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Mapping issues and options on climate finance in 2015

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CLIMATE FINANCE – SHIFTING THE BLOOD SUPPLY OF THE GLOBAL ECONOMY

Shifting the global economy onto a 2 degrees trajectory will require a massive shift in investment. The scale of this shift far outweighs the incremental investment that needs to be mobilized. Indeed, the real challenge is not so much *quantitative*—funding the extra investment—as *qualitative*, i.e. overcoming barriers to investment in new infrastructure, new sectors, and new business models. This requires comprehensive policy incentives such as carbon pricing, standards and regulation, and dedicated funding instruments such as policy banks or funds at the national or international levels.

CLIMATE FINANCE – A COMBINATION OF TRANSFORMATION AND SOLIDARITY

The policy discussion on climate finance should have two objectives. Firstly, to overcome the barriers to the investment shift described above. Engineering the shift should become the core goal of climate finance policy. However, there is still a crucial role for solidarity, i.e. the provision of public resources to countries and activities that need these resources most. The challenge for the Paris agreement, and climate finance policy more broadly, is to combine the agendas of transformation and solidarity.

CLIMATE FINANCE – A CRUCIAL PART OF THE PARIS AGREEMENT

National policy makers, financial regulators, multilateral and bilateral development banks are core to the global policy response on climate change. Within this broader policy effort, the UNFCCC can provide a crucial role of guidance and accountability. The Paris agreement should set out a global qualitative goal to shift investment in line with a two degrees trajectory. The major lever for this would be national policy. Alongside this, however, the Paris agreement should adopt a system for regular cycles and targets for the provision of climate finance to the poorest and most vulnerable countries, in particular for adaptation. Finally, there needs to be greater clarity over time on how much climate finance is being mobilized.

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1. INTRODUCTION AND OBJECTIVES

Climate finance is a crucial policy vector at national and international level for ensuring the transformation to a low-carbon, climate-resilient economy. It is also a key issue in the international negotiations to establish a new global climate agreement in 2015.

Climate finance is a highly complex issue, both politically and technically. Part of the complexity lies in the fact that the policy discussion takes place in many fora, of which the UNFCCC, although important, is only one. Indeed, the climate finance discussion is increasingly taking place outside the UNFCCC, in areas like development finance institutions, the G20, but also, importantly, in financial sector regulatory bodies. The UNFCCC can provide key guiding principles and a platform to ensure an overview on how climate finance should evolve, but it is not the only—not even the main—place to undertake consistent action on climate finance.

Another part lies in complexity of the metrics and measurement of climate finance, as well as long-standing political divergences on what should be counted under commitments on climate finance such as the target to mobilize 100 billion USD annually by 2020, from public and private sources. However, the political and technical aspects of climate finance are actually closely intertwined. No substantive progress can occur on measuring climate finance without a common understanding of what this financing should achieve.

It is important to ensure alignment and coherence on climate finance within and outside the UNFCCC. On one end of the spectrum is the need to mobilize and redirect about a trillion USD of investment annually over the next 15 years to finance low-carbon, climate-resilient development consistent with the 2°C goal. On the other hand, discussions under the UNFCCC often focus on the USD 100 billion/year financing target by 2020 and on the framework for post-2020 climate finance, with a particular demand for targeting public finance to adaptation and capacity building in the most vulnerable and poorest countries.

In this paper, we map out the issues related to climate finance under discussion in the various policy fora taking place in 2015, both within and outside the UNFCCC. In doing so, we intend to contribute to a shared understanding about the key issue areas, developments and challenges on climate finance, in other words, the broader context in which the new climate agreement will be placed and the role that it can play. We also highlight elements that could be reflected in the new agreement governing global climate action post-2020.

2. WHAT NEEDS TO BE ACHIEVED? A GLOBAL REASSESSMENT OF RISKS AND OPPORTUNITIES

Every year, USD 18 trillion is invested in capital accumulation, or about a quarter of global GDP. Much of these are investments in high-carbon activities. To give one example: around 2.5% of global investment is in oil production alone, and a further significant share is invested in the vehicles and infrastructure of oil-based transport. Global infrastructure investment needs are estimated to be USD 89 trillion between 2015 and 2030 (NCE, 2014), and significantly more than in the preceding period—by nearly 60%—according to the McKinsey Global Institute (2013). Much of this will be financing new infrastructure in emerging markets and developing countries.

Even a business as usual (BAU) scenario disregarding climate change would require a ramp up of investment from historical levels which outweighs the increase of investments between a BAU and low-carbon scenario.

But a BAU scenario poses two other significant risks linked to climate change (CIGI, 2015). Firstly, there are the physical impacts of climate change. Extreme weather events already have significant and lasting economic impacts. For example, Standard and Poor's and the IMF have identified climate change as an important risk to sovereign solvency (S&P, 2014; IMF, 2008). A recent National Bureau of Economic Research study has shown that in addition to short-term economic impacts, cyclones damage growth trends of affected countries over long periods, with cumulated discounted cost of USD 9.7 trillion in income loss globally (Hsiang and Jina, 2014). But more frequent and extreme cyclones are only one of the many consequences of climate change; for example, similar studies have been done on the economic impact of heatwaves (Deryugina and Hsiang, 2014). Such impacts can be a major financial concern for the insurance sector, and severely affect the growth trajectories of vulnerable countries and communities.

Secondly, there are the risks of significant asset devaluations arising from the implementation of rapid, stringent, but most importantly non-anticipated climate policies. This risk is captured in the concept of 'stranded assets', i.e. physical, financial and immaterial assets that would be devalued in a poorly anticipated 2°C mitigation scenario. A recent analysis estimates a value loss of USD_{2012} 28 trillion in the fossil-fuel industry alone over the next two decades under a 2°C scenario (Kepler-Cheuvreux, 2014). The majority of these assets lie on government balance sheets. The perception of this risk is already driving investors in the public and the private sectors to adjust their portfolio allocations. The physical and policy risks arising due to climate change therefore represent macro-scale implications for the financial sector and the global economy. Those who want to mobilise investments in infrastructure have an interest in reducing such uncertainty, and thus for the development of clear and stable mitigation targets.

However, the need to shift the energy system model can also provide significant opportunities. The shift towards a low-carbon economy will require a significant shift in investment, from high-carbon to low-carbon activities. Financing the transition will also require financial innovation, to develop financial markets and products that can fund the new business models, sectors and actors that will emerge. The key is for the financial sector to be able to anticipate the shift into a low-carbon economy, in order to enable the orderly adjustment of its risk-return frameworks and investment.

It should be noted that although addressing climate change can create opportunities, it will also imply costs for vulnerable communities and sectors. For those who have done the least to cause climate change and have the least capacity to adapt, this implies the need for international solidarity to help to carry these costs.

This brings us to the essential role of the policy discussion on climate finance, which is to effectuate a fundamental reassessment of the risks and opportunities related to climate-related investments. This reassessment should follow from more

Box 1. Climate finance is more than project finance: the case of energy taxation in OECD countries

Achieving a structural investment shift across the whole economy requires cross-cutting incentives as well as targeted policy instruments, such as feed-in tariffs or funding instruments. One of the most important cross-cutting instruments is fiscal policy, which can both incentivize the right economic decisions among many actors and raise public revenues. In order to give an order of magnitude of the importance of fiscal policy as a policy tool, we provide estimates of energy taxation revenues for OECD countries below. Taxes on the use of fossil fuels in road transport, and industrial electricity production, for example, provide a disincentive to use and to invest in fossil fuels.

Table 1. Tax per fuel per year in OECD countries, billion $

Diesel, transport	293.26
Gasoline, road transport	267.67
Electricity, residential	85.10
Electricity, industry	55.30
Gas, residential	31.77
Gas, industry	6.06
Total	739.17

Source: Authors' calculation based on energy price and consumption data from Enerdata.

Our estimation of around USD 740 billion of energy taxation revenues significantly outweigh estimates of global 'climate finance', which come in at around USD 350 billion per year. However, these numbers should be treated with prudence for many reasons. Firstly, the revenues raised from energy taxation in many cases are designed to internalise other externalities than just climate change, in particular: local pollution, cost of maintenance of the road network, traffic congestion, and so on. Secondly, energy taxes do not necessarily target the carbon content of energy, and as such, imputing these revenues as 'climate finance' would be in a sense 'double counting'. Looking at the magnitude of these numbers can nonetheless be useful in understanding the broader landscape of climate finance from several perspectives. First of all, it helps to highlight the importance of structural economic incentives and policies as part of efforts to shift capital into low-carbon, climate resilient investments. Estimates for 'climate finance' essentially include project scale data of the production and consumption of energy, and, to an extent, clean transport. Accurate data on energy efficiency, private sector adaptation and forest and land management are much less robust, or indeed absent. Thus, looking at climate-related fiscal policies can provide another indicator of global or national 'efforts' to shift investment, beyond currently available data on climate finance.

robust climate policies, changing market incentives and changing costs of technologies, as well as stronger perceptions of the policy and physical risks related to 'business as usual'—high carbon, climate vulnerable—investment strategies. A global agreement on climate change, and coherent action outside the UNFCCC, can help to send the signal to the financing community outside the UNFCCC that this reassessment is necessary, emerging, and ultimately inevitable.

3. WHAT NEEDS TO BE FINANCED?

The global community adopted the objective of limiting warming to 2 C in the 2010 Cancun Agreements under the UNFCCC. Meeting this target would require significant investments to shift to a low-carbon economy, and ensure resilience to climate change. Subsequently, much analysis has been done to estimate corresponding investment needs, for example by the IPCC (2014), the New Climate Economy (2014) and the International Energy Agency (2014).

Such quantitative estimates of financing requirements need to be handled with much prudence. Establishing baseline scenarios for comparison with 2°C scenarios is difficult. There are high uncertainties about future economic growth rates depending on the content of economic activity, technology costs, policy-induced costs, etc. Estimates of investment requirements in the coming decades should be treated roughly as orders of magnitude, and used as much for what they can tell us about the *qualitative* nature of the climate financing challenge as what they say about *quantitative* investment needs.

In this regard, there are several *qualitative* conclusions that can be drawn from existing studies.

Although the scope, timeframe and other methodological aspects of these studies often differ significantly, a message that emerges consistently is that financing a 2°Cdegrees consistent pathway has relatively little additional costs in the long term, compared to the BAU investment needs. The incremental investment needs compared to a baseline scenario are several times smaller than the total investment shift that is required. Total investment shift refers to the reduction in investment in high-carbon activities and the increase in investment in low-carbon activities. In simple terms, the global economy would need to:

- Massively shift existing investment out of high-carbon activities and into low-carbon activities.
- *And* somewhat increase the overall investment rate to meet remaining incremental investment needs.

To illustrate the magnitude of incremental investment needs, note that investment rates differ markedly between economies and within economies over time. Between 1990 and 2013, global investment as a share of GDP varied by more than three percentage points. Investment rates as a share of GDP can vary by tens of percentage points between countries even with a relatively similar level of GDP per capita. Even a variation of three percentage points as we have seen over the past two decades is probably more than the incremental investment as a share of GDP that would be required to mitigate and adapt to climate change. In purely quantitative terms and at the aggregate level, raising the incremental investments appears manageable.

Secondly, a large share of the required low-carbon investments would be productive investments, in other words they contribute to the productive capacity of the economy. Clearly, there will be some investments, which are not productive under current market arrangements, due in part to the lack of pricing of GHG emission externalities. But the basic point remains valid: the climate investment agenda is in large part one of redirecting and mobilizing productive investment, not just of imposing costs on the economy.

Thirdly, the policy question of how to redirect this investment is more pertinent and challenging than the question of how much incremental investment is required to mitigate and adapt to climate change. There are a number of reasons why this 'how' challenge is particularly difficult in the case of climate change. We list three of these challenges here:

- *A structural investment shift across the whole economy*. To mitigate and adapt to climate change, all sectors and all economic actors must be incentivized to make the right investment choices. This will require a combination of structural incentives across the whole economy (such as carbon pricing and fiscal incentives—see box 1) and targeted policy instruments such as standards and regulations, as well as tailored financing instruments and funding channels at national and international level such as national development banks and the Green Climate Fund.
- *Managing the phase in of new economic models and the phase out of carbon intensive technologies and activities*. Managing the political economy implications of climate policies is an important challenge. Moreover, shifting investments from high-carbon to low-carbon activities requires financing new actors, business models and markets. Policy experience and research show that there are options to manage this shift, but it remains difficult.

- *Access to capital*. We argued above that at the aggregate level, raising the necessary investment for mitigation and adaptation should not be insurmountable. However, some countries have difficulties raising the necessary capital, or accessing international markets, for a variety of reasons that are non-climate specific (see below). This is one of the reasons why solidarity between countries is essential to ensure that all are able to adapt and mitigate. This point is developed further in the following section.

All this implies a need for a new model of risk analysis in the global financial sector, in order to integrate the challenges and opportunities created by climate change. This is the context in which parties to the UNFCCC are negotiating on climate finance as part of a global regime governing climate action post-2020.

4. CLIMATE FINANCE: COMBINING TRANSFORMATION AND SOLIDARITY

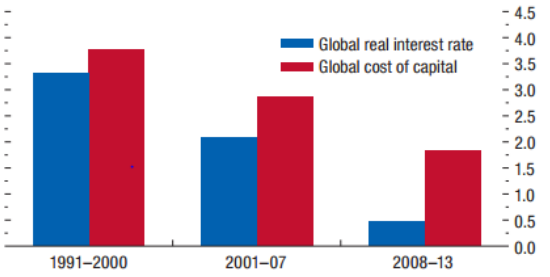
Since the UNFCCC was adopted in Rio in 1992, climate finance has been conceived as an issue of solidarity between developed and developing countries, based on the acknowledgement of the historical responsibility and greater capacity of developed countries to address climate change. Solidarity between developed and developing countries should remain a core principle of the new climate agreement and international cooperation in the post-2020 period. But this should be seen in the context of the reality of a long-term, strategic global objective of shifting investments across sectors and countries, through a broader range of national and international policies. In the following sections we further develop this line of argument.

4.1. A transformational investment shift

It is noted in section 3 that the central policy challenge is how to engineer a large-scale shift of investment from polluting to clean activities. Currently, to the best of our knowledge about USD 350 billion is invested annually in mitigation and adaption. Real investments are probably more as there are big gaps in this data, for example in energy efficiency, household investment in low-emitting buildings or appliances, clean transport infrastructure or private sector integration of adaptation in their investments. Nonetheless, such estimations do reveal that investments in adaptation and mitigation would likely need to be increased by roughly an order of magnitude in order to shift the global economy onto a 2°C pathway, while investments in high-carbon activities are phased out at the same time.

As noted in section 2.1, this represents a formidable qualitative challenge for policymakers, both at the national and international levels. Indeed, many parts of the world are currently experiencing ultra-low interest rates and costs of capital, which suggests that capital is available to be invested if productive projects could be found (figure 1). Yet we know that massive investment needs do exist, e.g. to provide infrastructure in developing countries and renew aging infrastructure in developed countries. This presents a paradox (Canfin-Grandjean Commission, 2015). The fact that interest rates are so low, that large investment needs exist, and that this capital is not being productively invested, suggest that other barriers exist. The focus of climate finance policy should be on removing these barriers, which can indeed produce a win-win of raising productive investment and stimulating economic activity.

Figure 1. Historic trend for global real interest rates and cost of capital



Source: IMF (2014) World Economic Outlook p. 85.

There are clearly countries, particularly developing countries, in which constraints in available finance are serious (see section 4.2). Hence, the above figures are symptomatic of a broader change in the supply and demand for capital globally, which may not apply equally to all countries. Two conclusions can be drawn from this:

- Capital is historically cheap. Now is a good time to invest, and doing so can have significant macro-economic benefits.
- There are other barriers to increased investment than just the aggregate supply of capital.

In the case of scaling up low-carbon, climate resilient investments, there is a mixture of climate specific and more general challenges that policymakers face, including:

- Creating sufficient demand for investments through stringent and comprehensive

'demand-side' policies, such as carbon pricing, regulations, feed-in tariffs and so on. It is clear that the lack of stringency of 'traditional' climate policies is the predominant barrier to increased investment.

- Increasing the 'supply' of capital to places where it is currently insufficiently supplied (we argued above that there is no shortage of capital in the aggregate at the global level). These 'undersupplied' areas include: long-term illiquid projects such as low-carbon infrastructure; innovative low-carbon small to medium sized enterprises (SMEs); households, e.g. wishing to invest in slightly more capital intensive but energy efficient buildings; difficult to fund sectors such as adaptation, or the poorest countries. There are barriers related to the failures in capital markets that inhibit greater investment in these areas, quite apart from the lack of stringency of climate policies (which is still the core driver behind insufficient investment in mitigation and adaptation).
- Developing mainstream financial products that match finance providers and project developers' needs, such as green bonds or securitizations. Here much progress is still needed: so far green bond issuance, for example, has essentially come from publically guaranteed development finance institutions, or large private companies already having access to capital markets. More progress is needed to ensure effective access to capital for SMEs, households, and countries without well-developed financial sectors (see below).

These policy challenges form a sizeable challenge which cuts across the domain of traditional climate policy, and into the domain of public development banks' core activities, financial sector regulation, environmental fiscal reform, and so on. The development of policy and financing instruments to engineer a large-scale investment shift should be seen as the fundamental objective of 'climate finance policy', at the national and international level. Within the context of this overarching policy objective, and indeed, the mandate of the UNFCCC, solidarity remains a crucial aspect.

4.2. The crucial role for focused solidarity

While common understanding of the importance of aligning policies to shift investments consistent with the 2°C objective is forming among a critical mass of policymakers outside the UNFCCC (OECD, 2015), the argument for a crucial role for continued public support from developed countries for mitigation and adaptation in developing countries remains valid.

The historical responsibility of developed countries to mitigate climate change remains predominant, as their level of development and cumulated emissions are significantly higher than that of developing countries. Moreover, particular countries or activities are in special need of support to finance national climate change priorities. This is in particular the case for least developed countries (LDCs) and for adaptation finance. Indeed, adaptation currently receives an inadequately small share of international public climate finance: about 7-38% of global climate finance, depending on the methodology used (CPI, 2014; IDFC, 2014; OECD DAC 2015; UNEP, 2014).

Moreover, it is clear that in order to limit warming to 2°C, all countries and regions will have to take stringent action in the long-term. This need gives further value to stringent early action by developed countries (for example, buying down technology costs as Germany and others have done with massive deployment schemes for solar PV). Developed country action can also reduce the costs of mitigation and adaptation through a network effect, by promoting learning, innovation and economies of scale. Solidarity that promotes further action in developing countries therefore has positive global spillovers.

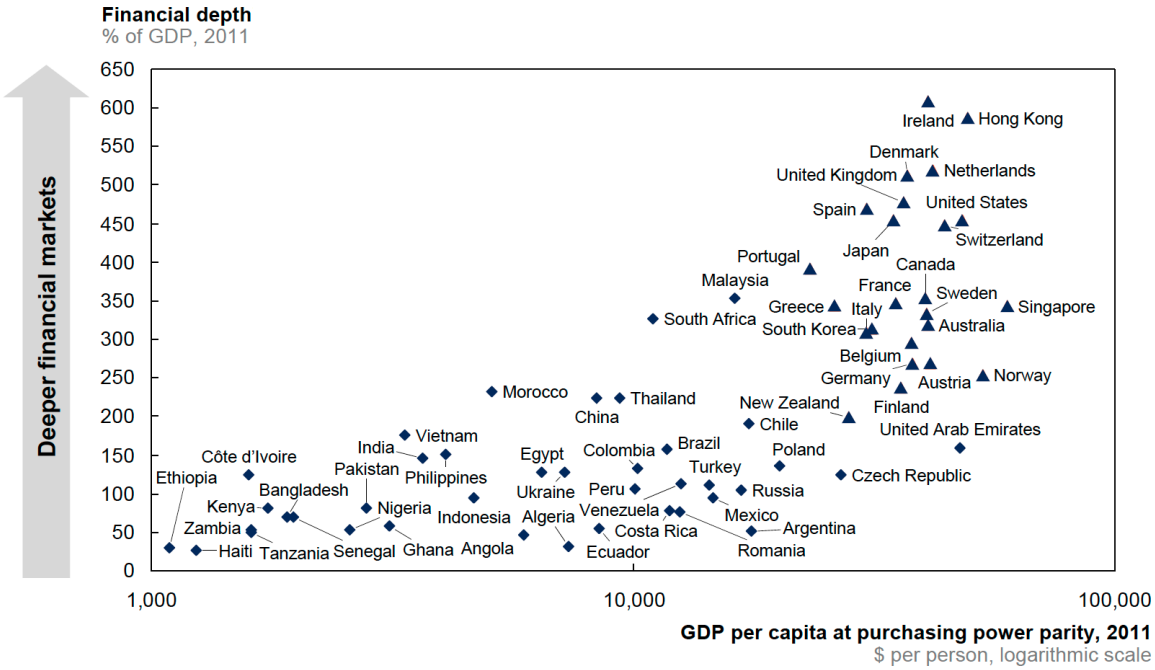
To briefly illustrate the constraints of access to finance from which many developing countries suffer, figure 2 presents the correlation between the level of income and the level of development of the national financial system for a range of countries. This is simply to illustrate that countries with higher levels of development have more sophisticated, globally integrated financial systems; the

Box 2. Shifting investment to be coherent with 2°C: not just an issue for mitigation

It should be noted that the challenge of shifting investment does not just pertain to mitigation. The challenge of adaptation requires mainstreaming climate change considerations into all significant long-term investments across the economy. To give one example, consider long-term investment in the US, UK, Germany, France, Japan, China, India, Brazil and Mexico. For these countries, covering 60% of world GDP, 69% of long-term investment is conducted by households (24%) and corporations (45%). Ensuring resilient economies in the future will require that appropriate information and incentive frameworks are put in place to ensure that this investment takes into account future climate impacts. Clearly there is an issue of providing appropriate public support, including international public support for particularly vulnerable and poor countries. But beyond these instances, adaptation policy needs to consider the mobilization of private capital. Long-term investment horizons can make these investments profitable, in the sense of protecting productive assets from climate damages.

Source: Authors' calculation based on figures in G30 (2013).

Figure 2. Capital markets in developing countries still have significant room for growth



Source: McKinsey Global Institute (2013a), p.61.

poorest have access to more limited, less diverse, shorter-term, and indeed, more costly capital. Financial assistance needs to be focused where it is most needed.

In this context, the task of international public support is to:

- Reflect the principle of responsibility and capacity for addressing climate change on the part of the largest emitters, and developed countries in particular.
- Support countries and activities most in need of international assistance, due to the absence of alternative sources of financing; the underdevelopment of the national financing system; competing urgent development priorities; and high exposure to climate risks and low adaptive capacities.
- A corollary of this is that scarce public resources should be redirected to countries and activities, such as adaptation, that require it most, and are least able to access other sources of capital.
- It should be noted that focused solidarity requires prioritization, i.e. learning from best practice and robust political guidance to e.g. development finance institutions and bilateral lending.

Thus it is essential that the importance of financial solidarity be reaffirmed as a guiding principle of international cooperation under the UNFCCC, and that the international engagements, such as the USD 100 billion pledge, are met and allocated where there is the greatest need.

5. LINKS WITH DEVELOPMENT FINANCE

North-South concessional public flows for development (ODA) amounted to USD 135 billion in 2014.[1] This is an order of magnitude below the investment shift detailed above, which further illustrates that public financial must play a focused and catalytic role within a broader policy effort to shift the necessary investment.

In the context of the financing for development negotiations (FfD), the focused role of public international finance is underscored by placing ODA within the context of seven levers, or *action areas* (FfD3, 2015):

- Domestic public resources
- Domestic and international private business and finance
- International development cooperation
- International trade as an engine for development
- Debt and debt sustainability
- Addressing systemic issues
- Science, technology, innovation and capacity-building

Climate finance is discussed in details in the context of an international development cooperation.

1. OECD. Stat accessed on July 21, 2015.

Paragraphs 59-61 acknowledge the role of the UNFCCC as 'the primary international, intergovernmental forum for negotiating the global response to climate change', and recognise the USD 100 billion target and the allocation rules of the Green Climate Fund, *inter alia*. The importance attributed to a holistic approach towards climate and development finance is demonstrated by paragraph 62, which recognises that 'well-designed actions can produce multiple local and global benefits'. Qualitative commitments to rationalize inefficient fossil-fuel subsidies (paragraph 31), to provide international assistance towards efforts to strengthen local capacity to manage disaster risk (paragraph 62), and to further explore innovative blending mechanisms such as carbon pricing and green bonds (paragraph 69) have also been made.

More broadly, each of the seven action areas has links with climate finance. The mobilization of domestic public resources is linked to the recognition of the increasing role and share of domestic public finance as countries graduate from the low-income to the middle-income status. International trade links with the discussion on green technology transfer. Climate change is also mentioned under the heading of addressing systemic issues. These and other links underscore the need for a comprehensive and synergistic articulation between development and climate finance objectives in the relevant international policy fora in 2015.

The comprehensive approach to FfD can provide an example to the climate finance debate, which also needs to place the discussion on international public support within the context of a broader policy agenda and multiple policy levers at national and international levels.

Another issue relates to the concerns that ODA will be redirected from development to climate objectives.

To facilitate a consolidated global response to climate change at the political and at the ground level, the following questions could offer a starting point for a shared discussion between the development and the UNFCCC processes:

1. Where are the synergies between development finance and climate finance, for example in the case of adaptation finance?

2. Where are respective value added areas for development finance and climate finance, i.e. the things that one process is better at doing than another?

3. How can coherence with climate adaptation and mitigation objectives help to maximize the value of development investments, for example by protecting such investments against the future physical risks of climate change, or against the technology and market risks associated with a substantial and rapid shift to clean technologies (see the discussion in section 2)?

4. How can this relationship be translated into political level commitments?

A potential solution to the question of the interaction between FfD and climate finance could consist of three points:

1. Developed countries demonstrate that serious efforts are underway to scale up international climate finance between now and 2020, particularly to meet the costs of adaptation as a result of climate change in the most vulnerable countries. This could be part of the Paris outcome (see below).

2. Recognition from developing countries that links between development and climate finance require mainstreaming climate change into development funding in sectors where the overlap is strongest (energy, infrastructure, transport, waste, land-use).

3. Complementary engagements to ring-fence and scale up non-climate related ODA for LDCs in sectors not related to climate change.

6. UNDERSTANDING PROGRESS ON THE 100 BILLION TARGET

At COP15 in Copenhagen, developed countries pledged to mobilize USD 100 billion by 2020 from public and private sources for the fight against climate change in developing countries, in the context of meaningful climate action and transparency on implementation from developing countries. Demonstrating sufficient progress towards achieving this goal in 2015 is an important political pre-condition for building trust around the post-2020 agreement.

Accounting exercises can help to understand the level of current flows. At the same time, building an understanding of current flows allows us to understand what more needs to be done, especially where further statistical or methodological work is required.

Accounting methodologies and data available today enable a rough estimate of financial flows for climate change mitigation and adaptation (e.g. CPI 2014, OECD DAC 2015). An estimated range of USD 40-175 billion has been mobilized annually between 2010-2012 from developed to developing countries, according to the first Biennial Assessment of the UNFCCC Standing Committee of Finance (2014). The high uncertainty indicated by this range is natural given that the study consolidated results from various tracking exercises, but this range allows for divergent views on where current progress stands. The so called "onion-diagram" of the study helps to understand the

broader context and composition of the USD 100 billion. Based on this framework, there are a number of areas where further work and progress is needed—either at the political or the technical level—in order to improve common understanding:

- *International public finance.* Estimates of current public flows linked to climate are USD 35-50 billion, a range which has been fairly stable over the past few years The IDFC and MDBs are harmonising methodologies for tracking mitigation and adaptation finance, an exercise which could potentially narrow down this range. In terms of non-concessional public development finance, the OECD Development Assistance Committee (DAC) is trying to better understand the climate-relevant component of other official flows (OOF), and of export credits.
- *Brown climate investments.* Little systematic information is available on 'brown international climate investments', or public investments in polluting activities in developing countries. For example, multilateral development banks do not systematically monitor and report on financing of fossil fuel energy projects. This is problematic, as brown investments are counterproductive to the objectives of climate finance, and shifting these flows to climate-friendly technologies and sectors could be a source of scaling up finance towards the USD 100 billion target.
- *Mobilised international private finance.* There is a high degree of uncertainty in estimates of private finance mobilized by public finance and policy interventions. This is due to gaps in the data for private climate finance, as well as to methodological challenges relating to the definition and measurement of 'mobilized' private finance. There is a lack of systematic methodology and data for measuring leveraged private finance by development banks, resulting in a wide spread of estimates present in the literature (WRI, 2015). Given these technical challenges, further methodological work is underway and could give a greater sense of robustness around the estimates on mobilised international private finance.

The challenge around understanding progress towards the USD 100 billion target is not just a technical issue. Indeed it is primarily political, regarding what can be counted towards the target. Some kind of political accord would need to be found regarding this issue. However, given the divergent views, and technical complexity, it seems unlikely that a very 'precise' definition of climate finance can be agreed. A solution could lie in a combination of key principles, and continued transparency at an increasing level of granularity, and dynamic learning and creation of norms regarding climate finance good practice.

- Continued development of MRV methodologies and data collection should be promoted on these fronts to enable a more complete picture of current climate finance being mobilized from developed to developing countries. At the same time, given the large space of remaining methodological challenges, technical progress alone will likely not be sufficient to reach common understanding ahead of the COP21. The USD 100 billion target was a political target from the start, and it is important that there is credible political commitment demonstrated on behalf of developed countries to give certainty that the USD 100 billion pledge will be achieved. Declarations on supplementary climate finance from developed countries and development finance institutions may be one option.

7. NON-UNFCCC PROCESSES: WHAT COULD BE EXPECTED?

As noted in the introduction, climate finance is being dealt within multiple policy fora, although to varying degrees and with different focuses. Important processes include the G20/G7, the Bretton Woods institutions of the IMF and the World Bank, the club of development banks (IDFC), and financial market regulators at the national and international level, as well as coalitions of private sector actors. It is increasingly understood that the complexity and comprehensiveness of the financing challenge to implement the 2°C climate objectives mean that such processes will play an important, complementary role to the UNFCCC in developing and implementing the policies to shift investment trillions into a low-carbon, climate resilient economy.

It is beyond the scope of this paper to provide a comprehensive assessment of what these processes could contribute to the climate finance discussion. However, a number of key elements can be highlighted:

- *Mainstreaming climate into international financial policy processes and international public flows.* There is an increasing diversity of actors contributing international public finance for development, often with climate co-benefits. Examples include the USD 50 billion New Development Bank announced by the BRICS countries in 2014; the USD 100 billion Asian Infrastructure Investment Bank proposed by China; and the USD 40 billion Silk Road Fund likewise proposed by China. This clearly shows that the international development finance

landscape has become more diverse. That is a good thing. However, it is important that international public flows start to be governed by shared norms of transparency and climate-coherence. Work in the FfD and potentially at the G20 level could be used to create and progressively strengthen such norms and transparency frameworks.

- *Supporting climate policy implementation and data collection.* International financial governance and regulatory institutions such as the IMF provide important policy support related to fiscal policy, the implementation of enabling environments to attract and manage foreign and domestic investment, and the implementation of international finance sector standards and regulations. Some of these fields, such as fiscal policy, can be directly related to climate policy. Some international financial governance institutions have started to integrate climate change concerns into the relevant areas of policy advice and monitoring. Further work to structurally include climate change as part of their day-to-day activities could be undertaken. An example could be strengthening the role of the IMF on providing adaptation policy support and financial products linked to resilience for vulnerable countries, given the risk that weather-related disasters pose to macroeconomic, fiscal and balance of payments stability in vulnerable countries.
- *Assessing the interaction between financial governance and climate change.* There is an increasing body of research looking at the interaction between financial regulation and climate-relevant investment, as well as at the implications of climate change and climate policy for the financial sector. While still in its infancy, such work could be continued and strengthened by international financial governance institutions, in order to assess the implications of climate change for their mandates and vice versa. A couple of examples can be given here:
  - The insurance sector is highly exposed to climate change. Some national jurisdictions are starting to require disclosure and guidance on risk-mitigation policies by insurance firms. An eventual common guidance on disclosure and risk mitigation could be led by the industry regulator, the International Association of Insurance Supervisors, as part of a financial sector-wide initiative coordinated by the Financial Stability Board.
  - It is clear that developing financial products that transform physical infrastructure investments into liquid, transparent and standardized financial assets could help to channel large sums of capital into climate mitigation (this is the argument for climate bonds). National and international regulators could provide further guidance and standardization around these instruments in order to further promote market development.
  - There is increasing interest among financial sector participants and regulators regarding the risk of stranded assets. Financial regulators such as the Financial Stability Board could help to understand and integrate these risks into financial decision making and risk assessment frameworks, at the firm and governance level.

For a fundamental reassessment of the risks and opportunities related to climate investment to occur, financial sector actors need to receive clear policy signals, from both climate policy *per se* (carbon pricing, standards, and regulation) but also from the financial governance sector.

Overall, the unique momentum between now and the end of 2015 should be used to establish the understanding that the UNFCCC, while it is the crucial forum for state-to-state commitment on climate change, does not have all the policy tools at its disposal to tackle the scale of the climate finance challenge. Other institutions will need to step in to complement the UNFCCC, and develop the international frameworks and policies as well as guidelines for national action to support the implementation of the Paris agreement. That recognition of the need for mutual support and alignment is one of the key deliverables for 2015.

Policy discussions on climate finance in 2015 and beyond are thus taking place under several international fora, of which the UNFCCC—although important—is only one. The UNFCCC can provide key guiding principles and a platform to ensure a broad view on how climate finance evolves, but it´s not the only—not even the main—place to undertake consistent action on climate finance. It is crucial that these different streams are articulated in a coherent way in 2015 and beyond, under a common framework of guidance, objectives and transparency that can be developed *inter alia* by the Paris agreement under the UNFCCC.

8. FINANCE IN THE NEW CLIMATE AGREEMENT

This section looks at what the Paris agreement could contain on finance. The term 'agreement' is understood to cover both the legally binding agreement to be negotiated in Paris, and non-legal instruments such as COP decisions or political declarations. It seems that some of the political convergence around these elements of the finance

discussion will need to occur outside the UNFCCC, and then be brought into the UNFCCC.

The current negotiations seem to be shaping up around an agreement with a hybrid legal form, combining a core, legal agreement possibly containing definitions, guiding principles and collective objectives for the long term, to be complemented by a series of implementing documents (decisions, declarations, schedules). It is important to consider how this hybrid structure could be put at the service of climate finance in the new agreement.

The structure of the Paris agreement appears particularly important with respect to two issues:

- How to provide for assurances of continued efforts by developed countries to provide financial support, in the context of reticence to adopt new specific targets pertaining to developed countries?
- How to consider the evolution of responsibilities with respect to climate finance in the context of the new agreement?

The Lima Call for Action has started to reflect an increasingly nuanced landscape of finance providers and recipients by recognising "complementary support by other Parties".[2] It has also underscored that the agreement should reflect common but differentiated responsibilities (CBDR) "in light of different national circumstances".[3] To put these principles into practice, rules and mechanisms on finance need to be flexible over time and capable of adapting to changing national circumstances, including capabilities to provide and needs to receive climate finance.

The Lima outcome also made the distinction between *mobilization* and *provision* of climate finance.[4] Mobilization is a broad term encompassing public and private finance, both domestic and international. Provision can be seen as specifically applied to public climate finance, with the implication that it is provided from developed to developing countries. This distinction could be used to establish certain rights and responsibilities for all Parties and others for particular groups of Parties in the new agreement.

The core agreement could contain three main elements:

1. A collective objective to *mobilize* climate finance coherently with the 2°C target

2. A mechanism to establish cycles of contributions to *provide* climate finance, applicable to certain groups of Parties. This could also include the first cycle to be adopted in Paris.

3. Principles and requirements to guide the implementation of the agreement.

We start with the last element first. But first we expand a little further on the relationship between UNFCCC and non-UNFCCC processes.

8.1. Relationship between UNFCCC and non-UNFCCC policy processes

It is noted in section 7 that a number of different policy processes outside the UNFCCC are increasingly working on the mobilization of climate finance, and mainstreaming climate finance objectives into relevant capital flows. It is important therefore to consider explicitly the relationship between the UNFCCC and these processes. Other policy processes—coordination and cooperation between development finance institutions, G20 oversight of its member states' financial and economic systems, financial sector governance, national fiscal and financial policies, and engagements from the private sector—often have the concrete policy tools that are required to mobilize climate finance, and redirect investment flows. These will be the primary location of concrete policymaking.

On the other hand, within this landscape the UNFCCC still has a crucial role to play. The functions of the UNFCCC can be summarized in three points:

- *Goal setting and norm creation.* The UNFCCC is the primary multilateral institution for cooperation on climate change. The Paris agreement could have a crucial role in establishing long-term goals of redirecting investments to be consistent with climate objectives, and establishing norms of transparency and coherence with climate objectives. Within this function, specific goals for particular countries or groups of countries may also be established (see section 8.4). These kinds of goals are crucial for setting policy orientations that can be mainstreamed outside the UNFCCC.
- *Transparency and tracking.* The UNFCCC has established a system for transparency and tracking of climate flows. This mechanism has allowed the UNFCCC to track flows, and interact with tracking institutions outside the UNFCCC. This system can be built upon and strengthened in order to build a consistent vision of progress towards climate finance goals.
- *Interacting with institutions outside the UNFCCC.* In order to ensure effective mainstreaming, and articulation between UNFCCC and non-UNFCCC processes, it will be important to establish

2. Paragraph 4 of UNFCCC (2015).
3. Paragraph 3 of UNFCCC (2015).
4. Paragraph 4 of UNFCCC (2015).

links and dialogue between the climate finance framework of the UNFCCC and institutions and processes outside the UNFCCC. This dialogue role is something that the Standing Committee could potentially play, acting as a kind of 'aggregator' to bring together an understanding within the UNFCCC of different policy processes.

8.2. Principles

Firstly, the agreement could reflect the above-mentioned distinction between mobilization and provision of climate finance. This kind of distinction has also been developed by the Standing Committee of Finance and the IPCC in distinguishing between:

1. *Climate finance* includes all financial flows whose expected effect is to reduce net greenhouse emissions and/or to enhance resilience to the impacts of climate change. This covers public and private funds, as well as international and domestic flows. International flows include North-South and South-South finance.

2. *International climate finance to developing countries* is understood as the amount of the total climate finance invested in mitigation and adaptation activities in developing countries that comes from developed countries, including public and private. This definition could be expanded to include South-South finance.

3. *International public climate finance to developing countries* is understood as the amount of climate finance provided by developed country public institutions including governments and bilateral and multilateral institutions, for mitigation and adaptation activities in developing countries. This definition could be expanded to include South-South finance.

A distinction between mobilization and provision using this taxonomy underscores two major roles of the Paris climate agreement: first of all, to send a signal of long-term global political commitment towards shifting trillions of investment in line with the 2°C objective; secondly, to commit to the provision of support to developing countries in line with the principles of the UNFCCC.

Secondly, the agreement should contain five important principles:

1. *No backsliding and continuous scaling-up of finance.* This principle is reflected in the Lima Call for Action, in the statement that Intended Nationally Determined Contributions (INDCs) should represent progression from existing undertakings. Applied to climate finance, it can be understood as reconfirming existing efforts to mobilize climate finance by developed countries for developing countries, such as the USD 100 billion.

2. *Need-based allocation for adaptation and most vulnerable countries.* Prioritising the allocation of international public climate finance where other sources of climate finance (domestic, private) are not available, in particular for adaptation and resilience building in countries that are particularly vulnerable to the impacts of climate change.

3. *A commitment to improve the effectiveness of national climate policies in all countries.* Domestic policy frameworks can provide the necessary enabling environments to assist the efficient allocation of finance in support of climate objectives. This principle should underscore the importance of national climate policies in attracting and redirecting investment to low-carbon and climate resilient activities. Such a commitment could be concretized by a call to progressively increase the transparency and stringency of climate related fiscal policy by implementing national carbon pricing policies and phasing out inefficient fossil fuel subsidies.

4. *Mainstreaming climate finance into relevant policy areas and public interventions, at national and international levels.* Given the nature and scale of the climate finance challenge, enabling policy actions need to go beyond niche and targeted policy solutions. Addressing the challenge of shifting trillions requires mainstreaming climate change risks and opportunities into investment, trade, fiscal and financial policy areas, at both domestic and international levels.

5. *Result-based financing.* Scarce public finance should be allocated primarily based on the principle of need, given the role that public finance can play in funding activities that are not financially attractive to the private sector. A complementary principle is that of result-based financing, which implies that public resources should be used to maximise impacts. Public finance can have a catalytic effect in scaling up and redirecting private finance by mitigating risks and demonstrating the feasibility of non-mature low-carbon technologies.

8.3. A collective objective to *mobilize* climate finance coherently with the 2°C target

The core legal text could contain a collective objective incumbent on all Parties to *mobilize* climate finance consistent with the 2°C mitigation and adaptation pathway, through appropriate national and international policies and the provision of support. As with the 2°C target under Cancun, this would be a broad 'meta-target' without attribution to countries, but intended to guide a wide range of stakeholders at all levels. Given the inevitable remaining uncertainties around the estimation methods, adopting a precise figure of investment

needs under the new agreement could be politically and technically difficult. A qualitative meta-objective can nonetheless set the overall direction of global climate change policy and financing ambition from mobilising USD 100 billion North-South finance to shifting trillions of investments per year. Importantly, a global/universal commitment to a shift towards a 2°C pathway in the finance chapter would also send the necessary long-term, international political signal to private sector investors.

8.4. A mechanism to establish cycles of contributions to *provide* climate finance

In addition to the collective objective, the new agreement could contain a specific procedural commitment incumbent on developed parties and those parties in a position to do so to provide specific support to developing parties that require it. The cycle of contributions could consist of the following elements:

1. A commitment anchored in the core agreement to provide climate finance in line with the cycle of the overall agreement, for example, every five years. This commitment would be incumbent on developed countries and parties in a position, and would not be specifically quantified within the core agreement.

2. Operationally, the commitment to provide climate finance could be reflected in quantitative terms in a COP decision, updated each cycle.

3. A first COP decision representing the first finance cycle in the new agreement. We detail below some elements it might contain.

4. A strengthened MRV framework, detailed below.

In complement to a legal agreement of lasting effect, parties could also adopt a series of COP decisions in Paris, setting out the quantified contributions of developed country parties and parties in a position to do so for the first cycle under the new agreement. A COP decision on quantified contributions on finance could consist of three elements:

- Continued commitment on *mobilising* USD 100 billion a year as a floor for the period 2020-2025, acknowledging that its composition and focus may change. Private finance mobilized for developing countries may play a greater role in financing mitigation and in middle-income countries, as risk mitigation instruments become more available and technologies mature. International public finance could be increasingly concentrated on adaptation and low-income countries.
- A specific target for *providing* adaptation finance in the most vulnerable countries, applicable to developed country parties and parties in a position to do so. This could be to scale up current adaptation funding. It should be understood that this is a sub-target of the above-mentioned continued commitment to USD 100 billion, i.e. a way of operationalizing the principle of needs-based allocation.
- A recognition of voluntary contributions from developing country parties in a position to do so, and a call to integrate climate change considerations into South-South funding flows.

This kind of decision would be understood as the operationalization of the first cycle of contributions by developed country parties and parties in a position to do so, and would be updated in line with the cycles of the agreement.

8.5. A strengthened MRV framework

A reinforced Measurement, Reporting and Verification (MRV) framework should be included under the new agreement. Three points in particular could form the backbone of a strengthened system:

1. Strengthened Biennial Submissions on Strategies and Approaches to Provide Climate Finance, to include quantified projections of climate finance provided across the cycle period. This would be the key mechanism to ensure accountability for continued support for developing countries which need international financial assistance.

2. Enhanced guidelines for Biennial Reports[5] for the obligatory reporting of finance provided by developed countries; the voluntary reporting of finance provided by developing countries in a position to do so; and the reporting by developing countries of finance received.

3. Continued use and improvement of Biennial Assessment and Overview of Climate Finance Flows by the Standing Committee on Finance to monitor progress towards collective commitments. Developments of the Biennial Assessment methodology could be made on data collection on private and domestic finance, as well as the inclusion of brown investments as "negative climate finance".

5. The authors believe that the Biennial Reports and Biennial Update Report should be merged into a single flexible reporting framework.

9. CONCLUSIONS

Policy discussions on climate finance are taking place in many fora, of which the UNFCCC, although important, is only one. A finance package is to be negotiated at the COP21 in 2015, as part of a universal agreement laying down the pillars of the global governance architecture on climate change post-2020. Such an agreement should consist of differentiated roles on the provision and the mobilisation of finance, collective objectives and principles on finance, as well as mechanisms for MRV and financial cycles in alignment with other parts of the agreement. As a condition to get into the discussion on the post-2020 framework, developed countries have to demonstrate credible progress as well as political willingness towards meeting the collective, self-defined target of USD 100 billion North-South finance mobilised annually by 2020. Beyond the USD 100 billion question, the agreement needs to send the signal that trillions of dollars of capital will need to be redirected towards low-carbon, climate-resilient investments in order to achieve the 2°C temperature goal.

More broadly, the overarching objective of climate finance is two-fold: to provide the necessary support to the most vulnerable and poorest countries, focusing on the most urgent priorities in these countries such as adaptation, and to bring about a fundamental shift in investors' assessments of risks and opportunities related to climate change and climate policy. Climate finance is pertinent to a broader set of actors than international public finance providers and recipients. This reality has not been sufficiently reflected under the UNFCCC. Nonetheless, financial sector regulators and investors have started to explore the economic and financial implications of climate change and climate policies. In the medium to long term, policymakers will have to scale up their ability and willingness to translate climate change considerations into monetary, fiscal, trade, investment and other non-climate policy areas domestically and internationally, to align financial incentives with low-carbon, climate-resilient growth.

Globally, post-2015 will be an era of new synergies between the governance of climate finance and the shifting landscape on development goals and financing. Issues related to climate change have been mainstreamed into the 'Addis Ababa Action Agenda',[6] the doctrine to govern global development cooperation between now and 2030, as well as the post-2015 sustainable development goals (SDGs) to be adopted at the UNGA in September. Recognising climate and development co-benefits and trade-offs is no longer a good-to-have, but a *must* for development co-operation. From an accounting perspective, this will likely obscure the line between international public climate finance and ODA. Innovative solutions need to emerge to ensure that climate finance does not crowd out development finance and, at the same time, is effectively managed vis-à-vis development objectives. From a geographical perspective, climate and development finance providers and policymakers will have to manage an increasingly complex set of challenges and opportunities borne by country-specific development priorities and financial market conditions.

6. The outcome document of the Third International Conference on Financing for Development, July 13-16, 2015.

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