funds). Not only are the return expectations of these investors lower than other investor groups, as long as the risk environment is right, but this is also where literally trillions of dollars of investible capital are potentially available. Importantly, from the efforts of groups such as the *P8 Group*, it is evident these investors are willing to engage in this conversation with the climate policy community.

Making it happen!

The issues and thinking in the previous sections can be distilled into the following policy question:

> **Is it possible through smart and targeted public sector interventions (policies and finance mechanisms), to sufficiently lower the risk environment of green investments in infrastructure in developing countries, to enable lower cost-of-capital finance from institutional investors to be attracted…… at scale?**

Breaking this down to reveal the implicit, but crucially important, nuances:

- by **public sector**, we mean governments at central and, where applicable, local level in developed and developing countries and bodies such as MDBs and other development financial institutions that are operating vehicles for distributing public finances;
- by **policies and finance mechanisms**, we mean policy measures that, in general, serve to create a favourable investment environment as well as specific finance instruments (e.g. guarantees and insurance products) that reduce risks (usually at some cost);
- by **lower the risk**, we mean risks that normally will be factored in by investors in determining their interest to invest in the first place and the returns they expect from this investment;
- by **infrastructure**, we mean capital assets that normally have a long asset life and, in the context of climate finance, that can have a significant influence on the *carbon footprint* of a given economy – so, for example, these can be power stations, public transit systems buildings and core industries, but they might also be seen to be forests and agricultural production systems;
- by **lower cost-of-capital finance**, we mean both equity and debt finance – at rates lower than market norms, and in particular of the norms that would apply to brown side investments;
- by **institutional investors**, we mean those groups of investors who, when they do invest, will usually have relatively low-medium expectations of return because the risk is sufficiently low for them to be able to invest – typically this means groups such as pension funds, insurance funds and sovereign wealth funds ... and these institutional investors exist in developed and developing countries worldwide;
- by **at scale**, we mean trillions within the next decade.

For project 'sponsors' (or developers) seeking to raise finance, there are some typical truths to this challenge. The first is the need to raise enough equity (in addition to the amount the sponsors are bringing to the table) to then raise debt finance, usually from local banking institutions. Typical ratios of debt to equity may be, say, 70/30 or 60/40 depending on the nature of the investment and, particularly, the perceived risks of the investment. Debt financiers get their money first in the event of a business failure, including it being less profitable than expected. So the more equity is in place, the more secure they feel.

Two key issues arise that reflect this reality:

1. Sponsors must first raise significant equity before they can hope to pull together a financing package with their debt financiers.
2. Of the two, equity or debt, accessing low cost-of-capital debt will normally have the greater effect in terms of lowering the overall project costs; and thereby closing the 'green versus brown' cost gap. This is because the proportion of debt finance is greater and, in practice, the potential reduction in the cost of capital seems likely to be significantly greater on the debt side.

The second of these should not be taken to imply that the focus of lowering the cost of capital should primarily be on the debt side. It is just as crucial for equity, as having sufficient equity in first is what unlocks debt. Importantly, with respect to engaging institutional investor capital, the means by which lower cost of capital can be achieved on these two sides is quite different, as is the degree to which significant lowering of the cost of capital is feasible.

The emerging story **on the debt side** seems mostly to be around bonds. Most developed countries, and multilateral financial institutions like the MDBs, are considered to be very safe borrowers, i.e. the risk that they will not pay back the bonds and coupons (the interest) as contractually set out in the bond issue is very low. They have AAA ratings as judged by the major credit rating agencies. The interest rates offered by these borrowers and accepted by the lenders who participate in these bond issues are commensurately much lower than interest rates typical of other, more risky, lending situations. The key issue is then how this low cost debt raised at a 'wholesale level' is then put to work and provides finance to projects on the ground – and remains low cost relative to regular retail rates.

Recent issues of Green Bonds have proven a means to raise low cost-of-capital debt to finance green projects and programmes. The World Bank, for example, has raised over $1 billion in five different bond issues at coupon rates of between 2% and 5.23% per annum. Importantly, those buying these bonds have included institutional investors such as pension funds as part of their portfolio allocation to fixed income finance products. This, then, seems to offer real promise as a new and innovate means to engage institutional capital. If able to be taken up at greater scale, Green Bonds (or Climate Bonds) could be a primary instrument on the debt side.

In practice, however, institutions that might have AAA ratings and wish to issue bonds to on-finance green projects and programmes (such as MDBs) are constrained in doing so by the amount of equity they have in their own balance sheets. They too can only raise so much additional debt before it may affect their credit rating (something preciously guarded by their treasury departments). This is also true of developed countries themselves, especially in the light of recent very high deficits, and consequent heavy borrowings, given the financial crisis. While bond issues in the hundreds of millions and even low billions are therefore within a scale that should not present fundamental problems, considerations of tens or hundreds of billions as needed in the green scale-up are a different matter. This issue will need to be addressed. To some extent it will be mitigated by improvements in the global economy and as governments and financial institutions worldwide 'repair' their balance sheets. But innovative new models need to be explored, such as the public sector providing guarantees or funding streams over long periods to new 'special purpose' financial institutions that can thereby secure AAA ratings and raise finance at scale by issuing bonds that will attract institutional investors.

To help close the green gap, such (much) lower cost-of-capital debt ultimately needs to be available to the sponsors/developers of green projects and programmes. This likely means it needs to be channelled through local financial institutions in the developing countries where these projects and programmes occur. This needs to occur efficiently and with as little as possible lost in transaction costs.

Issues **on the equity side** are quite different. Private, and in some cases listed, Equity Funds and Infrastructure Funds, have played a very significant role in the last two decades in modernising infrastructure (e.g. power plants, waterworks, transit systems and institutional buildings like schools, hospitals, prisons) in developed countries worldwide. To an extent this has been true also in developing countries for certain types of infrastructure, e.g. international airports. There are many multi-billion dollar private equity and infrastructure-type funds actively looking for investments in developing countries, especially Asia. But little of this seems to be finding a home in green investments of the type that is the topic of this report.

The barrier is risk. The presumption is that investments in developing countries are risky by comparison with similar investments in developed countries (that have policies and investment environments that make it more certain that the expected return on investment will be achieved). With respect to green investments, this barrier becomes a somewhat fundamental one, indeed something 'Catch 22' in nature. Because of perceived risk, the threshold return requested by investors willing to put money into developing countries is many percentage points higher than for developed countries where the perceived risk in lower. In turn, general private equity and infrastructure funds targeting emerging economies 'promise' a higher return to investors, and attract investors into the funds that have a greater risk appetite because of this potential for higher returns. But these expected returns represent a cost of capital that is too high to make green projects economically viable – so 'green deal flow' is a problem, and the money is invested elsewhere. Achieving scale in green investments therefore faces problems from two ends – getting the investors you want to attract (i.e. accessing institutional investor capital) and finding good projects on the ground even if you somehow raised the capital.

This existing capital markets funds model therefore does not adequately resolve the green cost gap, so sits waiting for some form of concessionary public sector funding or currently unrealistic regulatory policy dictates, e.g. developing countries implementing generous feed-in tariffs and/or domestic emissions trading schemes (or equivalent carbon charge schemes) such as exist in Europe. In short, it fails the primary policy objective set out in the question above.

In the light of these realities, in recent years there have been a range of examples of public sector initiatives by governments and development finance institutions (MDBs and bilateral DFIs) to intervene in these markets. It is increasingly common, for example, for MDBs to invest in funds that are investing in projects, rather than just invest in projects directly. There are also examples of new funds being established by governments and DFIs such as the Global Energy Efficiency and Renewable Energy Fund (*GEEREF*) and the Global Climate Partnership Fund (*GCP Fund*). These existing examples of public funds being directed through private capital markets to help 'crowd in' private investments in green projects can generally be described as 'single tier' fund models. The public funds enter this tier and along with private investor capital are invested in projects on the ground.

A recent innovation of 'two tier' funds is currently being explored by some public sector bodies (governments and MDBs). This has its roots in work in 2009 by the World Economic Forum's Task Force on Low Carbon Prosperity, which among other ideas, proposed a number of possible multi tier fund structures. The two tier funds model envisaged would sit within a packaged 'risk managed environment' involving specific actions, mostly by public sector bodies in both developed countries and the developing countries that are the focus of the funding model.

The actual elements of this 'derisking package' will depending on the circumstances of these countries and the sectors targeted. But, in general terms, they may include such elements as:

- host country policies that specifically and directly are supportive of investments in these sectors, including needed support for these to be implemented;
- political and policy risk insurance;
- mechanisms to address foreign currency exchange risk[1]; and
- in-depth capacity building of relevant public and private institutions and groups that are instrumental to the success, or otherwise, of investments in these sectors in these countries.

These public side involvements in this overall public-private partnership are particularly crucial for establishing the risk managed 'wrapping' within which the funds structure then operates.

[1] Two *public finance mechanism* initiatives that have emerged in recent years in this currency risk space, that can be potentially scaled-up as required, are Guarantco and The Currency Exchange Fund (TCX).

A two tiered fund structure would involve a top fund that would then provide seed funds to multiple lower funds operated by specialist fund managers that have expertise in the region. The investors in the top fund would be a mix of public-side investors (governments and MDBs) and large institutional investors (e.g. pension funds) at a ratio of, say, 1:4. Further leverage then occurs in the lower funds which might, for example, raise another three 'dollars' for every 'dollar' of seed funds.

Having public funds in the top fund, as well as the public sector contributions to the overall 'derisking package', is important to attract the sought institutional investors into the top fund. Having governments and MDBs as partners provides the institutional investors with an extra layer of implicit political risk insurance. In the vernacular of the investment sector, it means these important public sector players have "skin in the game". In addition, a number of financial inducements from the public-side investors may provide the necessary basis to attract in these naturally risk-adverse institutional investors. They might also be offered co-investment privileges for additional amounts they may wish to invest in the lower tier of funds or directly in the underlying projects and programmes. A key part of bringing this concept to fruition will be the ability of the public and private players participating in the top fund to negotiate an agreement on what each brings to the table – noting that the public side players also represent two quite different types of entities, namely governments (that have UNFCCC Article 4.3 finance commitments) and DFIs (that do not).

This model specifically is designed to work with the existing finance and investment 'ecosystem' and seeks to mobilise and capitalise on its resident skills, knowledge and relationships. Conceptually, each of the bottom tier of funds could be directed to different types or regional localities of project and programme opportunities. To illustrate, one could imagine a fund focussing on the India Solar Mission, for example; another on regional energy efficiency programmes. Contestable processes can be used in the selection of the fund managers of these bottom tier funds to help ensure the very best players are engaged and motivated to succeed. This will be especially important in any initial proof-of-concept showcase initiative that is intended to launch this model and quickly provide 'best practice' lessons that can be replicated elsewhere.

Ultimately this model will only be successful in meeting the primary policy objective if it delivers equity capital at scale to projects on the ground. Investors will be attracted to participate because the suite of public sector support mechanisms that 'crowd in' the private sector participation deliver a risk/reward balance that suits their investment strategies and interest to have investments in the green space.

Some relevant points about risk and return in this model, however, are:

- All investors benefit from the overall risk managed environment that 'wraps' this funds initiative.
- All private investors, in the top fund and lower tier funds, benefit from the presence of the public sector bodies as partners in the initiative – who have skin in the game and will be able to bring their broader relationship levers into play as needed to help manage in-country risks.
- Both public and private investors in the top fund benefit from a portfolio investment approach which spreads and hedges risk.
- For the governments that might be public investors in the top fund, the objective in the expected successful outcome is a return on investment; this is not about providing concessional grants from scarce public resources.

The other key challenge, beyond managing risk, is to reduce the carrying and transaction costs of this model. The primary policy objective is about closing the green gap by providing lower cost-of-capital equity. However the model must attract investors, whose interests are primarily about adequate returns given the risks. There is no room in this model for excessive fees to be enjoyed by intermediaries. But the returns they enjoy for their efforts must also adequately reward (and motivate) success. Finding this correct balance will be a key design issue.

Against these challenges to implementing this model, the critical important point is what is achievable through success. Using 'for example' amounts to illustrate this point, half a billion of public sector funds might be able to attract in another nine and a half billion of private capital. At a 60:40 debt/equity ratio, this combined ten billion of equity can be expected to attract fifteen billion of debt finance (which in turn needs to be low cost of capital for debt). This results in a total of twenty five billion for investment in green projects and programmes. This has the beginnings of meaningful scale. And it is a model that should be welcomed by

cash strapped developed country governments struggling to figure out how to meet their UNFCCC Article 4.3 finance commitments.

The other end of the telescope – 'deal flow' at scale

"If we build it, will they come?" This naturally is a concern for any policy-based initiatives that have an objective to produce outcomes well above current norms of activity. Confidence that "they will come" has its foundation in the large experience that some groups, in particular MDBs, have in assessing the prospects for renewable energy and energy efficiency in their regions.

Further indications of such potential deal flow can be found in recent "Investment Plans" that some developing countries have developed in conjunction with the World Bank and their regional MDBs and submitted to the *Clean Technology Fund (CTF)*, one of two funds of the *Climate Investment Funds* – an initiative begun in 2008 involving $6.3 billion from major developed countries and administered via the MDBs. Most of these plans identify a significant component of private sector finance. However, the CTF itself is a public-public (developed-developing) funds programme. The evolution of these Investment Plans is mostly yet to address the possible public-private finance modalities by which the expected private investment will occur. But this does provide a basis for initial focus on possible deal flow for the type of fund structure set out above.

There is also an existing level of innovative private sector-led efforts, often working closely with MDBs and other development finance institutions. Tangible examples of initiatives seeking to create investment at scale in green programmes include one for very large scale solar parks in India and another for major energy efficiency programmes in China. However, investors want to face a minimum of bureaucracy (and forms to fill out), so be able to make quick decisions when their own due diligence processes confirm good opportunities. MDBs have some issue to address in this regard, if they are to be the central players in how finance is to be delivered at scale. Reforms of how the MDBs operate and engage with the private sector are needed. This has been heralded for some years already, e.g. in the *Monterrey Consensus* that emerged from the UN-sponsored International Conference on Financing for Development in Monterrey, Mexico, in 2002.

Other ideas exist that are less centred around MDBs, for example the idea for a new designed-for-purpose international Climate Finance Bank. This would be staffed with experts dedicated to climate finance in emerging economies and mandated to work in open and proactive business partnerships with specialist private finance and project firms, and as well with MDBs and other financial institutions. Given the issue of the need for trillions of dollars of investment in just the coming decade, it would be important that such an institution be implemented quickly and be able to staff up, get to work and be 'fleet of foot' in its decision making. These are not trivial issues; but neither are they insurmountable. One point that advocates of this idea are clear about, is that such an organisation could not afford to get caught up in the contentious UNFCCC debate around climate finance, and institutions for its delivery. Fleet of foot and being under UN auspices are seen by many as polar opposites. But there is a danger that this could occur.

Importantly, the scale of the needed change in investment, and the speed with which this must happen, means that the change cannot just be incremental, or 'evolutionary'. This is too small and too slow. The IEA's use of "revolutionary" better conveys the scale and urgency. Neither will it happen if groups sit back and set out expectations of other groups that need to be met for things to move forward. The history of advancements in (and outcomes of) climate change policy, or lack thereof, over two decades show that what is often at the root of failure is that there have been unrealistic expectations of the necessary involvement or action by others.

In short, there are crucial roles for both the public and private sectors and in both developed and developing countries. And we know all the players and instruments that, in this report, are contemplated as needing to come together to achieve the required outcomes. Not all players, nor all instruments are needed in the given circumstances of specific countries and specific sectors. What is needed are strategic and collaborative approaches to choosing the right suite for the given circumstance.

Experience tells us that such approaches won't just happen. It will take concerted and proactive efforts by authoritative leaders in governments, institutions and business to build and maintain the needed scale and momentum.

Connecting the 'dots' with the UNFCCC negotiations

The discussion in this report that touches on finance, funds and delivery institutions contrasts markedly with the discussion on these same matters that is occurring in the UNFCCC negotiation of the next multilateral climate change deal. (It should be noted that this report focuses generally on mitigation, whereas the UNFCCC discussions are also especially concerned with the needs of finance for adaptation. So this first comment should be seen just in the context of mitigation.)

This report outlines the existence of a large and diverse 'finance and investment ecosystem' that channels trillions of dollars to business-as-usual investments. It argues that the path to radically and rapidly scale up green investment in developing countries is to harness the forces of this ecosystem and find ways to divert its decisions towards the wanted outcomes. The public sector interventions it countenances are ones that, preferentially for green side investments, serve to make available much lower cost-of-capital debt and equity finance. For this purpose, it outlines ideas such as green/climate bonds (for debt) and equity fund structures, primarily of private sector finance, 'wrapped in' a lowered risk environment achieved through innovative and strategic public sector policies and public finance mechanisms – with this public side involving both developed and developing countries. It posits that this approach can bring the trillions of dollars of investment needed within the next decade. And it stresses that to make this vision work, it will take concerted and collaborative strategic effort by the public and private sectors in both developed and developing countries.

In contrast, the UNFCCC negotiations on finance seem mostly focused on whether to create new central climate funds (or enhance existing central climate funds) under the auspices of the UNFCCC, primarily fed by public monies from developed countries, and institutional arrangements by which these funds might then be dispersed to where the needs are greatest and where the outcomes of such funding might have the greatest effect. As noted above, these funds are to address both adaptation and mitigation. There remain many options on the table in terms of institutions and disbursement modalities, and differences in views (some very strong) around these options. But a general model seems to be emerging of some level of committee/panel structure that reviews plans put forward by countries (that set out needs, intended measures and finance requests) and matches these plans with provisions of finance in the central funds. On the mitigation side, these plans have been called *low carbon development (or growth) plans (LCDPs or LCGPs)* and specific actions within these plans called *nationally appropriate mitigation actions (NAMAS)*.

There remains uncertainty as to whether the very open formula on finance sources in the Copenhagen Accord ("...funding will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance") will be sustained as negotiations move forward. Or will the focus move back to primarily public funds? The former connects much better to the vision of this report, the latter potentially much less so.

However, in a more centralised finance structure, if public funds for mitigation are especially targeted to support developing countries to play their role alongside developed countries to implement the lowered risk 'wrapping' advocated in this report, then this would seem consistent with this report's vision. But something that expected the finance and investment ecosystem to fall into line with institutionalised disbursement modalities, answerable to central boards and decided by UN committees is almost certain to guarantee that business-as-usual decision making that favours the 'brown side' will continue. Put simply, this would remain the path of least resistance.

Separate from this big picture institutional question, it is clear that most ideas for how this can all work envisage a key role for strategic planning being done by developing country governments in terms of how to attract finance and investment. The proactive collaborative approach that this report advocates developing countries (with developed country support) take to lower risk for green investments is fundamentally strategic in its nature. This is particularly true of the capacity building needed at all relevant government, institution, business and local stakeholder levels. So this seems to be another clear connection point between what this report advocates and what is being discussed in the UNFCCC.

<u>A final insight</u>

A blinkered focus on incremental costs of mitigation in developing countries, and what is needed in concessional public finance from developed country governments, seems ultimately to be unhelpful – and at the root of the impasse in international negotiations. A focus, instead, on securing the finance needed for

green investments that provide light, heat, cooling, mobility and secure forest ecosystems – the things that populations really need and business can deliver – seems to be a much more positive and hopeful approach. Surely, the exact nature and amount of public sector support from developed countries that has enabled this to happen is of secondary importance to the fact that these investments do happen ... in measurable and verifiable ways.

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