IDDRI
SciencesPo.
UNITED NATIONS
ECLAC
FUNDACION TORCUATO DI TELLA

WORKING PAPER

N°20/14 NOVEMBER 2014 | CLIMATE

How to finance low-carbon and climate-resilient development?

A perspective from Latin American and Caribbean think tanks on climate change issues Series

Hernán Carlino (Fundación Torcuato Di Tella, Argentina)

This publication is part of a collection of papers that analyze several of the technical and political issues in the UN climate change negotiations, including those related to climate finance and to the international adaptation framework; and how to support and encourage low-carbon and climate-resilient development. This work series was led by IDDRI (Teresa Ribera, Celine Ramstein) and jointly prepared with experts from four Latin American think tanks: Maria Elena Gutierrez, Maria Paz Cigaran, David Garcia and Carolina Chambi (Libelula, Peru), Rene Castro and Mario Chacon Leon (CATIE, Costa Rica), Hernan Carlino (Fundacion Torcuato Di Tella, Argentina) and Renato Flores and Marina Drummond (Fundacao Getulio Vargas, Brazil), as well as from IDDRI (Alexandre Magnan, Teresa Ribera, Sebastien Treyer and Thomas Spencer).

☆☆☆

The LAC region is at a crossroads: while its emissions are still relatively low compared to global emissions, they are changing quickly. The region will face tremendous impacts from climate change, while adaptation and mitigation policies could present many opportunities for strengthening regional integration. This collection has been prepared by think tanks in countries that belong to many different negotiating groups within the UNFCCC, as well as economic alliances, and therefore can play a key role to advance new ideas and find “bridges” between different positions.

☆☆☆

"Mitigation efforts in the region are necessary to increase competitiveness, enhance access to world markets, increase efficiency and to transform and expand the economic and social infrastructure that would be required to adhere to a low emission pathway. Very large urban populations, wide inequalities and acute income distribution gaps make mitigation efforts more demanding and require sophisticated financial instruments to stimulate investments without further impacts on, inter alia, energy tariffs, food prices and public transport costs. Climate finance will also be necessary to make these transformations feasible and to enable a less socially regressive transition process.

Beyond the diverging perspectives of developed and developing countries, mobilizing private funding represents the possibility of tapping vast financial resources while having simultaneous access to innovation and the potential for technical change.

The complementarity of public and private funding can be reinforced by implementing public policies and policy reforms to leverage private climate finance, in particular to address barriers to investment or market failures, including through risk mitigation instruments to lower the level of risk of investments."

www.iddri.org

Institut du développement durable
et des relations internationales
27, rue Saint-Guillaume
75337 Paris cedex 07 France

☆☆☆

This document is an output from a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network (CDKN), which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.

☆☆☆

This collection of papers was written by a group of independent experts acting in their organization's capacities and who have not been nominated by their respective governments.

Partner think tanks

Citation: Carlino, H. (2014). How to finance low-carbon and climate-resilient development?, *Working Papers* N°20/14, A perspective from Latin American and Caribbean think tanks on climate change issues Series, IDDRI.

☆☆☆

This project has greatly benefited from the discussions held during the think tank workshop organized in Santiago, Chile on October 8th, 2014. We would like to thank the Economic Commission for Latin America and the Caribbean (ECLAC), the United Nations Environment Programme (UNEP), the EUROCLIMA programme and the Climate and Development Knowledge Network (CDKN), as well as the experts and negotiators who participated in this dialogue.

☆☆☆

For more information about this document, please contact:
Hernan Carlino — hcarl@itdt.edu
Celine Ramstein — celine.ramstein@iddri.org

ISSN 2258-7071

How to finance low-carbon and climate-resilient development?

How to finance low-carbon and climate-resilient development?

Hernán Carlino (Fundación Torcuato Di Tella, Argentina)

FOREWORD

As part of its work on international climate coordination, IDDRI is animating a series of informal dialogues among negotiators from Latin America and the Caribbean (LAC), with the aim of contributing to the discussions ahead of the United Nations Framework Convention on Climate Change Conference of the Parties (UNFCCC COP 20) to be held in Peru in 2014, and of the UNFCCC COP 21 to be held in France in 2015. These dialogues are co-organized by the governments of Brazil, Chile and Peru, together with the Economic Commission for Latin America and the Caribbean (ECLAC) and the United Nations Environment Program (UNEP).

To infuse the discussions with innovative ideas and to involve key stakeholders, IDDRI organized a workshop on October 8, ahead of the negotiators' dialogue held in Santiago, Chile, on October 9 and 10, 2014, which gathered representatives from various think tanks and institutions from across the region and regional climate change negotiators. We would like to take this opportunity to express our sincere gratitude to the ECLAC and UNEP regional teams for their support during this project and for the organization of this workshop and dialogue, as well as CDKN for funding these dialogues.

In the months leading up to this workshop, IDDRI worked with these think tanks to prepare background papers that analyze several of the technical and political issues in the UN climate change negotiations, including those related to climate finance, and how to support and encourage low-carbon and climate-resilient development. These background papers were discussed during the workshop by regional experts and negotiators. The authors of the final versions that are presented here have integrated into their texts the most notable comments that emerged throughout this process. We would also like to thank the workshop participants and the think tanks involved in the project who wrote the papers presented here, in particular Maria Elena Gutiérrez, María Paz Cigarán, David García and Carolina Chambi (Libélula, Peru), René Castro and Mario Chacón León (CATIE, Costa Rica), Hernán Carlino (Fundación Torcuato Di Tella, Argentina) and Renato Flores and Marina Drummond (Fundação Getulio Vargas, Brazil), as well as Gladys Hernandez (from the Centro de Investigaciones de la Economia Mundial) whose participation and comments during the workshop were extremely valuable. Thanks also to my colleagues at IDDRI who contributed to this publication: Céline Ramstein, Alexandra Deprez, Thomas Spencer, Alexandre Magnan, Sebastien Treyer, Michel Colombier, Sáni Zou and Pierre Barthélemy.

These papers are important regional contributions to the global debate leading up to COP 21, and our work on these dialogues gives a platform to these ideas and the voices of LAC countries, helping to build common perspectives. Coming directly from LAC, these contributions are particularly important for a number of reasons. First, despite the efforts of the Intergovernmental Panel on Climate Change (IPCC) and others, the literature on climate change is still somewhat dominated by researchers from North America, Europe and other Annex 1 countries. However, there is a vast amount of policy experience and research expertise that can be referred to in LAC, as these papers rightly demonstrate. Second, as the opening chapter outlines, the region has specific circumstances, which means that perspectives on policy and research coming from this region can be particularly innovative and valuable for discussion at the global level.

The results of this exercise went well beyond our expectations. We have been greatly encouraged and inspired by the concrete, pragmatic and innovative proposals formulated in the papers and the potential areas of consensus discussed during the workshop. Our hope is that this dialogue will help to address deadlocks in the negotiations in the coming months.

Teresa Ribera, director of IDDRI

Although IDDRI supports many of the views and recommendations presented here, each paper reflects the view of its authors.

SUMMARY

Climate finance and investment flows to address climate change have been persistently identified by Parties to the United Nations Framework Convention on Climate Change (UNFCCC) as a key constituent of an advanced and equitable international climate regime. As such this is set to play a decisive role in an international climate agreement to be concluded next year in Paris by contributing to bridging, through its unique attributes, the gap between national interests and needs and the achievement of the global public good represented by climate change control.

The significance of climate finance is concomitant with the fact that all actions to address climate change ultimately involve investments and have cost implications, while funding is vital for developing countries to be able to design and implement adaptation and mitigation strategies, plans and actions in line with their sustainable development priorities.

The strain to international governance represented by climate change leads in turn to an unprecedented climate finance challenge that is characterized by three major features: scale, urgency and effectiveness.

Given the scale of financial needs from developing countries, public sector funds will not be sufficient to facilitate transformation at the global scale nor will financial mechanisms of limited extent be enough to stimulate the desired paradigm shift. There is a need for a vast, dramatic scaling up of climate finance. Capital markets should play an important role in the overall financial architecture and efforts should be made to reduce capital costs, in particular through expanded access to institutional capital.

A key component in a successful international climate agreement should be a climate finance architecture through which finance is sourced, allocated, and disbursed for climate change mitigation and adaptation actions to developing countries. This should ensure equitable access to sustainable development, as well as advanced scaling up, mobilization and catalysing of climate finance and investments. International funding through the financial mechanisms of the Convention will be essential to enhance domestic capacity to finance climate-related efforts.

The funding gap between current and projected financial needs and pledged resources indicates that what is at stake are orders of magnitude; solving this problem is a vast challenge with implications well beyond climate negotiations. To face this challenge it is necessary to consider various decisive issues, including: reforms to the international financial system, monetary policies and macro-prudential financial regulation to integrate climate concerns, enabling national environments for transformational efforts, enhanced private capital investment and market linked mechanisms, carbon prices, reform of incentive structures, scaling up of public funding at a level commensurate with leveraging requirements, and accountability and transparency systems put in place.

For various reasons, the issue of climate finance is particularly important for Latin America and the Caribbean, given vast climate financial needs that require a sustained provision of funds, and the capacity to use those resources effectively. Many initiatives and projects put in place in the region to mitigate climate change and adapt to its adverse effects, in order to protect its huge but vulnerable natural resources and the large and growing number of citizens, living mostly in urban settlements across the continent, can serve as interesting examples.

1. INTRODUCTION

Climate finance has been a central issue in climate negotiations towards the development of the United Nations climate regime throughout the last two decades. Further, climate finance and investment flows to address climate change have been persistently identified by Parties to the United Nations Framework Convention on Climate Change (UNFCCC) as a key constituent of an advanced and equitable international climate regime.

The rich multifaceted nature of the notion of climate finance, the inherent complexities associated with finance and investment in a context of global change, and the limited availability of robust data on investment and financial needs converge to create a broad diversity of approaches towards defining climate finance. In addition, divergent perspectives by Parties on addressing justice and damages in a climate change treaty have delayed the establishment of an effective and fair climate finance governance system. These circumstances have been conducive in slowing down the process of bridging national positions in the negotiation arena on the layout of the entire climate finance architecture and its governance principles and agreeing on key matters related to climate finance. Those matters include, inter alia, governance, sources of funding, channels and use, direct access, measuring, reporting and verification (MRV) of financing flows and accountability. Difficulties extend to making those elements operational in a process where, simultaneously, inextricably related issues (i.e. level of ambition, national contributions, universal participation under 'applicable to all', adaptation goals or loss and damage) are also being negotiated.

One critical element of the negotiation process around climate finance is precisely making operational the principle of "common but differentiated responsibilities and respective capabilities" (CBDR-RC) set out in the Convention. Under CBDR-RC, developed country Parties are to provide financial resources to assist developing country Parties in implementing the objectives of the UNFCCC. In this regard, increasingly diverging growth patterns, fiscal strictures in a number of developed countries and an evolved understanding by many developing countries on the rationale and extent of their contributions to international cooperative action have gradually modified the rather rigid categories previously used to render that principle operational.

By contributing to bridging the gap between national interests and achieving climate change control, climate finance is set to play a decisive role in the international climate agreement to be concluded next year in Paris.

This background paper examines the major issues around climate finance with an emphasis on the Latin America and Caribbean (LAC) perspective. It also addresses the key components and attributes that an agreement on climate finance should integrate in order to navigate towards the intersection of sustainability, resilience and low emissions growth.

The paper is structured as follows. Section 2 briefly provides the conceptual framework and rationale for the analysis on climate finance with a view to a new global climate agreement. Section 3 provides an analysis of the objectives to be achieved in Paris regarding finance and of the needed elements to be included in the text in Lima. Section 4 discusses groundbreaking approaches

and innovative financial solutions, beyond the financial mechanisms of the UNFCCC.

2. A FRAMEWORK FOR ANALYSIS

2.1. About the relevance of climate finance

Climate finance is an essential element of the international climate negotiations that are to culminate in the agreement at the COP 21 next year. There is a broad consensus that progress in establishing an appropriate climate finance architecture bolsters the prospects of successfully concluding those negotiations. If that is the case, climate finance will remain a central pillar of international climate policy and, moreover, a pivotal instrument in bringing out the transformational efforts needed to achieve drastic emission reductions and ensure climate resilient societies.

The significance of climate finance is concomitant with the fact that all actions to address climate change ultimately involve investments and have cost implications, while funding is vital for developing countries to be able to design and implement adaptation and mitigation strategies, plans and actions in line with their sustainable development priorities.

The Cancun Agreements adopted by Decision 1/CP.16, in the context of describing a shared vision for long-term cooperative action, state that addressing climate change requires "a paradigm shift towards building a low-carbon society that offers substantial opportunities and ensures continued high growth and sustainable development".[1] Climate finance is then paramount as a means to addressing global warming by expediting the ambitious mitigation actions needed to keep within a less than 2 degree Celsius pathway.[2] Progress toward this pathway comes notably through action in sectors that emit large quantities of greenhouse gases, as well as a move away from fossil-fuel dependent economic growth strategies. Climate finance is equally decisive for adaptation efforts, whereby significant and increasing financial resources will be required to enable developing countries to adapt to the impacts that can no longer be avoided. Further, climate finance is to be a critical tool in allowing developing countries to pursue their objectives under the UNFCCC while abiding by their sustainable development principles and priorities.

The strain that climate change poses to international governance leads in turn to an unprecedented climate finance challenge that is characterized by three major features: scale, urgency and effectiveness. However, these features only reflect the challenge in terms of what needs to be done, while there is an additional necessity for defining the ways in which those outcomes are to be accomplished. The manner under which the climate finance challenge - with its defining features - is to be addressed, however, is strongly influenced by the principles governing climate finance that have strenuously been agreed by Parties to the UNFCCC negotiations.

As regards an indication of the magnitude of the financial effort needed, the International Energy Agency (IEA) estimates that setting the world on a 2°C emissions trajectory, in a so called 450 ppm scenario, requires investments and financial flows to finance the transition to a low-carbon energy system of about $53 trillion in cumulative investment in energy supply and energy efficiency up to 2035.[3] In a slightly different time frame and considering a broader investment perspective, as quantified by a recent study, transitioning to a low-carbon infrastructure across transport, energy, water systems and cities, will add an estimated US$270 billion a year to investments calculated at around US$90 trillion over the next 15 years, an incremental cost of about 5% of those total requirements. In that case, investments in infrastructure alone would amount to around US$95 trillion in the next 15 years in order to replace existing infrastructure and to accelerate a low-carbon transformation (The New Climate Economy Report, 2014).[4]

Moreover, trillions in additional finance will also be needed to address adaptation to climate change impacts and making the necessary investments to secure livelihoods and food production systems in developing countries, in particular in less developed ones. A number of studies indicate that the costs of adaptation to climate change may be in the range of $100 billion (UNFCCC, 2007; World Bank, 2010) to $450 billion a year (Caravani et al., 2013).[5] As the emissions gap has kept growing, adaptation needs become costlier and broader, adding fiscal instability to countries that have to face huge so-

1. See FCCC/CP/2010/7/Add.1, para. 10.
2. While the 2 degrees is the pathway that currently drives the negotiations, a significant number of countries demand a limit of 1.5 °C.
3. World Energy Investment Outlook Special Report. OECD/IEA, 2014
4. The Global Commission on the Economy and Climate (2014). Better Growth, Better Climate: The New Climate Economy Report, The Synthesis Report. September 2014. Washington.
5. See also Montes (2012).

cial debts in health, education, housing and environmental protection.

Hence public sector funds will not be sufficient to facilitate transformation at the global scale nor will financial mechanisms of limited extent be enough to stimulate the desired paradigm shift. There is a need for a vast, dramatic scaling up of climate finance. Capital markets should play an important role in the overall financial architecture and efforts should be made to reduce capital costs, in particular through expanded access to institutional capital.

Reasons for urgently addressing the climate finance challenge are manifold: first, as stated by the Intergovernmental Panel on Climate Change (IPCC), without drastic emission reductions, global warming is more than likely to continue and to be aggravated throughout the twenty-first century and might severely alter our planet's natural environments and the living conditions of billions of people (IPCC, 2013), reverting progress already made by developing countries and jeopardizing achievements towards Sustainable Development Goals.

Second, according to UNEP, in order to have a likely chance of staying within 2°C, global emissions must peak before 2020 and must steeply decline after that year. Hence there is an urgency to take action, immediately to limit the adverse effects and, in the longer term, to adapt to unavoidable changes.[6] Taking urgent action hinges decisively on adequate and effective climate finance.

Third, it is necessary to redeploy current prevailing investment patterns for developing countries to be able to avoid locking in fossil-fuel intensive, inefficient infrastructure and avoid adopting carbon intensive development patterns. Redirecting resources towards low carbon infrastructure will also stimulate a need in developed countries to refurbish their vast capital stock. Finally, delaying the needed transformations will only increase the costs of switching to green growth patterns, making the transition more difficult and socially disadvantageous.

The effectiveness of finance, the third characteristic of the climate finance challenge, refers to the ability of the financial process put in play under the climate finance regime to maximize impacts and achieve proposed goals. Following Ellis et al., the concept of effectiveness that is to be applied at the different stages involved in the planning, delivery, use of and accounting for climate finance "can be defined as the extent to which an intervention achieves its stated aim(s)," gauged in terms of context, time horizon and scale.[7] One subset of interpretations (also in Ellis et al.) on how effectiveness can be defined is the principles adopted from the Paris-Accra-Busan aid effectiveness dialogue: country ownership, donor alignment, harmonisation, managing for results and mutual accountability. A larger set of interpretation includes direct access - as adopted under the Adaptation Fund - country readiness to receive finance, and engaging with a broad range of stakeholders including businesses and NGOs.

An analysis by the Climate Policy Initiative suggests that effectiveness should be pondered against a set of criteria, including the following elements: (1) fostering actions that have either a powerful transformative effect or a demonstrative one; (2) seeking a balance between public and private capital; (3) being cost-effective; (4) ensuring national ownership and alignment with national strategies, policies and priorities. In addition funding should be predictable, allocation coordinated and resource management less fragmented.[8] Further, the extent to which funding has targeted the most vulnerable and needy should also be determined, including the agreement on rules and guidelines to verify that funding has been allocated equitably to recipient countries.

Hence, as regards climate finance, most of the recent analytical efforts have focused on determining whether commitments and pledges related to provision of funding by developed countries have been met and on quantifying the diversity of capital flows, rather than on measuring what impact those flows made. Ensuring that funding is adequately used is key in providing political and social legitimacy and retaining support for an international climate finance regime.

2.2. Climate finance and the Latin American and the Caribbean region

The LAC region has historically been proactive in undertaking efforts to address climate change, both to reduce the vulnerabilities associated with climate change impacts and to implement initiatives to produce emission reductions under diverse mechanisms. Such efforts include Jointly Implemented Activities in the nineties,

6. UNEP, 2013. The Emissions Gap Report 2013. United Nations Environment Programme, Nairobi. http://www.unep.org/publications/ebooks/emissionsgapreport2013

7. Ellis, J., Caruso, R. and Ockenden, S. (2013) Exploring Climate Finance Effectiveness. Climate Change Expert Group Paper No. 2013 (4). OECD – IEA.

8. CPI (2011) Improving the Effectiveness of Climate Finance: Key Lessons.

the Clean Development Mechanism in the 2000s, and at present Nationally Appropriate Mitigation Actions (NAMAs). Thus the issue of climate finance is particularly important for the region, given vast climate financial needs in particular those related to adverse effects on countries that have a very rich natural resource base or that are mega diverse, that require a sustained provision of funds.

ECLAC has estimated that economic costs of climate change in the region will amount to about 3% of GDP annually and may be as high as 4.5%, even with a high level of uncertainty, while preliminary estimations of adaptation costs indicate that they might be as high as 0.5% of the regional GDP. Investments to reduce vulnerability and adapt to climate change demand large financial flows, as finance would lead to a diminishment, in the short term, of those investments' economic, financial and budgetary impacts. This would also avoid crowding out in financial and capital markets by state financial demands and would preclude chronic high interest rates. Given some of the major current and expected impacts on the agriculture sector, on water resource availability, coastal zones, biodiversity and forests, the nature, extent, and intensity of adverse effects must be prevented through systematic programmes. Such programmes should avoid major socioeconomic impacts while adaptation efforts are taking off.

Similarly, mitigation efforts in the region are necessary to increase competitiveness, enhance access to world markets, increase efficiency and to transform and expand the economic and social infrastructure that would be required to adhere to a low emission pathway. Very large urban populations, wide inequalities and acute income distribution gaps make mitigation efforts more demanding and require sophisticated financial instruments to stimulate investments without further impacts on, inter alia, energy tariffs, food prices and public transport costs. Climate finance will also be necessary to make these transformations feasible and to enable a less socially regressive transition process.

On the other hand, LAC has shown very fast learning curves in climate related interventions, has been innovative in project and technology related activities, and has very rapidly adapted to new mechanisms to mitigate climate even if it its regional and national emissions contribution remains relatively minor. The momentum that may be provided by new and additional climate finance might stimulate new phases of investment, innovation, and job creation in green and environmentally friendly sectors, helping to redress the balance of concentration in a small number of economic sectors, including those with high environmental impacts. Further, this stimulus might contribute to reduce the income gap by the creation of sustainable employment at scale.

Examples of current initiatives in the region, made feasible through financial instruments, include the breakthrough of wind and solar energy supply rapidly growing in a number of countries in the region, including Chile and Uruguay, the implementation of climate friendly agriculture in Central America, as well as pioneer initiatives in the transport sector notably of Colombia and Mexico. From a financial perspective, the IDB has supported an array of studies on mechanisms for innovative financing, the role of national development banks in the region, and in developing new financial instruments, such as guarantees and risk reduction instruments. A number of LAC countries, in addition, have conducted country specific studies on how to overcome the barriers to effective climate finance, and other countries, including El Salvador and Colombia, have undertaken climate finance readiness preparation activities.

2.3. Climate finance: building trust, enabling transformations

One of the most challenging issues related to the determination of the nature and extent of climate finance and its relation with mitigation actions in the negotiations towards a Paris agreement is that developing countries have been averse to bearing the incremental costs for mitigation actions to address global problems of which those countries historically had lesser responsibilities. In addition, they are reluctant to do so without having reached an acceptable agreement in the current negotiations on how to share the burden of enhanced mitigation actions. Consequently, in being consistent with Art. 4.7 of the UNFCCC, developing countries have been steadfast in making climate actions conditional on the availability of new and additional resources from developed countries.[9]

In this respect, following Winkler et al. "the framework agreed to by all Parties is that countries

9. Article 4.7 'The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.' UNFCCC, 1992.

should undertake GHG mitigation on the basis of their relative responsibility for the problem and capability to take actions, within the broader context of promoting sustainable development."[10]

Furthermore, in that approach it is the capacity to change from one development pathway to another less intensive in emissions, through mitigation policy and non-climate policy, that is important. Enhancing mitigation capacities can facilitate that shift while minimizing capital costs. Hence, it is also important to explore how climate finance can help in strengthening the mitigation capacities of developing countries, not only how much they in fact mitigate; in other words, how climate finance helps to reinforce their ability to reduce emissions beyond their actual mitigation actions. That improvement in mitigation capacity would increase the actual leverage of climate finance. It would in particular help to leverage the relatively scarce public funding available, by implementing actions with a larger 'climate return on investment'[11] per dollar allocated.

A key component in a successful international climate agreement should thus be a climate finance architecture through which to source, allocate, and disburse finance for climate change mitigation and adaptation actions to developing countries, ensuring an equitable access to sustainable development,[12] as well as advanced scaling up, mobilization and catalysing of climate finance and investments. International funding through the financial mechanisms of the Convention will be essential to enhance domestic capacity to finance climate-related efforts.

In this context the Green Climate Fund can be understood as an instrument to make operational the notion of common but differentiated responsibilities, since the funds to be allocated are expected to come from Annex I countries. In addition, the GCF needs to fulfil the principle of equitable access to development, which is highly demanding in itself.

Along this line of thought, according to Fankhauser and Pearce "financial transfers can help to secure the consent to go further. Particularly in the debate on climate change financial transfers have figured prominently. The reason is in part ethical – the desire for a fair allocation of net costs and perhaps a sense of historical responsibility – and part strategic: a recognition that financial flows can be an effective way of securing sustainable development."[13]

2.4. Public or private, an ineffectual dilemma

The scale of transformational efforts required to address climate change and diminish its adverse effects creates a climate finance challenge. The orders of magnitude of the funds needed against financial resources made available create a critical funding gap.

A number of analysis assert that financial needs largely exceed developed country public sector funding capacities, in particular in the adverse context of the consequences of a major financial crisis, deleveraging in the banking system and severe constraints and pressures in public budgets in donor countries, amidst a so-called donor fatigue. These conditions do not lead to expectations for plentiful transfers from public sources from developed to developing countries, at least in the short to medium term.

Moreover, UNEP FI (UNEP Finance Initiative) has posited that more than 85% of all finance to address climate change will need to come from the private sector and that in the current state of climate finance flows for mitigation, private finance flows outweigh public finance flows by almost five to one.[14] However, a prevalence of private flows in climate finance might limit access to those developing countries where markets are inefficient, where risks are high and where governance is still weak, precisely those countries that would be more in need of funding.

When discussing the finance elements of the agreement in the ADP sessions held in 10 June, 2014, in Bonn, Germany, a large number of developing countries stated in that developed countries shall provide financial support to developing countries in accordance with their continued obligations as per the provisions of the Convention. Developing countries also underscored the importance of public funding in climate finance and claimed that private sources of funding would only be supplementary to public funding. In addition, a number of countries expressed their concern about the role of the private sector being

10. Winkler, H., Baumert, K., Blanchard, O., Burch, S., and Robinson, J. (2006). What factors influence mitigative capacity? Energy Policy 35 (2007) 692–703. Elsevier.
11. Following the term used in 'Improving the Effectiveness of Climate Finance: Key Lessons'. CPI (2011)
12. UNFCCC, Decision 1/CP.16, para. 6: see http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2
13. Fankhauser, S. and Pearce, D. (2014). Financing for Sustainable Development, in Handbook of Sustainable Development, edited by Giles Atkinson, Simon Dietz, Eric Neumayer, Matthew Agarwala, Edward Elgar Publishing, September 2014, page 446.
14. UNEP FI (2012) Creating the "New Normal" Enabling the Financial Sector to Work for Sustainable Development. Discussion Paper.

overstated in developed countries' declarations. In this regard, they argued that tackling climate change is a global public good and that requires public finance instead of private finance: financial resources provided by the private sector are essentially determined by market forces, in particular by the rate of return of investments, and thus they are not predictable and reliable, in particular for meeting adaptation needs. Further, developing countries assert that public finance is central to fund adaptation efforts of the most vulnerable countries, given the significant amount of funding needed as well as the budgetary constraints they might undergo. These views are also applied in relation to the Green Climate Fund. For example, at the Major Economies Forum, India stated that the capitalization of the Fund should be facilitated largely by 'public financing in grant terms'; however, this leaves open the possibility that private funding should also be considered.

On the other hand, developed countries have expressed their views that there is a need to significantly shift to private sector investments to build the means through which climate finance can be enhanced. They have also called for increasing the level of private finance flows while using public funds to leverage private finance and stressed the need to mobilize the private sector because resources available to them far outweigh resources available to developed country governments. Developed countries feel that the private sector should play a critical role for the scaled-up and additional provision of climate finance after 2020 and have referred to partnerships rather than 'one model of public funding'.

Beyond the diverging perspectives of developed and developing countries, mobilizing private funding represents the possibility of tapping vast financial resources while having simultaneous access to innovation and the potential for technical change. In this regard, the scale and scope of global private capital markets suggest that the large financial flows needed for an effective paradigm shift must be predominantly from private sources in the long run. If that is the case, public resources should be applied to specific needs, in particular to facilitate adaptation efforts that private flows may not be able to address adequately.

The complementarity of public and private funding can be reinforced by implementing public policies and policy reforms to leverage private climate finance, in particular to address barriers to investment or market failures, including through risk mitigation instruments to lower the level of risk of investments.

2.5. Definitions of climate finance

The assessment of climate finance flows is made complicated by the "absence of agreed definitions and the availability of only sparse data obtained from disparate sources," according to the IPCC. The term 'climate finance' is applied both to the financial resources allocated to addressing climate change globally and to the financial flows channelled to developing countries to assist them in combating climate change (IPCC, 2014).[15] Following the UNFCCC Secretariat, the notion of climate finance 'refers to local, national or transnational financing, which may be drawn from public, private and alternative sources of financing'.[16]

Notwithstanding those focused references, there is no precise internationally agreed definition of climate finance at present. The term broadly refers to resources that primarily facilitate adaptation and mitigation actions. In this regard, developing countries have stressed on the need for clarity on such a core basic term as climate finance and on the definitions of other associated terms in that context. According to the IPCC, there is no internationally agreed definition of what constitutes climate finance. This absence of a common definition, which propagates to other areas, in particular measuring and reporting and the reluctance of a number of countries to advance towards a definition, is a source of difficulty in agreeing on when commitments made by developed countries are effectively fulfilled.

Within the fast-growing body of literature navigating this issue, the term 'climate finance' is used to refer generally to financial resources channelled to addressing climate change globally or, more specifically to those financial flows delivered to developing countries to assist them in addressing climate change. In turn, those two broad definitions include a wide range of related concepts: whether the financial resources are measured totally or only refer to incremental investment, the terms 'new and additional', 'full incremental costs', 'predictable', 'mobilization' and 'leverage', and their meaning in the context of climate finance. One of the concerns from developing countries is the risk of climate finance being subsumed into official development assistance (ODA).

Under the UNFCCC, climate finance is not strictly defined in operational terms. The developed

15. Cross-cutting investment and finance issues. IPCC Working Group III AR5. Retrieved from http://report.mitigation2014.org/drafts/final-draft-postplenary/ipcc_wg3_ar5_finaldraft postplenary_chapter16.pdf

16. See http://unfccc.int/focus/climate_finance/items/7001.php

country Parties and other developed Parties included in Annex II committed under the Convention to provide new and additional financial resources to meet the 'agreed full incremental costs' of agreed mitigation measures implemented by developing countries (Article 4.3), to 'assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects' (Article 4.4) and to cover the agreed full costs incurred by developing countries for the preparation of their national communications (Article 4.3) (UNFCCC, 1992).

In its broadest interpretation, climate finance designates those flows of funds directed towards activities that mitigate climate change or facilitate adaptation, meaning total flows towards climate actions. In the context of climate negotiations, climate finance is applied to those financial flows from developed to developing countries for climate change mitigation and adaptation activities, on the basis of commitments made under the Convention by developed country parties. A narrower definition of the term refers to a notion of finance that is 'new and additional' – i.e. not part of existing ODA or climate finance flows.

The IPCC provides an account of the multiple concepts within those broad categories and of the corresponding values (IPCC, 2014), cautioning that even those specific mitigation and adaptation measures whose costs qualify as 'climate finance' also are not agreed. [17]

Further, definitions can discern between 'climate-specific finance' and climate-relevant finance. Climate-specific finance designates those capital flows that target low-emissions or climate resilient development and encompasses both international public or private financing flows, also including domestic flows. Climate-relevant finance is understood as a much broader set of capital flows - public or private - that will have an impact -positive or adverse- on emissions trends and on vulnerability conditions in developing countries by contributing to create the enabling conditions for climate actions.

Decision 3/CP.19, in addition to recognizing "the importance of providing clarity on the level of financial support that will be provided by developed country Parties to developing country Parties to allow for enhanced implementation of the Convention' also 'requests the Standing Committee on Finance, in the context of the preparation of its biennial assessment and overview of climate finance flows, to consider ongoing technical work on operational definitions of climate finance, including private finance mobilized by public interventions, to assess how adaptation and mitigation needs can most effectively be met by climate finance."[18]

Following that mandate, the Standing Committee on Finance has agreed to define climate finance in a very comprehensive manner as "finance that aims to reduce emissions and enhance sinks of greenhouse gases and that aims to reduce vulnerability of, and to [maintain/] enhance the resilience of human and ecological systems to climate change impacts."[19]

Agreement on a common definition of climate finance is key to ceasing the proliferation of formats in which different Parties currently account for climate finance. Multiple interpretations held by different Parties may hinder consensus building, in particular if scaling up of financial resources cannot be verified, or different definitional approaches result in re-labeling of existing financial flows, especially ODA. That concern was reflected in the statements made by a number of developing countries in the contact group of the Ad hoc Working Group for Enhanced Action under the Durban Platform (ADP) that met on 10 June, 2014 to elaborate on the elements for the post-2015 agreement with a focus on 'finance'. Technical matters, however, should not delay the construction of a consensual approach to climate finance as – provided there is a political agreement of strategic nature around climate finance governance – the technical issues can then be further addressed and solved through dedicated work.

In the case of private finance, methodological work is also needed to elaborate methods to ensure that no double-counting takes place, including on how to calculate the portion of private finance that can be attributed to developed country parties, differentiating from the business as usual finance that results from non-climate related efforts to promote investments by developing countries. Initiatives in this area include the ongoing methodological work carried out by the OECD-led Research Collaborative (RC) on Tracking Private Climate Finance, aiming to define and track private finance mobilised by public finance and policy interventions. One of the major barriers to this is the lack of available data on climate-relevant private finance beyond renewable energy, notably transport and energy efficiency, as identified by the RC's work.

17. Chapter 16: Cross-cutting Investment and Finance Issues, IPCC (2014).

18. See FCCC/CP/2013/10/Add.1: para. 4 and para.11.

19. See document form the Eight SCF meeting in October 2014: Outputs of the 1st Biennial Assessment and Overview of Climate Finance Flows, Meeting Objectives and Follow Ups, 1 October, 2014.

For the purposes of this background paper, a working definition of 'climate finance' is as follows: climate finance is finance flowing from developed to developing countries, including support for mitigation, adaptation, and policy related expenditures towards an enabling environment, capacity-building efforts and costs associated with research and development and deployment of new technologies. Climate finance should be directed to stimulate the process of catalyzing low-emissions and climate-resilient development and ultimately to allow for the sought for paradigm shift.

To conclude, given that the optimal definition is context specific and depends on the objective of the financial flows included in the definition, work towards an universally accepted definition should take into account this multi-level, multidimensional nature of finance as a means of implementation of policy goals that evolve and adapt to specific circumstances.

2.6. Climate finance as a political issue

Beyond the definitional, technical and methodological gaps mentioned, however, major issues around climate finance are essentially political. Firstly, the funding gap between current and projected needs and pledged resources indicates that what is at stake are orders of magnitude; solving this problem is a vast challenge with implications well beyond climate negotiations.

To face that challenge it is necessary to consider different decisive issues, including reforms to the international financial system, monetary policies and macro-prudential financial regulation to integrate climate concerns, enabling national environments for transformational efforts, enhanced private capital investment and market linked mechanisms, carbon prices, reform of incentive structures, scaling up of public funding at a level commensurate with leveraging requirements, and accountability and transparency systems put in place. Hence climate finance should not be considered in isolation (within the climate regime) of its many essential linkages with key economic and financial trends as well as with the institutions that regulate and oversee the respective systems. A major effort should be coordinated to ensure that the climate finance system under the UNFCCC leverages the global financial systems and international financial flows of capital to mobilise resources at the scale needed. This leverage should operate both as an instrument and as a standard (a 'green standard') to allocate resources to sustainable and green investments. Additionally, increasing knowledge exchanges between the different ongoing finance efforts for sustainable development and/or climate should be established in order to enhance awareness of the conditions under which the system is required to operate and of the need to address the uniqueness of some climate finance dimensions, in particular those related to adaptation.

Secondly, climate finance should help redress existing imbalances that are at the basis of a divide between developed and developing countries that seems to have been embedded in the climate negotiations for two decades and needs to be addressed if an universal agreement is to be reached. In this regard, under the same spirit that informed the Kyoto Protocol, mitigation efforts by developing countries should be supported by adequate financial flows in line with what is already established by the principles under the Convention. In addition to that, adaptation finance is the other element of the geometry of balance in between responsibility, capability, and cooperation.

Finally, given the nature and scope of the challenge, a climate finance governance system should allow to comprise financial mechanisms and regulatory frameworks that are to perform beyond the UNFCCC climate regime, in order to catalyze action and mobilize resources at scale. If this is the case, the subsequent test is how to ensure that those mechanisms take into account the principled approach that governs the climate regime in a congruent manner with the economic criteria that determine investors' decisions. That principled approach includes both general principles that inform the Convention as well as those developed in the context of funds established under the UNFCCC, such as the Green Climate Fund and the Global Environment Facility.

Further work is then needed, both within and outside the Convention, in order to strengthen climate finance governance and foster sustainable global growth. An innovative approach to cooperation in this area between the architectures of climate finance governance and international finance should be pursued to strengthen synergies and coordination from different communities (i.e. climate, financial system, and regulatory institutions). This innovative approach should recognize that the ambition of the 2015 agreement is to shift paradigms and produce drastic and extensive transformations, and in addition to political will there is a need to ensure that the resources to enable investments of that scale are made available, both from new climate finance and from traditional financial mechanisms.

There is also a strong, and perhaps more immediate need, to coordinate with the development financing community, notably the post-2015 SDG

financing process under the UN and the July 2015 meeting in Addis Ababa. The development finance community under the Global Partnership for Effective Development Co-operation has already acknowledged climate finance as a priority area of work, through the Partnership on climate finance and development.

3. FINANCE OBJECTIVES TO BE ACHIEVED IN PARIS AND NECESSARY ELEMENTS TO BE INCLUDED IN THE TEXT IN LIMA

3.1. Goal and Objectives

Parties included in Annex II of the Convention have agreed to financial obligations established under Articles 4.3 and 4.4, as well as under Art. 4.7. The current scale of finance, however, does not match the level required to fully address the adaptation and mitigation needs of developing countries. The funding gap is therefore of a very challenging magnitude.

Under the Cancun Agreements, developed country Parties commit to a goal of mobilizing USD 100 billion per year by 2020 to address the needs of developing countries. In the context of meaningful mitigation actions and transparency on implementation, funds provided to developing country Parties may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources. Afterwards, first in Durban and then in Doha in 2012, that commitment was reaffirmed. Further, the Decision adopted in Doha urges all developed country Parties to scale up climate finance. Hence, there is a need for a political process to govern the scaling up and mobilization of climate finance under the Convention and to bolster stronger efforts to enhance the implementation at the different levels. This can be formalized and adopted as a climate finance tract as part of the 2015 agreement.

Scaling-up of climate finance, mobilization and catalyzing climate friendly investments should be a substantial component of the international cooperative efforts to address climate change. The major objectives to be achieved on climate finance as part of a 2015 Paris agreement are, from our perspective, the following:

- **a. Strategic objectives related to creating the conditions for an effective and equitable universal agreement in 2015:**
  - i. Create a fulcrum to balance the expectations and bottom negotiation lines of the different negotiation groups by ensuring that the establishment of incremental efforts by developing countries is supported by the provision of incremental financial resources in an adequate, efficient and timely manner, and that this is done in an equitable, efficient and consistent way.
  - ii. Facilitate raising ambition both by developing and developed countries.
  - iii. Foster the proposed paradigm shift by providing adequate means of implementation.
  - iv. Contribute to build trust and reinforce cooperative action, by successfully concluding the almost two decades long negotiation process on climate finance.
  - v. Strengthen climate finance governance at all levels.

- **b. Objectives addressing the need to ensure the robustness and consistency of the climate finance tract and its inherent political significance:**
  - i. Define a goal for climate finance to provide quantified support commensurate with the required mitigation and adaptation efforts (that are in turn consistent with the adaptation and mitigation goals): a global financial goal consistent with 1.5/2 degrees, made operational as:
    - a. A global goal for climate finance consistent with 2 degrees, which pertains to all countries, sources and flows (i.e. by shifting $1 trillion per year, amount to be determined on the basis of informed financial needs assessments). This is a general global commitment, without allocation of specific responsibility, but intended to mobilize and guide many actors.
    - b. A specific commitment to mobilize $x billion (an amount to be decided) for adaptation in Less Developed Countries and countries that are particularly vulnerable, beyond 2020, largely from public sources, and primarily by Annex II countries. Developing countries in a position to do so could contribute South-South finance to this end.
  - ii. Agree on mobilizing and allocating more funds to climate finance commensurate with developing country needs after 2020, taking into account funding gaps and needs and evolving circumstances in Annex II countries and considering progressive inclusion of South–South finance, as appropriate.
  - iii. Establishing a process of sequential rounds in which individual commitments to financial pledges by developed countries are nationally determined but shaped by

collective needs, in line with the process for nationally determined contributions.
iv. Explicit legally binding commitment by developed countries to the realization of the USD 100 billion goal by 2020, including provision of intermediate tranches up to 2020.
v. Give priority in funding allocation to adaptation needs. As financial resources are expected to be largely from private sources and the assumption is that resources from that origin will be oriented to fund mitigation efforts, it is necessary to secure appropriate funding for adaptation requirements.
vi. Ensure that the financial needs of those developing country Parties that, due to their national circumstances, find barriers in accessing financial resources (i.e. those particularly vulnerable, LDCs, and SIDS) are prioritized.
vii. Ensure direct access to funding while securing effectiveness of use.
viii. Provide for a robust measuring, reporting and verifying system at the scale encompassed by the agreement.
ix. Improve transparency and verifiability of the climate finance system.

- **c. Strategic objective directed towards ensuring coordination of efforts and criteria with key stakeholders outside the Convention**
  i. This objective to be fulfilled initially by requesting the Standing Committee to launch a process to interact with the financial supervisory institutions, central banks and the Bank for International Settlements, the International Monetary Fund and other multilateral institutions to enhance enabling conditions to facilitate climate finance, including:
  Coordination and interaction with institutions beyond the UN climate finance system in order to, inter alia, consider cooperative efforts and:
  a. Facilitate policy and regulatory convergence
  b. Develop joint work on definitional and methodological issues
  c. Address risk mitigation issues
  d. Avoid overlapping of initiatives
  e. Identify and reinforce synergies
  ii. Formally, to be recognized in the agreement, by mandating the establishment of a joint work programme between the Standing Committee on Finance and relevant financial governance institutions (International Monetary Fund, Financial Stability Board, and the Basel Committee on Banking Supervision among other relevant institutions, etc).

3.2. Elements of the 2015 Paris Agreement

Climate finance should be understood as a significant constituent of the cooperative efforts to achieve a paradigm shift towards building low-emissions societies that offer substantial opportunities, ensure growth and sustainable development and climate resilient pathways.

Under the Durban Platform, a new agreement is to be reached by COP 21, with its provisions being implemented and coming into effect from 2020. Discussions are organized under the ADP. The core elements of a climate finance tract that should be a substantive component of the 2015 agreement may be organized in the following categories:

- Preamble
- Principles
- Goals and Objectives
- Financial Commitments and nature of those commitments
- Timelines
- Governance
- Further work

Preamble:
The preamble should acknowledge: the need to capture the cooperative dimension of climate finance and that donors, investors and recipients constitute a partnership; scale up and mobilize climate finance and catalyze investment; ensure adequacy and predictability of financial flows mobilized from various sources, public and private; address climate finance needs of developed countries in order to facilitate their mitigation efforts and enable their adaptation actions.

Principles:
Issues to be discussed and decided upon towards a negotiation text include:

- Are those principles to be applied with no modifications, given changes in the national circumstances of Parties?
- Are those principles conducive to an optimal climate finance system?
- Are there other principles of a specific financial nature that should inform the climate finance system?

The principles that countries have postulated are the following:

- Country ownership
- Allocation for adaptation and mitigation under different allocation formulas
- Prioritization of the most vulnerable countries
- Support to come primarily from public sources, with supplementary funding from private/alternative sources

- Sustainability and durability

Financial commitments and nature of commitments:
Commitments to be taken into consideration include the following:
- Common global commitment for all Parties to mobilize climate finance
- Commitment by developed countries to the realization of the USD 100 billion goal
- Support commensurate with the required effort reflected in the adaptation and mitigation goals

Governance:
- The financial mechanism of the Convention to serve as the financial mechanism of the 2015 agreement
- The Standing Committee on Finance (SCF) to be further strengthened, enhancing its coherence and coordination work
- GCF as main entity, to be anchored in new agreement
- Direct access
- Country ownership

Timelines:
- Ex ante predictability through timebound financial targets

Further work:
An analysis of some issues that were not considered in the current negotiation process, or that are only insufficiently addressed in the views submitted by Parties, may includethe following:
- Review procedures in accordance with existing reporting and review procedures under the Convention
- Compliance: on the nature and characteristics of potential noncompliance, on the means to promote compliance and consideration of effects of noncompliance
- Monitoring reporting and verification, as MRV of climate finance is an important element in assessing the deployment and general use of climate finance and in strengthening efficiency and verifying effectiveness
- Tracking, given that identification and reporting of financial flows needs to be methodologically strengthened and further enhanced to ensure transparency, including on private financial flows. Currently information systems on climate finance are fragmentary, consistent definitions and standards of reporting are frequently lacking and the information is not made available in a way that allows it to be easily gathered and used. Further work to complete the elaboration of reporting format. Tracking procedures are currently being prepared by the SCF.
- Capacity building and technical assistance to strengthen readiness at the national level to enhance:
  - Enabling environments including national policy, regulatory and governance frameworks
  - Capacity on access modalities and spending rules, on absorption of additional funding
  - On standards for accessing climate finance, such as financial integrity, institutional capacity and transparency
  - On the development and standardized use of a common approach to national costing methodologies related to mitigation and adaptation
- Establish work programmes in areas where further work is needed including inter alia to assess financial needs in developing countries in a long term perspective.

4. GROUNDBREAKING APPROACHES AND INNOVATIVE FINANCIAL SOLUTIONS

4.1. Innovative ideas, initiatives and instruments

Mobilizing the world's capital is essential for the transition to a sustainable, low-carbon economy. Today, however, too little capital is directed towards supporting the transition, and too much continues to be invested in a high carbon and resource-intensive economy.

Shifting the global economy onto a low-emissions and climate resilient development pathway requires investments in the order of hundreds of billions of dollars. To achieve this, both governments and key financial actors must commit to massively scaling up public and private financing to meet the growing challenge of climate change.

When examining the factors preventing climate compatible projects, in particular in large emerging economies and developing countries, being able to access capital resources is key. According to the Global Innovation Lab for Climate Finance, main barriers identified include:

i) A lack of bankable projects, in particular in low income countries; challenges of pooling smaller projects, in particular those with different risks profiles;

ii) A lack of long-term liquidity and refinancing risks;

iii) Foreign currency exchange risk;

iv) Transaction costs associated with a lack of standard approaches to adjusting risk and return or conducting due diligence (Global Innovation Lab for Climate Finance, 2014).

Box 1. Innovative financial vehicles and initiatives

Low carbon and climate resilient investment

Institutional investors have very recently stated that they are acutely aware of the risks climate change presents to their investments, recognizing that significant capital will be needed to finance the transition to a low carbon economy and to enable society to adapt to the physical impacts of climate change.[1]

Further, those investors assert that there is a significant gap between the amount of capital that will be required to finance the transition to a low carbon and climate resilient economy and the amount currently being invested, indicating that while current investments in clean energy alone are in the order of USD 250 billion per year, the International Energy Agency has estimated that limiting the increase in global temperature to two degrees Celsius above pre-industrial levels requires average additional investments in clean energy of at least USD 1 trillion per year between now and 2050.

Green bonds

The first 'Green Bond' was issued by the International Bank for Reconstruction and Development (IBRD) in 2008. By late May 2014, year to date green bond issuance had grown to USD 19 billion matching the total raised in the first five years. The defining characteristic of a green bond is how the proceeds are utilized, including energy efficiency, renewable energy, sustainable waste management, sustainable land use, biodiversity conservation, clean transportation and clean water and/or drinking water.

This class of bonds bring competitive risk-adjusted returns to accommodate to diverse risk preferences: investors obtain green exposure without increasing their risk because the bonds carry exactly the same credit profile, and pay the same yield, as the issuer's conventional bonds.[2]

The involvement of investment banks has been an important momentum in the development of the market for green bonds. For example, major investment banks such as Morgan Stanley, JP Morgan, Citigroup and Credit Agricole have formulated the Green Bond Principles in January 2014, and have been underwriting green bonds.

South-originating green finance

Developed country financial markets are the largest source of private capital. Current investment flows to developing countries, on the other hand, are inadequate in terms of the scale of those flows. In addition, carbon intensive investments still prevail in the large infrastructure sector investment decisions.

By contrast, South-originating green finance (SGF) made up almost half of global renewable energy infrastructure investment.[3] There is evidence that the volumes of SGF are growing, both domestically and across regions even if it is still sector and country imbalanced.

One of the distinguishing features of this nascent but rapidly expanding financial alternative is that South based financial institutions, with a larger experience on the ground, are in a position to asses specific risks differently and may have a more accurate perception of investment opportunities in a diverse economic environment.

Divestment - Investment

The global movement to divest from fossil fuels and invest in clean alternatives, born in 2011, has gained remarkable speed and mobilized billions of dollars in capital and engaged a broad segment of society to accelerate the transition to a clean-energy economy.

The common definition of a Divest-Invest commitment is a pledge to divest from the top fossil fuel companies within five years and to move those assets into clean energy investments. The overarching objective of the global Divest-Invest movement is to mobilize private and public capital to speed the global energy transition away from carbon intensive fossil fuels and into clean and sustainable forms of energy.

As of September 19, 2014, 181 institutions and local governments and 656 individuals representing over USD 50 billion in assets have pledged to divest from fossil fuels, largely by governments and educational institutions. Institutions and individuals come from a diverse range of sectors and backgrounds, including universities, faith-based organizations, philanthropies, health-care providers, local governments, and NGOs.

1. Global Investors Action Statement, Climate Summit 2014, September 2014.
2. Coston, E. et al, 2014. Next Season's Green Bond Harvest. IFC
3. Green Growth Action Alliance (2013) Green Investment Report, World Economic Forum. http://www.weforum.org/reports/green-investment-report-waysand-means-unlock-private-finance-green-growth

Enabling emerging economies to access capital markets will be critical in scaling up finance to developing countries. At the regional level, for example, the Inter-American Development Bank has been working in cooperation with National Development Banks in Latin America to effectively scale up climate finance. Those efforts include tackling the kind of barriers listed by:

- credit enhancement initiatives to lower the cost of bank lending for non-conventional renewable energy expansion and energy efficiency,
- providing guarantees and related contingent liability instruments and equity instruments,
- offering technical assistance in the pre-investment phase.

However, this myriad of initiatives, new instruments and commitments indicate that there is a momentum for innovative financial approaches and instruments. (See Box for a number of examples)

4.2. Monetary policies and macro-prudential financial regulation

The reform of mandatory regulations and state guidelines concerning the conduct of financial intermediaries, including banks, insurance companies, institutional asset manager (pension and mutual funds, and state-owned or policy directed investors) constitute a manner of interventions in the financial system to complement classic policy options and drive capital reallocation towards climate finance.

Transitioning to a low-carbon economic system will require a large amount of capital to be invested in energy, infrastructure and land use change. However there is a funding gap and consequently an investment gap. The paucity of recent economic growth and the effects of the financial crisis have had an impact on investment decisions. On the other hand, low emissions intensive investments still have in many sectors an unattractive risk/return profile, in particular, when the risks associated with them or the investment location may be large (country risk, policy reversal risk, currency risk, physical performance, or commercial risk). Given the relatively higher—although decreasing—upfront costs of investments in renewable energy, energy efficiency or infrastructure, firms require access to external finance: bank lending, market debt, or market equity. Green bonds, as mentioned, are rapidly expanding as thematic debt instruments. However, bank loans are still in most cases the prevailing source of external finance. Moreover, commercial banks have the capacity to create new credit. Notwithstanding that, as a consequence of the recent financial crisis and the evolving macro-prudential regulation that this crisis contributed to put in place (under the 'Basel III' Accord, which introduces stricter standards for banks on both the liquidity of their assets and the robustness of their capital base), and despite profitable investment opportunities, credit supply is suboptimal.

The efforts to mitigate risk lead to balance sheet adjustment through credit constraint and selecting safe assets instead of investments that yield more attractive rates of return. However, the incentives and constraints that banks face when adopting a lending strategy can be modified by:

- green differentiated reserve requirements according to the destination of lending;
- differentiated capital requirements,
- modifying the risk weights for computing capital requirements in favour of low-carbon assets;
- other quantitative macro prudential policies aimed at easing lending conditions for low-carbon firms.

These mechanisms may expand credit creation directed towards low-emission climate resilient investments in specific sectors, recognizing that driving forward the transformations required to address climate changes requires profound changes in the real economy that can be made feasible through lending policies consistent with the aim of expanding finance in priority sectors and preferred investments. These interventions can be justified to address a biased allocation of credit in sub-optimal fashion, given asset price effects, organisational and behavioural biases and imperfect information.

The employment of quantitative monetary policies aimed at inducing the allocation of credit towards specific sectors has precedents, in emerging and developed countries (Elliott et al. 2013). As an example, several central banks in industrialized countries have broadened their set of monetary policy instruments to include the so-called unconventional monetary policy measures to address the recent major financial crisis, as more conventional measures had turned ineffective.

REFERENCES

AGF (2010). Report of the Secretary-General's High-level Advisory Group on Climate Change Financing. The United Nations, New York. http://www.un.org/wcm/content/site/climatechange/pages/financeadvisorygroup/pid/13300

Aldy, J. E., Stavins, R. N. (2007). Architectures for agreement: addressing global climate change in the post-Kyoto world. Cambridge UniversityPress., 412p.

Barret, S., (2012)., "Credible commitments, focal points, and tipping: the strategy of climate treaty design" in Hahn, R W., Ulph, A. (eds.) Climate Change and Common Sense, essays in honour of Tom Schelling, Oxford University Press, 279p.

BASIC experts, (2011). Equitable access to sustainable development: Contribution to the body of scientific knowledge. BASIC expert group: Beijing, Brasilia, Cape Town and Mumbai. http://www.erc.uct.ac.za/Basic_Experts_Paper.pdf (Visited on August 15, 2013)

Bayat-Renoux, F. and Glemarec, Y. (2014). Financing Recovery for Resilience. UNDP. June 2014.

Berliner, J., Gruning, C., Menzel, C., and Harmeling, S. (2013). Enhancing direct access to the Green Climate Fund. Climate & Development Knowledge Network Policy Brief. Retrieved from http://cdkn.org/wp-content/uploads/2013/06/CDKN_GCFPolicyBrief_Pr2_21-06-13_WEB.pdf

Bodansky, D. (2011a). W[h]ither the Kyoto Protocol? Durban and Beyond, Harvard Project on Climate Agreements, 12p

Bodansky,D., (2011b) A Tale of Two Architectures: The Once and Future U.N. Climate Change Regime, Arizona State Law Journal 697-713

Bosetti, V., Frankel, J. (2011).Sustainable Cooperation in Global Climate Policy: Specific Formulas and Emission Targets to Build on Copenhagen and Cancun, NBER Working Papers 17669, National Bureau of Economic Research, Inc., 59p.

Bredenkamp, H., Pattillo, C. (2010). Financing the response to climate change. Washington, DC: IMFStaff Position Note.

Brown, J. and Jacobs, M., 2011. Leveraging private investment: the role of public sector finance. ODI Background Note. Overseas Development Institute, London.

Brown, J., Buchner, B., Sierra, K. and Wagner, G., 2011. Leveraging climate finance: a survey of methodologies Climate Finance Effectiveness Background Paper #1 Environmental Defense Fund, Climate Policy Initiative, Brookings Institute, Overseas Development Institute, New York, Venice, Washington DC, London.

Buchner, B., Brown, J. and Corfee-Morlot, J., 2011a. Monitoring and Tracking Long-Term Finance to Support Climate Action. Organisation for Economic Co-operation and Development, Paris.

Buchner, B., Falconer, A., Hervé-Mignucci, M., Trabacchi, C. and Brinkman, M., 2011b. The landscape of climate finance. CPI Report. Climate Policy Initiative, Venice.

Caravani, A., et al. (2013) Climate Finance Thematic Briefing: Adaptation Finance. London: Overseas Development Institute (ODI).

Carraro, C., Siniscalco, D. (1998).International Institutions and Environmental Policy: International environmental agreements: Incentives and political economy, European Economic Review, Elsevier, vol. 42(3-5), pp. 561-572 .

Clapp, C., Ellis, J., Benn, J. and Corfee-Morlot, J., 2012. Tracking Climate Finance: What and How? Organisation for Economic Co-operation and Development, Paris.

Colombier, M. (1998). "Critères de différenciation des engagements en matière d'émissions de gaz à effet deserre", Etude pour la Mission Interministérielle à l'Effet de Serre, International Conseil Energie, Paris, 88p.

CPI (2011) Improving the Effectiveness of Climate Finance: Key Lessons.

De Gouvello, C., Zelenko, I. (2010). Scaling up the financing of emissions reduction projects for lowcarbon development in developing countries proposal for a Low-carbon Development Facility(LCDF).Policy research working paper World Bank.

Falkner, R., Hannes S., Vogler, J., International Climate Policy after Copenhagen: Towards a "Building Blocks" Approach, Global Policy 252-262 (2010);

Fischer, C. Newell, R.G . (2008), Environmental and Technology Policies for Climate Mitigation, Journal of Environmental Economics and Management, 55(2), pp142-162.

Foley, DK., Rezai, A., Taylor, L. (2013). The social cost of carbon emissions: Seven propositions. Economics Letters 121:90-97.

Frankel, J. (2007). Formulas for Quantitative Emission Targets, in Architectures for Agreement: Addressing Global Climate Change in the Post Kyoto World, J.Aldy and R. Stavins, eds. , Cambridge University Press

Frankfurt School-UNEP Centre (2014). Global Trends in Renewable Energy Investment 2014. Frankfurt School-UNEP Centre/ Bloomberg New Energy Finance, Frankfurt, Germany. 88 pp.

Green Climate Fund (2013). Business Model Framework: Private Sector Facility. Retrieved from http://gcfund.net/fileadmin/00_customer/documents/pdf/B-04_07_BMF_PSF_12Jun13_1745s.pdf

Grubb, M. (1990). The greenhouse effect: Negotiating targets, Royal Institute for International Affairs, (RIIA), London

Gupta, S., Harnisch, J., Barua, D. C., Chingambo, L., Frankel, P., Vazquez, R.J.G., Gomez-Echeverri, L., Haites, E., Huang, Y., Kopp, R., Lefèvre, B., de Oliveira Machado-Filho H., Massetti, E., Enting, K.,Stadelmann, M., Ward, M., Kreibiehl, S., Carraro, C., Karrouk, M.S., Arriaga, I.P., and Enting, K. (2014). Cross-cutting investment and finance issues. IPCC Working Group III AR5. Retrieved from http://report.mitigation2014.org/drafts/final-draft-postplenary/ipcc_wg3_ar5_finaldraft postplenary_chapter16.pdf

Haites, E. (2011).International financial support to address climate change. Climate Policy.Vol 11 N. 3

Heller, T., Shukla, P.R. (2003). Development and Climate: Engaging Developing Countries In: Beyond Kyoto: Advancing the International Effort Against Climate Change, Pew Center on Global Climate Change, Arlington, VA.

Hourcade, J. C., Shukla, P. R. & Mathy, S. (2008). Untying the climate – Development Gordian knot: Economic options in a politically constrained world.In R. Guesnerie and H. TulkensThedesign of climate policy (p.408).Cambridge MIT Press.

Hourcade, J.C., Baron, R., Godard, O. (1993). International Economic Instruments and Climate Change, OECD, 107p.

Hourcade, J.-C., Ghersi, F. (2009). "Interpreting Environmental Policy Cost Measures", in Gerlagh, R., Bosetti, V., Schleicher, S. (ed.), Modeling Sustainable Development, Edward Elgar, Cheltenham, pp. 62-83

Hourcade, J.C., Megie, G., Theys, J. (1989). Modifications climatiques et réorientation des politiques énergétiques. Comment gérer l'incertitude ?, 14th Congress World Energy Conference , Paris, 28p.

Hulme, M., (2010), Moving beyond Climate Change, Environment 15-19

International Energy Agency (2014). World Energy Investment Outlook Special Report. OECD/IEA, 2014. Paris.

IPCC SAR WG3 (1996), Bruce, J.P.; Lee, H.; and Haites, E.F., ed., Climate Change 1995: Economic and Social Dimensions of Climate Change, Contribution of Working Group III to the Second Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press

IPCC TAR WG3 (2001), Metz, B.; Davidson, O., Swart, R., Pan, J., ed., Climate Change 2001: Mitigation, Contribution of Working Group III to the Third Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, ISBN0-521-80769-7

IPCC. (2014). Technical Summary. In Climate Change 2014: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate ChangeIPCC. (2007). Summary for Policymakers. In: Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Jacoby, H.D., Schlamensee, R., Wing, I. S. (1999).Towards a useful architecture for Climate Change negotiations, MIT Global Change Joint Program Report n°49, MIT, Boston, 24p.

Jacoby, J., (2007). "Climate Favela", in J. E .Aldy and R. N .Stavins(eds), Architectures for Agreement: Addressing Global Climate Change in the in the post-Kyoto world. Cambridge University Press.

Lipsey, R. G. ,Lancaster, K. (1956). The general theory of second best, The Review of Economic Studies, pp 11-32.

Lutken, S., Fenhann, J., Hinostroza, M., Sharma, S., Holm Olsen, K. (2011). Low carbon development planning: A primer on Nationally Appropriate Mitigation Actions (NAMAs) in developing countries. Denmark: UNEP Riso Centre.

Mathy, S., Guivarch, C. (2010).Climate policies in a second-best world - A case study on India, Energy Policy 38:3, 1519-1528.

Michaelowa, A. and Michaelowa, K., 2011. Coding Error or Statistical Embellishment? The Political Economy of Reporting Climate Aid. World Development, 39 (11). doi:10.1016/j.worlddev.2011.07.020.

Montes, M. (2012) Understanding the Long-Term Finance Needs of Developing Countries. Bonn: UNFCCC.

Nair, R., Shukla, PR., Kapshe, M., Garg, A., Rana, A., (2003) Analysis of Long-term Energy and Carbon Emission Scenarios for India, Mitigation and Adaptation Strategies for Global Change, Kluwer Academic Publishers, vol. 8, no. 1, pp 53-69.

Nakhooda, S. (2013). "The effectiveness of international climate finance". Overseas Development Institute (ODI). Working paper 371.

OECD (2013), The Role of Banks, Equity, Markets and Institutional Investors in Long-Term Financing for Growth and Development, Report for G20 leaders, OECD, Paris.

Pearce, D.W., Cline, W.R., Achanta, A.N. ,Fankauser, S., Pachauri, R.K. , Tol, R.S.J. , Vellinga, P., The Social Costs of Climate Change: Greenhouse Damage and the Benefits of Control in IPCC SAR WG3 (1996), Bruce, J.P.; Lee, H.; and Haites, E.F., ed., Climate Change 1995: Economic and Social Dimensions of Climate Change, Contribution of Working Group III to the Second Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press

Peters, G P., Minx, J-C., Weber, C L., Edenhofer, O., (2011). Growth in emission transfers via international trade from 1990 to 2008, PNAS, pp.8903–8908

Quinet, A., Baumstark, L., Célestin-Urbain, J., Pouliquen, H., and Auverlot, D. (2009). La valeur tutélaire du carbone. Rapport du Conseil d'Analyse Stratégique, 16 :5.

Rozenberg, J., S. Hallegatte, B. Perissin-Fabert and J.-C. Hourcade, (2013). Financing low-carbon investments in the absence of a carbon tax, Climate Policy, Volume 13, Issue 1, pp. 134-14

Samuelson, P. A. (1954). The Theory of Public Expenditure, Review of Economics and Statistics, 36, pp. 386–389.

Sato, M., (2012).Embodied carbon in trade: a survey of the empirical literature, Grantham Research Institute on Climate Change and the Environment Working Paper No. 77, 39p.

Schelling, T. (1997).The Cost of Combating Global Warming, Foreign Affairs, 76 (6), 14p.

Seto, K.C, Dhakal, S., Bigio, A., Blanco, H., Delgado, G-C., Dewar, D., Huang, L., Inaba, A., Kansal, A., Lwasa, S., McMahon, J., Mueller, D., Murakami, J., Nagendra, H., Ramaswami, A., Bento, A.,Betsill, M., Harriet Bulkeley, Chavez, A., Christensen, P., Creutzig, F., Fragkias, M., Güneralp, B., Jiang, L., Marcotullio, P., McCollum, D., Millard-Ball, A., Pichler, P., Salat, S., Tacoli, C., Weisz, H., Zwickel, T., Cervero, R., Torres Martinez, J., Christensen, P., Simmons, C., (2014). Human Settlements, Infrastructure and Spatial Planning In Climate Change 2014: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change

Shukla, P. R., Dhar, S. (2011). Climate agreements and India: aligning options and opportunities on a new track. International Environmental Agreements: Politics, Law and Economics,pp 229-243

Shukla, P. R., Garg, A., Dhar, S (2009), Integrated Regional Assessment for South Asia: A Case Study. In C. G. Knight, & J. Jäger (Eds.), Integrated Regional Assessment: Challenges and Case Studies 231-25, Cambridge Universities Press, 2009.

Stadelmann, M., Castro, P. and Michaelowa, A., 2011b. Is there a leverage paradox in climate finance? Working Paper. Climate Strategies, Cambridge.

Stadelmann, M., Roberts, J.T. and Michaelowa, A., 2011a. Accounting of private climate finance.Types of finance, data gaps and the 100 billion dollar question. Working Paper. Climate Strategies, Cambridge.

Stadelmann, M., Roberts, J.T. and Michaelowa, A., 2011c. New and additional to what? Options for baselines to assess climate finance pledges. Climate and Development, 3(3). 175-92.

Stiglitz, J., (1998). Distinguished lecture on economics in government: the private uses of public interests: incentives and institutions, The Journal of Economic Perspectives 12, pp. 3-22.

Toman, M.A., Morgenstern, R. D., Anderson, J. (1999). The Economics of "When" Flexibility in the Design of Greenhouse Gas Abatement Policies, RFF working paper, 15p.

UNEP (2010). Green economy: Driving green economy through public finance and fiscal policy reform.United Nations Environment Programme, 34p.

UNEP (2010). Bilateral finance institutions and climate change. A mapping of 2009 climate financial flows to developing countries. United Nations Environmen t Programme, 32p.

UNEP 2013. The Emissions Gap Report 2013. United Nations Environment Programme, Nairobi. http://www.unep.org/publications/ebooks/emissionsgapreport2013/ (Accessed 12.09.14).

United Nations Environment Programme Finance Initiative (2012) 'Creating the "new normal": Enabling the financial sector to work for sustainable development. Perspectives on financing sustainable development in the wake of Rio+20'. Discussion Paper. Châtelaine, Switzerland: UNEP FI.

UNFCCC (2011), Decision 1/CP16, The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention,

http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2 visited August 4, 2014.

UNFCCC, 1992. United Nations Framework Convention on Climate Change. United Nations Framework Convention on Climate Change, Bonn.

UNFCCC, 2001. The Marrakesh Accords & the Marrakesh Declaration. Draft version. United Nations Framework Convention on Climate Change, Bonn.

UNFCCC, 2008. Decision 1/CP.13. Bali Action Plan. Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007. Addendum. Part Two: Action taken by the Conference of the Parties at its thirteenth session. United Nations Framework Convention on Climate Change, Bonn.

UNFCCC, 2009. Copenhagen Accord. Advance unedited version. United Nations Framework Convention on Climate Change, Bonn.

UNFCCC, 2010. The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. Decision 1/CP.16. FCCC/CP/2010/7/Add.1, United Nations Framework Convention on Climate Change, Bonn.

UNFCCC, 2011a. Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. Decision 2/CP.17. FCCC/CP/2011/9/Add.1, United Nations Framework Convention on Climate Change, Bonn.

UNFCCC, 2011b. Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. Decision 2/CP.17. Conference of the Parties, 1th session, Durban, 28 November to 11 December 2011. FCCC/CP/2011/9/Add.1, United Nations Framework Convention on Climate Change, Bonn.

Victor, D. (2011). Global warming gridlock. New York: Cambridge University Press

Victor, D.G. (2006), "Toward Effective International Cooperation on Climate Change: Numbers, Interests and Institutions", Global Environmental Politics, Vol. 6, No. 3, pp. 90-103.

Viguié, V., Hallegatte, S.(2012). Trade-offs and Synergies in Urban Climate Policies. Nature Climate Change 2 (3)

Waisman, H., Guivarch, C., Grazi, F., Hourcade, JC. (2012). The Imaclim-R model: infrastructures, technical inertia and the costs of low carbon futures under imperfect foresight. Climatic Change 114 (1): 101-120.

Watkiss, P., Downing, T. (2008). The social cost of carbon : Valuation estimates and their use in UK policy. Integrated Assessment, 8(1).

Winkler, H., Baumert, K., Blanchard, O., Burch, S., and Robinson, J. (2006). What factors influence mitigative capacity? Energy Policy 35 (2007) 692–703. Elsevier.

Zhang, H., Shi, H.-L., (2014),From burden-sharing to opportunity-sharing:unlocking the climate negotiations, Climate Policy , 14:1, 63-81, DOI:

How to finance low-carbon and climate-resilient development?

A perspective from Latin American and Caribbean think tanks on climate change issues Series

Hernán Carlino (Fundación Torcuato Di Tella, Argentina)

IDDRI'S PUBLICATIONS

- Ramstein, C., Ribera, T. (2014). The LAC region in the face of climate change: perspectives on national policy and international cooperation, *Working Papers* N°16/14, A perspective from Latin American and Caribbean think tanks on climate change issues Series, IDDRI.
- Castro, R., Chacón León, M. (2014). Agriculture, forestry and other land-use in the climate negotiations: a Latin American perspective, *Working Papers* N°17/14, A perspective from Latin American and Caribbean think tanks on climate change issues Series, IDDRI.
- Drummond, M., Flôres, R. (2014). Engaging the productive sector in the climate change negotiations, *Working Papers* N°18/14, A perspective from Latin American and Caribbean think tanks on climate change issues Series, IDDRI.
- Gutiérrez, M. E. *et al.* (2014). Reconciling development with the need to 'decarbonize' the economy, *Working Papers* N°19/14, A perspective from Latin American and Caribbean think tanks on climate change issues Series, IDDRI.

Publications available online at: www.iddri.org

IDDRI SciencesPo.

www.iddri.org

The Institute for Sustainable Development and International Relations (IDDRI) is a Paris based non-profit policy research institute. Its objective is to develop and share key knowledge and tools for analysing and shedding light on the strategic issues of sustainable development from a global perspective.

Given the rising stakes of the issues posed by climate change and biodiversity loss, IDDRI provides stakeholders with input for their reflection on global governance, and also participates in work on reframing development pathways. A special effort has been made to develop a partnership network with emerging countries to better understand and share various perspectives on sustainable development issues and governance.

For more effective action, IDDRI operates with a network of partners from the private sector, academia, civil society and the public sector, not only in France and Europe but also internationally. As an independent policy research institute, IDDRI mobilises resources and expertise to disseminate the most relevant scientific ideas and research ahead of negotiations and decision-making processes. It applies a crosscutting approach to its work, which focuses on five threads: global governance, climate change, biodiversity, urban fabric, and agriculture.

IDDRI issues a range of own publications. With its *Working Papers* collection, it quickly circulates texts which are the responsibility of their authors; *Policy Briefs* summarize the ideas of scientific debates or issues under discussion in international forums and examine controversies; *Studies* go deeper into a specific topic. IDDRI also develops scientific and editorial partnerships: among others, *A Planet for Life*. *Sustainable Development in Action* is the result of collaboration with the French Development Agency (AFD) and The Energy and Resources Institute (TERI), and editorial partnership with Armand Colin for the French edition, *Regards sur la Terre*.

To learn more on IDDRI's publications and activities, visit www.iddri.org