

Unclassified

COM/ENV/EPOC/IEA/SLT(2011)3



Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

27-May-2011

English - Or. English

**ENVIRONMENT DIRECTORATE
INTERNATIONAL ENERGY AGENCY**

**COM/ENV/EPOC/IEA/SLT(2011)3
Unclassified**

MONITORING AND TRACKING LONG-TERM FINANCE TO SUPPORT CLIMATE ACTION

Barbara Buchner (CPI), Jessica Brown (ODI) and Jan Corfee-Morlot (OECD)

The ideas expressed in this paper are those of the authors and do not necessarily represent views of the OECD, the IEA, or their member countries, or the endorsement of any approach described herein.

JT03302533

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

English - Or. English

Copyright OECD/IEA, 2011

Applications for permission to reproduce or translate all or part of this material should be addressed

to:

Head of Publications Service, OECD/IEA
2 rue André Pascal, 75775 Paris Cedex 16, France

or

9 rue de la Fédération, 75739 Paris Cedex 15, France.

FOREWORD

This document was prepared by the OECD and IEA Secretariats in Spring 2011 in response to a request from the Climate Change Expert Group (CCXG) on the United Nations Framework Convention on Climate Change (UNFCCC). The CCXG oversees development of analytical papers for the purpose of providing useful and timely input to the climate change negotiations. These papers may also be useful to national policy-makers and other decision-makers. Authors work with the CCXG to develop these papers in a collaborative effort. However, the papers do not necessarily represent the views of the OECD or the IEA, nor are they intended to prejudge the views of countries participating in the CCXG. Rather, they are Secretariat information papers intended to inform Member countries, as well as the UNFCCC audience.

Members of the CCXG are Annex I and OECD countries. The Annex I Parties or countries referred to in this document are those listed in Annex I of the UNFCCC (as amended by the Conference of the Parties in 1997 and 2010): Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, the European Community, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom of Great Britain and Northern Ireland, and the United States of America. As OECD member countries, Korea, Mexico, Chile, and Israel are also members of the CCXG. Where this document refers to “countries” or “governments”, it is also intended to include “regional economic organisations”, if appropriate.

ACKNOWLEDGEMENTS

This paper was prepared by Barbara Buchner (CPI), Jessica Brown (ODI) and Jan Corfee-Morlot (OECD). It benefited from direct funding for the work of the CCXG programme in 2010/11, including from Australia, Canada, the European Commission, Finland, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, the United States of America, the World Bank, as well as in-kind support from the OECD and IEA. The authors would like to acknowledge the helpful comments stemming from the discussion in the CCXG/Global Forum on Environment event (28-29 March 2011), where this paper was discussed. More detailed comments were also received and incorporated from the governments of Canada, France, Spain, Sweden, the UK. Finally the authors would like to acknowledge comments and internal review from UNFCCC secretariat (Preety Bhandari, Yolando Velasco and Katia Simeonova) as well as OECD and IEA staff: (Shardul Agrawala, Julia Benn, Richard Baron, Christa Clapp, Jane Ellis, Valerie Gaveau, Christopher Kaminker, Céline Kauffmann, Virginie Marchal and Andrew Prag, Marie-Christine Tremblay).

Questions and comments should be sent to:

Jan Corfee-Morlot
 OECD Environment Directorate
 2, rue André-Pascal
 75775 Paris Cedex 16
 France
 Email: jan.corfee-morlot@oecd.org

All OECD and IEA information papers for the Climate Change Expert Group on the UNFCCC can be downloaded from: www.oecd.org/env/cc/ccxg.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
1. INTRODUCTION	9
2. WHAT DO WE KNOW ABOUT CLIMATE FINANCE AND WHAT ARE THE CURRENT KNOWLEDGE GAPS?	12
2.1 Key definitions	12
2.2 Climate finance in context.....	14
2.3 Main elements of a MRV framework for climate finance.....	16
2.4 Types of international finance	21
2.4.1 International public finance	21
2.4.2 Private flows.....	24
3. A REVIEW OF EXISTING INFORMATION SYSTEMS AND REPORTING MECHANISMS	27
3.1 Existing reporting systems and their strengths and weaknesses.....	27
3.1.1 UNFCCC national communications (NCs)	28
3.1.2 The OECD “Rio Markers” for climate change support.....	31
3.1.3 MDB reporting	35
3.1.4 Export credit reporting system	36
3.1.5 Information on offset markets	37
3.1.6 Information on FDI.....	39
3.1.7 Other private finance reporting, including domestic and other public-private investment.....	40
3.2 Outstanding issues for current reporting	41
4. STRAWMAN OPTIONS FOR AN INTEGRATED AND ROBUST MRV SYSTEM.....	44
4.1 Option 1: Reporting through limited sources	46
4.2 Option 2: Reporting through expanded sources	47
4.3 Verification and ICA options	49
5. CONCLUSIONS	50
5.1 Strawman proposals	50
5.2 Next steps	50
REFERENCES	52
GLOSSARY	55
ANNEX I – EXCERPTS AND OVERVIEW OF KEY MRV OF FINANCE OUTCOMES CANCUN AGREEMENTS DECISION 1/CP.16.....	56

LIST OF TABLES

Table 1: Key questions to guide design of a framework for MRV of finance	11
Table 2: Who is tracking what?.....	20
Table 3: Evaluation of availability of existing climate finance support data provided	42
Table A1: Annex I Country Reporting and Review Provisions – Cancún Agreement – Decision 1/CP.16	57
Table A2: Non-Annex I Country Reporting and Review Provisions – Cancún Agreement – Decision 1/CP.16.....	58

LIST OF FIGURES

Figure ES-1. The dimensions of climate finance	7
Figure ES-2: The two strawman options.....	8
Figure 1: North-South financial flows, climate finance (mitigation) and climate-relevant (emitting) sectors, 2008.....	15
Figure 2: The horizontal and vertical dimensions of climate finance.....	18
Figure 3: Official and officially supported long-term export credits from OECD countries to developing countries, new commitments by sector (2002-2009): 18 billion USD/year (average)	24
Figure 3: Official and officially supported long-term export credits from OECD countries to developing countries, new commitments by sector (2002-2009): 18 billion USD/year (average)	24
Figure 4: Estimated CDM investment by year (billion USD)	26
Figure 5: Option 1 - strawman for comprehensive MRV system.....	46
Figure 6: Option 2 - strawman for comprehensive MRV system.....	48

Executive Summary

The Cancún Agreements formalise a collective commitment by developed countries to provide new and additional funding for action on climate change in developing countries both in the short- and longer-term. The funding will aim to help developing countries adapt to and address the impacts of climate change and to pursue actions that will bring them towards a low-carbon future. Beyond committing to the goal of mobilising jointly USD 100 billion per year by 2020, the Cancún Agreements note that “...*funds provided to developing countries may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources.*”¹ This collective financial commitment requires a system to measure, report and verify (MRV) the relevant financial flows across a variety of sources. Such a system should help assess – individually and collectively - whether or not commitments are being met, and to facilitate the implementation of these commitments by identifying where progress could be made. Ideally, such a system should ensure transparency and accountability. This in turn would require comprehensive, accurate and comparable information such that aggregation across sources of information is possible. However, the existing effort to track climate finance lacks transparency, comparability and comprehensiveness.

The Cancún Agreements recognise the shortcomings of current reporting of climate finance under the UNFCCC and have called for significant improvements on this issue, both regarding the frequency and coverage of reporting. They call for strengthening national communications, increasing the frequency of reporting via biennial reports to be reported by developed and developing countries, and the creation of a registry to record developing countries’ mitigation action seeking international support and associated funding needs. All these items include some elements of climate finance reporting. Importantly, the Agreements call for strengthened reporting on climate support both from developing countries as recipients and from developed country donors. Before initiating the design of a new comprehensive MRV framework for climate finance, it is important to assess up-front the main functions this system is meant to fulfil. This determines the information needs as well as the form of the framework and helps to ensure the provision of the best-possible information for the defined purposes.

Despite a number of provisions in the UNFCCC outlining key principles, there is no internationally agreed definition of what counts as “climate finance.” There is therefore no agreed basis for measurement or methodology for tracking. Measuring adaptation finance will be particularly challenging given its intricate linkages with development. This paper assumes that climate finance flows include both international (bilateral Official Development Assistance, Other Official Flows, export credits, and multilateral concessional and non-concessional flows) and private finance (carbon market finance, REDD+, Foreign Direct Investment and other private flows). Most though not all of these flows are already measured and tracked to differing extents through one or more international reporting or information system(s), for example UNFCCC national communications, OECD Development Assistance Committee’s Creditor Reporting System (DAC CRS) through the application of its Rio markers², etc. However, the data collected across various systems that currently track public finance flows to support climate action are not necessarily complete or comparable as they may not be defined in exactly the same way.

This lack of a common definition translates into at least two major technical challenges:

- Defining **public climate finance flows**. Working definitions of public climate finance already exist and can be built upon. This can be addressed relatively easily given the ongoing work in the aid community. The Rio markers already provide an approximate way of quantifying the contribution of funding to address climate change. Further improvements of these policy markers are expected needed and some are underway, to ease definitional deficiencies in the context of public climate finance; and

¹ UNFCCC 2010, 1/CP.16, para 99.

² The so-called “Rio Markers” are policy markers that are used to monitor climate-change specific aid., identifying activities that target the objectives of the UNFCCC.

- Defining **private climate finance flows**. This presents a major difficulty. There is currently no formal definition of private climate finance and no dedicated systems to track private climate finance. This is compounded by confidentiality issues. Proxies for private climate finance flows – though imperfect -- could be developed as an interim step forward to move towards a better understanding of the characteristics and scale of these flows. Proposed proxies include estimates of leveraging ratios from public finance (and thus intended to capture the important interconnections between public and private flows), carbon market flows and ‘green’ or mitigation-specific foreign direct investment (FDI).

Any robust MRV system must engage in a process to work towards internationally recognised definitions and methodological approaches to quantify support, through dialogue and exchange with relevant intergovernmental organisations already reporting on climate finance. Of course, the success of any technical work in this area will require recognition and adoption by the COP to translate existing Convention language into an international agreement on operational aspects of climate finance.

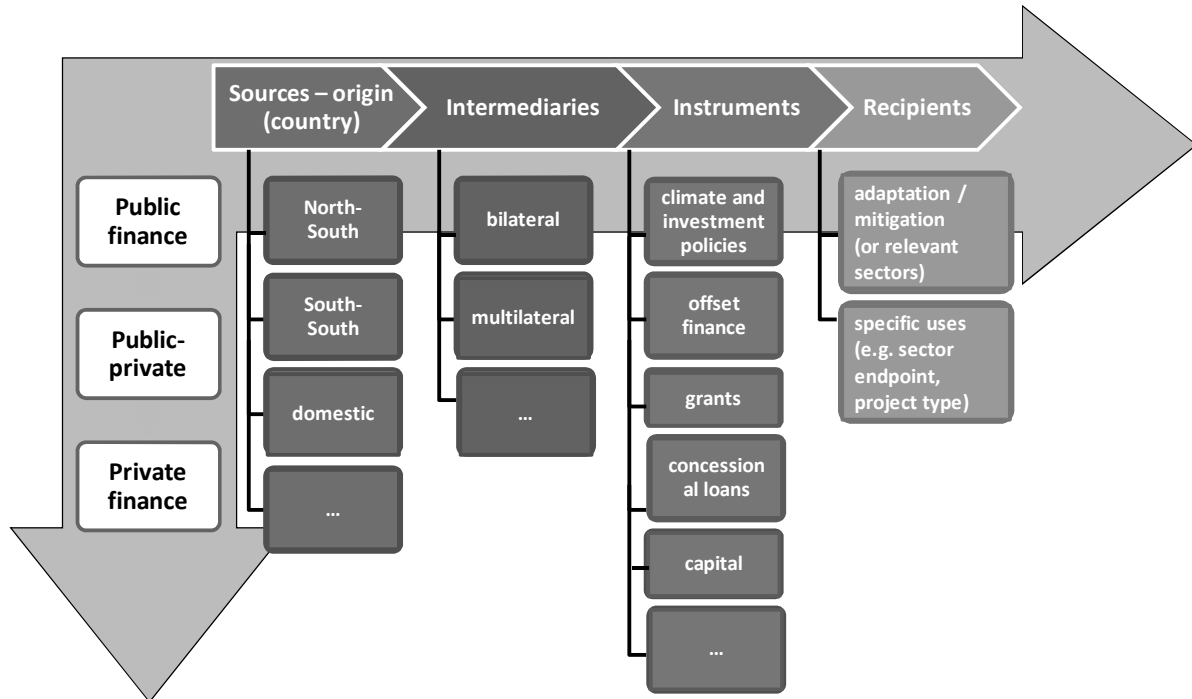
The paper highlights the relevant information that needs to be tracked in order to build a comprehensive MRV system for climate finance, proposing both improvements to current reporting and tracking systems as well as new reporting approaches for a more robust and inclusive MRV system. The paper suggests tracking information along a multi-dimensional structure, as illustrated by Figure ES-1. This structure is aspirational, to be achieved and added to over time. Certain elements of it might not be feasible in the near term but could be developed with a targeted effort. For example, while not a priority in the near-term it is important to recognise the growing importance of South-South financial flows to support climate action and to anticipate adding reporting on this in future. Of course such a system must also be built up slowly, allowing reporting countries to build capacity to provide higher quality and more complete information over time.

While some systems exist for reporting and verification of specific elements of climate finance, these systems are limited in scope, mandate, and function. Specific steps can be made to strengthen reporting guidelines, fill data gaps, and improve measurement and methodological consistency. Important financial flows – in particular the majority of private financial flows – are not currently tracked in a systematic manner or according to any agreed definitions. A framework for MRV of climate finance could weave together information from various reporting systems outside of the UNFCCC along with information gathered from Parties. Ultimately, one integrated, robust and comprehensive MRV system could provide a solid foundation for information on climate finance.

Figure ES-2 illustrates two concrete options presented in this paper to build an integrated framework for MRV of climate finance. In particular, the paper outlines two strawman proposals for reporting on climate finance that integrate existing and new UNFCCC vehicles for reporting or recording information, (i.e. national communications and biennial reports, the registry) as well as drawing on other reporting systems. Both ‘strawman’ proposals foresee an important oversight role from the UNFCCC to serve as recipient of all data, and to co-ordinate the verification and review and/or international consultation and analysis process. Both options advance a more comprehensive system for storing and accessing data on international climate finance and will facilitate comparison and integration of data across sources.

The first option aims at strengthening the guidelines to national communications and biennial reports, relying on increased direct Party reporting, and establishing a reporting format for Parties to follow. Such a reinforced framework for reporting could be layered into the existing system. Given the high reporting demands placed on Parties and their limited reporting capacity as well as the existence of several reliable information systems, the second option would limit direct Party reporting through national communications and biennial reports and work towards a model of full collaboration among various institutions (including the UN agencies, OECD, and MDBs).

Figure ES-1. The dimensions of climate finance



Source: Authors

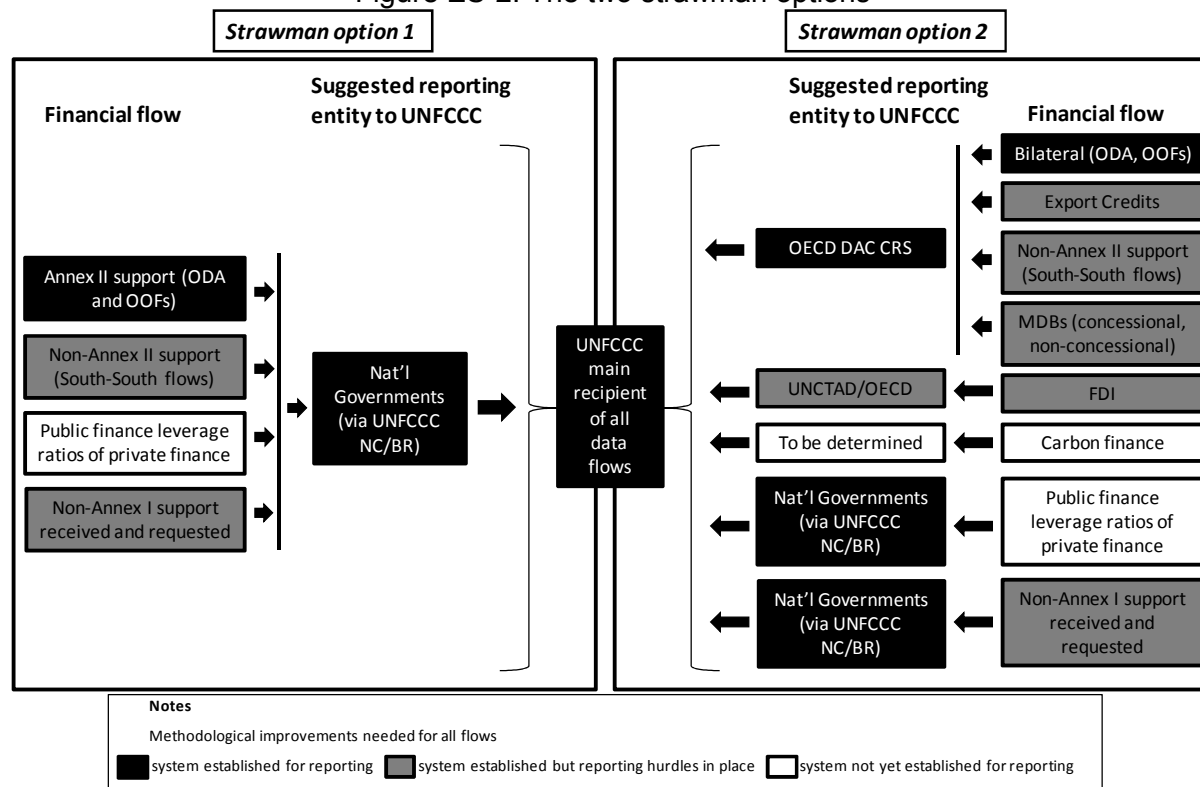
Both strawman proposals also recognise that the already-existing OECD DAC CRS system covers an important sub-set of the required information and therefore that any robust MRV system could build on this. However, the different proposals vary in terms of whether they use the CRS system as a central tool and data source or as a verification and cross-checking tool. The second option draws on external (non-Party) sources of information to directly provide and complement what can be provided by Parties through the various reporting tools under the Convention. This second option would require a new form and level institutional co-operation amongst a wide variety of inter-governmental organisations but has the advantage of reducing the burden of reporting on Parties and potentially increasing the comprehensiveness, accuracy and comparability of information on climate finance under the system.

Finally, both strawman options address the need to track private flows. Both options include a minimum representation of private finance flows by requesting parties to report on leveraging ratios. The second option goes beyond, drawing on information from other institutional sources for private flows related to CDM, any other new market mechanisms such as REDD+ and FDI.

Any framework for MRV of climate finance should help countries to assess – individually and collectively – whether they are meeting their financial and other support objectives, and to facilitate the implementation of these objectives by identifying where progress could be made. It should ensure transparency and accountability, which in turn require comprehensive, accurate and comparable information. The framework proposed here, and implementation of either of the strawman options, could go some ways towards achieving these goals and can therefore pave the way for a better understanding and assessment of the effectiveness of climate finance, helping steer future efforts to address climate change most efficiently.

It will be necessary to build capacity across the relevant actors to provide additional, more accurate and more harmonised information on climate finance thus it may also be desirable to “phase in” and/or pilot new elements of such a system as a first step.

Figure ES-2: The two strawman options



Source: Authors

The following four action items call for priority treatment by Parties in this context:

- **Adopt clear definitions of climate finance** spanning both public and private sources and prioritise work to improve standardised tracking of international climate finance flows from both a donor and a recipient perspective.
- **Explore various avenues of tracking climate finance** within a more comprehensive MRV system, drawing the lessons from existing information systems.
- **Improve reporting of public climate finance flows** from both a donor and a recipient perspective building on existing information systems, ongoing efforts to improve these (e.g. national communications) and new reporting tools established under the Cancun Agreements (i.e. biennial reports, registries).
- **Extend reporting to include a basic reporting of private climate finance.** A minimum level of information could be ensured by requesting public finance sources to report on leveraging ratios and by streamlining the reporting on finance flowing through carbon markets. For this purpose, there is a need to:
 - develop an agreed methodology for calculating leveraging ratios and adopt reporting guidelines to request donor and recipient parties to provide this information;
 - develop an agreed methodology for tracking investments in CDM, REDD+ and any new market mechanisms
 - work in parallel with appropriate organisational partners, to advance statistical methods with the aim to systematically track FDI flows that are indisputably green e.g. renewable energy, energy efficiency and waste management projects.

1. Introduction

Provisions on short- and long-term financing were a key outcome of the Copenhagen Accord (UNFCCC 2009a) and now figure prominently in the Cancún Agreements. In the Decision from the Ad-Hoc Working Group on Long-term Co-operative Action under the Convention (Decision 1/CP.16), the Conference of the Parties underscore the importance of both fast start finance in the period 2010-2012 and long-term finance in the period following this (see Annex for the exact text).

The Cancún Agreements formalise a collective commitment by developed countries to provide new and additional funding for the short- and longer-term, with balanced allocation between adaptation and mitigation, to developing countries. They commit to provide Fast Start Finance of approximately USD 30 billion for the period 2010 – 2012, and to jointly mobilise USD 100 bn annually by 2020 from a wide variety of funding sources, including public and private, bilateral and multilateral, as well as alternative sources of finance. The funding will aim to help developing countries adapt to and address the impacts of climate change and to pursue actions that will bring them towards a low-carbon future³.

The successful mobilisation of capital, particularly Fast Start Finance⁴, is essential for future climate negotiations. It can create impetus for larger amounts of long-term financing, which is needed in order to put the world on a low-carbon pathway. It can also potentially build trust between developed and developing countries by demonstrating that commitments in the Cancún Agreement are being honoured. In order to lay the foundation for future action to address climate change, the 2020 financial commitments made by developed countries need to be implemented at a scale consistent with the magnitude of the problem, and exploit a variety of means available to raise and spend capital. Even more importantly, the funding raised needs to be spent effectively to address the needs of developing countries and contribute to long-term climate change goals of the UN Framework Convention on Climate Change.

This report addresses the question: *How to best measure, report and verify (MRV) relevant climate financial support flows to developing countries?* The answer to this question will depend upon how the information is to be used, that is the purpose of MRV of climate finance. Ideally, an updated framework for MRV of climate finance will respond to the needs of the full range of possible user communities, including countries themselves, the Conference of the Parties as well as third-party observers and watchdog organisations. Table 1 outlines a number of questions that may help guide the design of such a framework. Given that there will be a timelag of a few years to develop and implement such a system, the focus here is on tracking of long-term finance.

This paper explores options for the measurement and reporting of financial resources, leaving other forms of support (i.e. technology and capacity building support that does not involve transboundary transfers of capital). It considers how to use the reporting tools of national communications, biennial reports and the interface with a registry. Its main goal is to identify information that is relevant and

³ Note that this collective commitment was first mentioned in the Copenhagen Accords, with specific reference to the balanced allocation of funding to mitigation and adaptation. In the Cancún Agreements, the goal of the collective funding was formalised more generally “in the context of meaningful mitigation actions and transparency on implementation” to “address the needs of developing countries”. In the Cancun Agreements the reference to balanced allocation of funding between mitigation and adaptation is found however in the in Appendix on the “Terms of reference for the design of the Green Climate Fund” (1/CP.16, Appendix III, para 1c).

⁴ Several developed countries have put forward individual fast start finance pledges, but the lack of common reporting guidelines renders their assessment and comparison difficult. Information on the individual pledges are available at <http://www.faststartfinance.org/> and <http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges>. An initial attempt to quantify Fast Start Finance can be found in Project Catalist (2010).

suitable to establish a more reliable framework to measure, report and verify financial support in a comprehensive and reliable manner.

The overarching aim of an improved framework for MRV of long-term climate finance will be to provide a clearer overview of international financial flows, trends, sources and purposes, so as to build trust among developed and developing countries through improved transparency and accountability, and to improve effectiveness of international action.⁵ A better framework for MRV is a critical part of the transparency needed to be able to hold countries accountable to their international finance commitments. A MRV framework can also help countries to use available financial resources more productively and thus to direct them more efficiently.

More specifically, the goals of a framework for MRV of climate finance are likely to include:

- Transparency on how much climate finance is flowing to developing countries (both public and private flows), the extent of finance from developed countries, and how this climate finance is being used;
- Accountability about how Parties are collectively and individually progressing to deliver their obligations as outlined in the Cancún Agreements, which will need to build on comprehensive and comparable information;
- Establish a foundation to facilitate learning and boost effectiveness and efficiency of support programmes by ensuring support and relevant private flows are aligned with country needs.

The framework should also be designed to achieve cross-cutting goals of consistency, comparability and accuracy while also ensuring that they are politically acceptable and consistent with levels of capacity within Parties to provide the necessary information in a timely manner.

Any framework for MRV of climate finance should help countries to assess – individually and collectively – whether they are meeting their financial and other support objectives, and to facilitate the implementation of these objectives by identifying where progress could be made. It should ensure transparency and accountability, which in turn require comprehensive, accurate and comparable information. An MRV framework should also aim to provide information to help improve effectiveness and efficiency of the climate support provided and received over time. Current reporting requirements are established through the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol. Differences in the requirements across issues and between Annex I and non-Annex I countries⁶ hamper the comprehensive collection of data on support, both related to financial flows, capacity building and technology transfer. Recent studies confirm that the existing MRV framework for climate finance lacks transparency, comparability and comprehensiveness (Ellis et al, 2010a and b; Corfee-Morlot *et al.*, 2009; Tirpak *et al.*, 2010; Fransen 2009). Monitoring and reporting is patchy, reporting by recipient countries is nascent and on private financial flows is non-existent under the Convention and no process for verification of data submitted by non-Annex I countries exists. These difficulties can only be overcome if countries report in a routine, comprehensive and comparable manner according to common definitions and standards, so as to allow the collection of complete, reliable, and timely data.

⁵ Although fast-start finance is also important, the timeframe of delivery of such finance is near term and thus unlikely to be subject to any new framework for MRV. The paper thus focuses on how MRV of long-term finance.

⁶ Annex I countries have ratified the Kyoto Protocol and include industrialised countries that were members of the OECD in 1992, plus countries with economies in transition, including the Russian Federation, the Baltic States, and several Central and Eastern European States. Annex II countries are a sub-group of the Annex I countries. They comprise the OECD members, excluding those that were economies in transition in 1992. Non-Annex I Parties are mostly developing countries. For more details, see: http://unfccc.int/parties_and_observers/items/2704.php.

Table 1: Key questions to guide design of a framework for MRV of finance

Goals	Questions to drive information collection and reporting
Transparency – tracking individual country to country flows and transactions	<p>How much international public climate finance is flowing from Party to Party?</p> <p>For each donor, what is the balance of resources allocated between main purpose areas (e.g. mitigation, adaptation and REDD+)?</p> <p>How is public support leveraging private finance and investment? Is it possible to quantify that leveraging and private finance flows resulting from international public flows by donor? And/or by recipient?</p> <p>In addition to private finance catalysed through public finance, is it possible to report further private finance flows in a more streamlined fashion (e.g., carbon market flows)?</p> <p>How are recipient countries using the climate finance received? Is it possible to assess results expected/achieved projects, programmes, actions supported?</p>
Accountability – tracking performance across groups of parties and individually	<p>Are developed countries satisfying their pledges and obligations, collectively?</p> <p>Which developed countries actively providing public financial support? Are there laggards and leaders in the provision of public climate finance and/or the leveraging of finance? What is the distribution of financing among developing country recipients?</p> <p>Is international public finance, when combined with private finance that it leverages, meeting the identified needs of developing countries?</p>
Improved information to enhance learning, boost effectiveness and efficiency of climate finance/investment	<p>Is there a major gap between the stated “needs” of a country, and its receipts?</p> <p>Is the allocation of funds received across purpose areas widely different from the distribution of “needs” previously outlined in by the country?</p> <p>What are the overall expected (or observed) results from funding received in each purpose area (if available)?</p> <p>Are there performance goals for funded activities? If so, is the project, programme or sector where investment was targeted achieving these goals (e.g. where mitigation may be measured in GHG avoided per \$ invested)?</p> <p>Is it possible for recipients to report quantitative information on:</p> <ul style="list-style-type: none"> i) share of aid in the form of budgetary support received and used to support climate action? ii) leveraging ratios of international public finance?
Consistency, comparability and accuracy – as cross-cutting goals (i.e. to help achieve the above)	<p>How can information collection and reporting be established to ensure data consistency, comparability and accuracy/quality across all relevant information sources?</p> <p>How can all relevant sources of information be brought into a single framework for MRV of climate finance?</p>

In the Cancún Agreements, Parties agreed to improve methodologies for, and frequency of, reporting of climate finance or support⁷ more generally and they also agreed to address progress through review processes (in the case of Annex I countries) and international consultation and analysis processes (for non-Annex I countries) (see Tables A4 and A5, Annex 1). Finally, to facilitate matching of available funds with needs in developing countries, Parties agree to establish a registry of nationally appropriate mitigation actions.

⁷ Support for climate-relevant activities can take different forms. The most important categories, also in the UNFCCC context, include finance, technology, and capacity building.

The remainder of the paper is organised as follows: Section 2 briefly lays out definitions and context; it identifies what we know about climate finance today and explores in more depth the main issues that need to be considered when designing an improved MRV system. Section 3 reviews existing information systems and reporting mechanisms for climate finance and discusses their strengths and weaknesses as well as provides recommendations for how to improve information and reporting systems in key areas. Based on this review, section 4 develops options for a more comprehensive, reliable and transparent monitoring and tracking system for climate finance. Section 5 concludes with some indications on how the objective of a comprehensive and reliable database of climate finance could be reached over time.

2. What do we know about climate finance and what are the current knowledge gaps?

Delivering on the Cancún Agreements' goals for climate finance suggests there will need to be a significant scaling up of today's levels of support for climate action to address both adaptation and mitigation in developing countries between now and 2020. While estimates of the amount of incremental investment capital required vary widely, there is broad agreement that the majority of this capital will need to come from the private sector (World Economic Forum in collaboration with Bloomberg, *New Energy Finance 2010*; UNCTAD 2010; UNFCCC 2009b). The recent UN Advisory Group on Climate Finance (AGF) report notes that given adequate information about climate risks, a large share of the investment for adaptation is likely to come from the private sector, given the direct economic interest to protect investments (AGF 2010a) and a similar point can also be made on mitigation. Further, the exact amount of financing needed to address climate change will depend on many factors, including the level of ambition of mitigation goals and adaptation objectives, and the extent to which "correct" price signals are provided (OECD 2011a).

The Cancún LCA Agreement explicitly notes the role of private finance for long-term action. Yet there remains international debate about what role private finance should play in fulfilling those commitments and how it should be measured when assessing progress towards the climate finance goals laid out above. This report addresses questions of private climate finance throughout.

2.1 Key definitions

A central question for the international community is how does the international community perform against the climate finance goals set out in the Cancún agreement? How do we measure performance and in particular what flows of capital need to be tracked to answer this question? It is useful at the outset to outline a number of key definitions for use in this report.

While there are a number of defining principles in various provisions of the Convention and related COP decisions, today there is no internationally agreed, operational definition of what constitutes climate finance.⁸ Different organisations and parties do however define of climate change finance for accounting purposes however these definitions do not necessarily align making it difficult to compare information across sources. This lack of common definition represents a major challenge in establishing a MRV framework of climate finance because there is no agreed basis for measurement or methodology for tracking climate finance flows.

This report refers to climate change finance and climate-related finance. Following Corfee-Morlot *et al.* 2009, these are defined as follows:

Climate finance (sometimes referred to as 'climate-specific finance') refers to capital flows that target low-carbon or climate resilient development. Consistent with the terms of the Cancún

⁸ The Articles of the Convention and decisions of the COP even went to the specifics of the principles, type of funding and how to fund the activities (Art. 4.3, 4.5, 4.7), what and who to fund (Art. 4.3, 12.4, 4.8/4.9), channels (Art. 11.5), sources of funds (dec. 5/CP.6 and dec. 1/CP.16).

Agreements, these may be either international public or private financing flows, and thus may be either concessional (public) or non-concessional flows (where the latter concerns private as well as some forms of public finance flows). In practice, important sources of climate finance may also be domestic. The key definitional issue is that climate change finance has greenhouse gas mitigation or adaptation as an explicitly stated objective, or as a main outcome (i.e. reduction or sequestration of greenhouse gas emissions or reducing vulnerability to inevitable climate change). Climate change finance may also support climate change reporting as required under the Convention, e.g. preparation of national greenhouse gas inventory reports, national communications or biennial reports, as well as mitigation- or adaptation capacity building more generally. The term “climate finance” is distinct from the term “climate-relevant finance” outlined below.

Further, there is no agreement on what exactly counts as private climate finance, given that profit making is the main objective and outcome of private sector activity and capital flows. However, key outcomes and objectives can also include greenhouse mitigation and climate adaptation, and capital flows to activities with such outcomes should also be counted as climate finance. This includes, on the mitigation side, investment in renewable energy, energy efficiency and sustainable forestry or agriculture. On the adaptation side, it could include investment in building retrofit such that they become more resilient to storms or floods and investment in strengthened coastal defence mechanisms.⁹ An important component in private climate finance is the flows which are leveraged by the public finance or investment, and it may be particularly helpful in any tracking system to estimate these private flows separately.

Climate-relevant finance refers to a much broader set of capital flows (public or private) from developed to developing countries that will influence emissions and/or vulnerability to climate change in developing countries. These are flows going to support development and economic growth in key emitting sectors (i.e. power production and other energy supply, industry, agriculture and forestry, transport, water)¹⁰ or to sectors affecting vulnerability to climate change (i.e. water, health, energy, forestry and agriculture). Climate-relevant flows will influence climate change outcomes but possibly in a negative manner (i.e. by increasing emissions) unless the capital is supporting low-emission or climate-resilient investments.

⁹ As a whole investment in adaptation may be more difficult to disentangle from investment in development more generally. See discussion section 3.1.1.

¹⁰ Depending upon the data set, the precise definition of these sectors may vary. For example in the Development Assistance Committee’s Creditor Reporting System, the relevant sector categories are: power production and other energy supply; industry, minerals and mining; agriculture, forestry and fishing; transport and storage; water supply and sanitation

Box 1: Climate finance and additionality

A remaining issue in the debate is the measurement of climate finance additionality – that is, the international public financial support that is additional to existing aid flows. How additionality is more precisely defined remains unclear. There is no internationally agreed methodology or baseline from which to measure additionality – is it above the 0.7% GNI commitment to aid agreed by a certain number of countries during a specific year; support above 2009 ODA levels; or financial support from sources other than ODA? Given political sensitivities around this issue, it is unlikely to be addressed in the near future.¹¹ Existing reporting systems, if improved, could at least provide the necessary information that can serve as a basis for analysis. Any such analysis of additionality must clarify the assumed baseline from which additional funds are calculated.¹² Ultimate the choice of a baseline is a not just a technical but also a political decision that could only be developed through dialogue amongst both donor and recipient countries.¹³

2.2 Climate finance in context

The value of putting climate finance in the broader context of financial flows to economic sectors relevant to climate change is demonstrated by Figure 1. Investment in infrastructure or management practices in some sectors will potentially increase greenhouse gas emissions (referred to here as mitigation-relevant sectors) and the effectiveness of climate finance to advance mitigation will in part depend upon how well it influences these larger sectoral trends of both public and private financial flows. Similarly for adaptation, how climate finance affects the overall risk and vulnerability to climate across the economy will be important and will depend on to what extent new investments take climate change risk into account. Some analysts, for example, have demonstrated the potentially high exposure of development co-operation portfolios to future climate change underscoring the need for attention to climate change in development planning (OECD, 2005; AGF, 2010a).

Data are broadly available for some important climate finance and climate-relevant flows to support mitigation and can be put in the context of broader mitigation-relevant financial flows for ODA, FDI and export credits (a form of OOF). Public concessional funds flowing from developed to developing countries to address climate change are estimated to be USD 9-12 billion per year in 2008.¹⁴ Of this, funding for adaptation is estimated to be only a small fraction; annual financial flows for adaptation are estimated to be on the order of USD 100 to USD 200 million per year (OECD, 2011a; Corfee-Morlot *et al.*, 2009).¹⁵ On the private sector side, “green” foreign direct investment (FDI) in 2008 – focused on green energy investment - is estimated to be on the order of USD 37 billion per year (UNCTAD 2010). Importantly, the climate-friendly (mitigation-specific) flows are estimated to

¹¹ For example that the DAC recently discussed whether to approach this difficult subject. It was noted that: “...a common DAC view would not be feasible at least in the near-term. Each Member Country had its own interpretation of this concept and would not likely agree on a common baseline against which to establish additionality. Maximizing transparency with regard to countries’ climate change financing contribution was seen as the only way to alleviate this problem and ensure the credibility of DAC Members’ commitments and pledges. The DAC has an active role to play in helping to clarify key concepts and relevant terminology, to facilitate a dialogue on this issue.” (DAC summary record, meeting 24 September 2010).

¹² For a full explanation of climate finance additionality and different definitions and baselines, please see Brown et al (2010).

¹³ Some authors have argued that the definition of “new and additional” and the notion of “incremental costs” should significantly limit what should be accounted for under the Convention as climate finance and flows from developed to developing countries compared to the numbers currently being reported. See for example Enting and Harmeling 2011 and further discussion in Section 3.2.

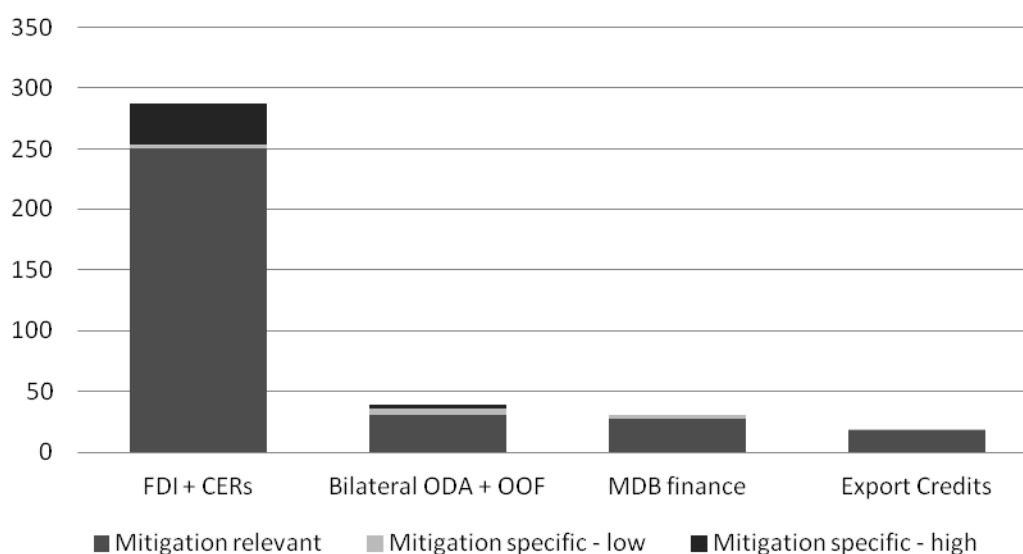
¹⁴ The numbers in this paragraph use OECD CRS database, World Bank (2006 and 2010a), UNCTAD (2010).

¹⁵ The available data for adaptation funding are limited to multilateral climate funds; data on bilateral assistance for adaptation will not be available until 2011. Total funds pledged for adaptation are estimated to amount to \$1 billion, of which a little over half has been committed.

account for less than one-sixth or about 15% of the total flows to emitting sectors across these types of finance (Figure 1).

While we use some of the available climate finance figures to illustrate the scale and magnitudes of existing flows, this paper does not focus on an exhaustive discussion of available finance. The paper aims to highlight the issues that are related to available MRV systems for climate finance, which in turn illustrate the large uncertainties that surround the estimates of the magnitude of existing climate finance flows and the difficulties of comparing different types of financial flows (e.g. commitments in ODA finance to incremental investment in FDI, concessional finance, private finance, etc).¹⁶

Figure 1: North-South financial flows, climate finance (mitigation) and climate-relevant (emitting) sectors, 2008
2008, billion USD



Source: Compiled from various sources UNCTAD, 2010; OECD DAC-CRS; World Bank (2006 and 2010a).

Figure note: Mitigation “low” is a minimum estimate of the low-carbon financial flows to support low carbon investments whereas mitigation specific “high” is a higher bound estimate. More precisely, for FDI + CERs, the low estimate includes the primary transaction values of CERs only (about 4 bn USD; World Bank 2010), whereas the high estimate also includes UNCTAD (2010) estimates of low carbon FDI flows from developed to developing countries (about 37 bn USD). Similarly for Bilateral ODA and OOF, the low estimates include only ODA marked as “principal” objective (about 5 bn USD), whereas the high estimate also includes that marked as “significant” adding another 3 bn USD. On MDB finance (concessional and non-concessional) flowing to climate change is the most difficult to estimate because there is comprehensive data set from which to draw and available estimates are now dated. Drawing on World Bank (2006), it is estimated that just over 4 bn USD flows to support climate action, remaining constant as what was reported in 2006-7; this is considered to be a minimum estimate. Export-credits vary widely from year to year; for this reason the authors use an average year estimate, drawing on data from 2002-2009; the low estimate of mitigation flows is estimated to be about 0.2 bn USD.

In the overall climate finance picture, private finance far outweighs public finance (cf. Buchner *et al.*, 2011, Corfee-Morlot *et al.* 2009). FDI is dominant in North-South flows to key economic sectors; the weight of the private sector from both a mitigation and adaptation perspective demonstrates that “greening” private sector as well as public sector flows will be a key to long-term climate protection (Corfee-Morlot *et al.*, 2009; AGF, 2010a).¹⁷

¹⁶ For a discussion of the relative flows see Corfee-Morlot *et al.* (2009) and Buchner *et al.* (2011).

¹⁷ The importance of private flows relative to public flows of finance will vary widely by national context.

2.3 Main elements of a MRV framework for climate finance

The overview of climate finance illustrates that in order to allow a more comprehensive MRV framework for climate finance, a number of elements need to be tracked along the finance spectrum.

What exactly needs to be measured, reported and verified will depend on which of the key questions in Table 1 the MRV system aims to answer. Given that an improved MRV system for finance could be used for different purposes, a disaggregation of the information on finance is helpful. Such a structure could include:¹⁸

- **Sources** of climate finance disbursed (include country of origin)¹⁹;
- **Type of finance**, e.g. public concessional (ODA), public non-concessional (OOF), private capital or investment;
- **Intermediaries** as channels of climate finance (e.g. bilateral or multilateral banks and agencies through which finance is transferred, public-private partnerships, etc);
- **Instruments** of climate finance that are used to distribute the capital (e.g., grants, loans, domestic policy support, guarantees and other risk instruments and financial instruments);
- **Disbursement** channels and mechanisms that are used to allocate the capital once it is in the recipient country;
- **Recipients** (country or organisation);
- **Uses** of climate finance (including the general purpose area i.e. adaptation, mitigation or other, as well as the sector endpoint and/or technology targeted).

Translating this comprehensive framework for climate finance into a concrete improved MRV framework would involve tracking information along a multi-dimensional structure. The approach developed by CPI (Buchner et al, 2011), outlines a systemic approach to include two overall dimensions:

- **Horizontal dimension:** the life cycle of finance flows
 - How is finance flowing from the source to the final use? How are these flows assembled by source of finance and country of finance? How are they transferred and disbursed?
- **Vertical dimension:** what types of financial flows and intermediary channels are being used?
 - Public finance, private finance or public-private finance? Climate-specific vehicles or general bilateral flows? Flows managed by International Finance Institutions or directly by the government/private sector?

Figure 2 illustrates the horizontal and vertical dimension of climate finance, providing more information on the possible categories along these dimensions.

¹⁸ These dimensions are based on previous work, cf. Corfee-Morlot *et al.* (2009). For a more recent and detailed discussion of this framework, including the organisations active in the different areas, see Buchner *et al.* (2011). Some elements of directional flow listed here may be more important than others and all elements may not warrant an equal focus.

¹⁹ As an MRV of finance system is focused on how money is spent rather than how it is raised, we do not propose to track how the government donors raise the funds that they dedicate to climate finance

Box 2: Measuring the impact of funding: AFD's approach

Over the last few years the French Development Agency (AFD) has developed a procedure to measure the emission impact or “carbon footprint” of projects financed. The core element of this procedure is a simple tool to assess ex-ante the order of magnitude of emissions generated or avoided by a project over its lifetime, looking also at the impact of future changes in the price of fossil fuels on the project. The design of the tool was driven by several objectives:

- an easy to handle instrument for a decentralised use;
- an early assessment of the footprint of a project in the project cycle to influence the decision process;
- an indication of the order of magnitude of the emission impact by focussing only on main emission sources;
- an indication of emissions generated by a project by comparing gross emissions with emissions from a reference situation or estimated baseline;
- a life-cycle-analysis, taking into account construction and operation phases and the global impact of the project over its lifetime;
- effective use of financial resources through the requirement to avoid ‘green-washing’

To structure the use of the tool AFD developed a methodology to ensure transparency and comparability of results across projects, providing specific details on:

- the definition of what is meant by a climate versus a non-climate project, and more specifically by a mitigation project (i.e., a project avoiding more emissions than it generated during its lifetime);
- the scope of the impact assessment (e.g., direct emissions, electricity and heat consumption, indirect emissions);
- the definition of the reference situation;
- possible exceptions due to countries’ international commitments.

AFD’s initiative provides an interesting example of how to define and measure the effectiveness of climate finance and also to better identify what qualifies for “climate finance.” This and other ongoing efforts to measure the impact of financial resources used to support climate projects can help advance understanding and ultimately international agreement on a common definition of climate finance.

Source: Olivier Grandvoinet and Pierre Forestier, “AFD’s experience in carbon footprint”, powerpoint presentation, dated 8 February 2011 and O. Grandvoinet, personal communication, 1 April 2011

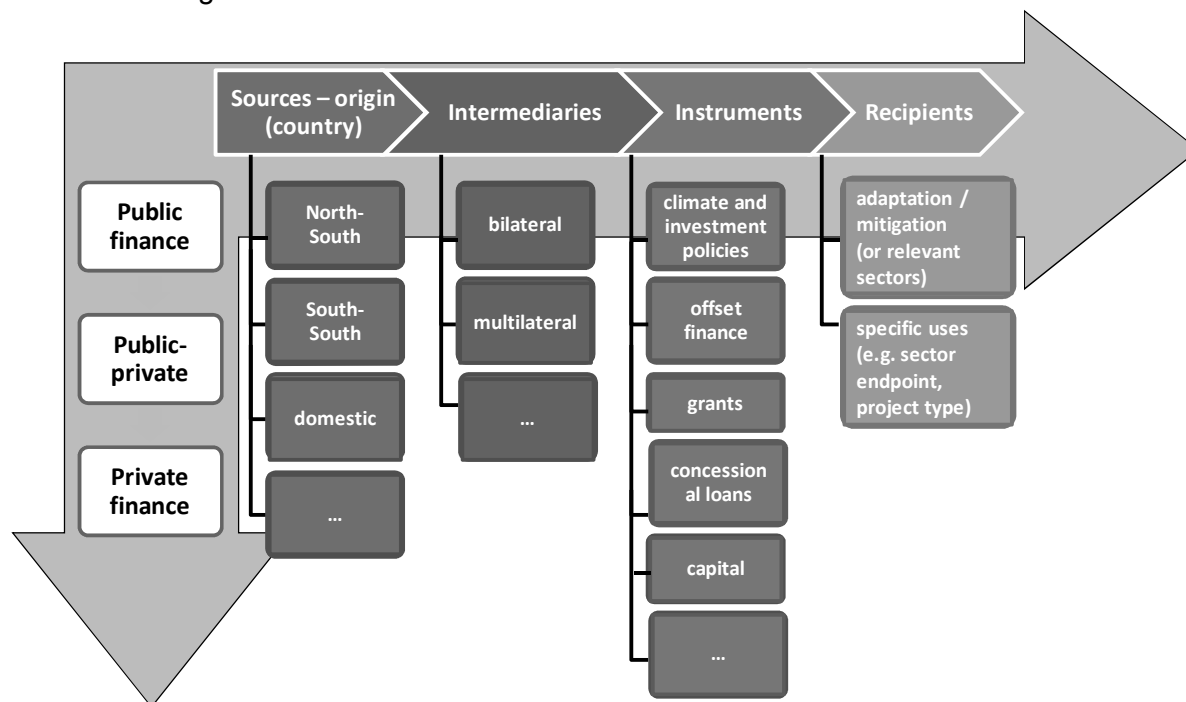
On the horizontal dimension, a first set of questions pertains to geographic origin of climate support and could distinguish between at least three different options:²⁰

- **North-South**, where the finance originates in developed countries and flows to developing countries;
- **South-South**, where the finance originates in developing countries and flows from one to another; or
- **Domestic**, where the finance originates from within the developing country where mitigation taking place.

In practice, Parties have explicitly agreed to track North-South flows but South-South flows are also of growing relevance and a system could be designed to also monitor flows in this area on a voluntary basis.

²⁰ Note flows might also be North-North or South-North.

Figure 2: The horizontal and vertical dimensions of climate finance



Source: Authors

North-South and South-South financial flows can be seen as international sources of finance to support mitigation and adaptation whereas domestic finance is from internal sources and is driven in large part by domestic policy frameworks that constrain or steer investment to climate-friendly outcomes (Kim *et al.* 2009; Corfee-Morlot *et al.* 2009). This occurs as part of the broader enabling environment for investment in a particular national context and allows investment in low or no-carbon technology or infrastructure to be more profitable than it would be otherwise.

International finance flows from the developed to the developing world (i.e., North-South flows) have attracted most attention. Yet, the proliferation of national public funds and the increasing role of South-South flows²¹ indicate the need to also track domestic and South-South finance flows. Kragelund (2010) explores the role of South-South development assistance with the case of Africa, which is characterised by the re-emergence of non-traditional donors including China, India, Brazil and South Africa. While the assistance is still small compared to most traditional donors, the role of South-South development assistance is rapidly increasing. This suggests that non-Annex I countries providing international aid should be encouraged to voluntarily report on the greening of that finance and the extent to which it is supporting climate-friendly outcomes. A full picture of international public support to address climate change will only be obtained with better South-South reporting.

Climate finance typically is intermediated and can flow through several channels and for various reasons, including the expertise and network of the intermediary, legal requirements of finance, transparency concerns, confidentiality, diversification or critical size to benefit from economies of scale. Principal intermediaries are bilateral banks and agencies as well as multilateral banks and agencies and dedicated climate funds that are managed by these intermediaries.

²¹ For example, recent information shows that China lends more than the World Bank. For more information see <http://www.ft.com/cms/s/0/488c60f4-2281-11e0-b6a2-00144feab49a.html#axzz1DkyuY5Dd>. Kragelund (2010: 18) however argues that development assistance from the non-traditional donors is still miniscule compared to the traditional DAC donors, excluding the role of China.

In addition to type of finance and country of origin (or source) of support disbursed, there are other financial elements that need to be tracked. These include data from the recipient country regarding the financial **support received** and **support needed**.²²

UNFCCC reporting requires that Non-Annex I support received is also detailed. In financial terms, Non-Annex I support received includes all international (bilateral and multilateral) public and private support that has been provided to the recipient country to address climate change. Reporting on support received is often referred to as double book keeping and can be used to cross-check or verify support reported by Annex II countries. Non-Annex I Parties must also report their financial needs to the UNFCCC. Non-Annex I financial needs include the incremental and additional costs that must be met to address climate change mitigation and adaptation.

By contrast the vertical dimension of the framework looks at the general type of climate finance, i.e. whether the source of climate finance is public or private or some combination of both:

- Public finance, where the source of mitigation finance is public treasuries and allocation overseen by government functions;
- Private finance, generated through market allocation and triggered by policies that govern the functioning of markets in different areas (e.g. energy markets);

Another important feature of public finance is often its ability to leverage private finance - finance (e.g. in the areas of water, transport or energy infrastructure).

Table 2 illustrates the main issues emerging on the horizontal and vertical dimensions of climate finance and indicates which information is being tracked by what type of information system. It also highlights the knowledge gaps that currently exist. These information systems are reviewed in more detail in the next section.

To capture these dimensions and address the underlying questions, a variety of different types of information and data are needed. This information can be reported in various ways, using several different kinds of metrics, notably both monetary (e.g., financial support for a specific project) and qualitative (e.g. description of the specific objectives of the support activity). The information could also be reported for different timeframes, including the most recent year and multi-period information for certain financial activities.

²² The Cancun Agreements specify that this information is to be included in a registry tool. It is also to be reported in Biennial Reports and national communications. Developing countries may also choose to report on private finance and/or investment received or required.

Table 2: Who is tracking what?²³

Flow of finance	Type of finance	
	Private	Public
North-South	<p>FDI:</p> <p>UNCTAD statistics have broad country coverage for inflows and outflows (however database does not allow tracking of both dimensions the source and destination of the flows; also it has no sectoral detail by country)</p> <p>OECD statistics – allow tracking of source and destination by sector, however only covers OECD countries as “reporting” countries</p> <p>CDM:</p> <p>UNEP-RISO CDM project database however no statistical data on value of investments or even price of CERs; no agreed methodologies for what or how to track finance flows</p> <p>Leveraging of public international finance:</p> <p>MDBs and bilateral donors gather some data and report on leveraging performance of development assistance but no agreed methodologies on how to track this in consistent manner (see Box 4 for one example).</p>	<p>ODA/CONCESSIONAL:</p> <p>UNFCCC (NCs) – Party to Party reporting yet no clear set of definitions on what and how to report on finance related to implementation of the Convention.</p> <p>Global Environmental Facility: detailed data</p> <p>DAC-CRS for all OECD climate finance (ODA, bilateral climate finance tracked through Rio markers). System tracks gross “commitments”. Net disbursements – taking into account repayment by recipient countries – is also tracked but not with respect to Rio markers.</p> <p>MDBs - annual reports and other uncoordinated reporting; no common statistical system across MDBs to track climate finance. MDBs have access to DAC-CRS but have not consistently used Rio Markers to identify climate finance.</p> <p>OOF/NON-CONCESSIONAL:</p> <p>DAC-CRS but no climate tracking (Rio markers currently do not extend to OOF however it is proposed)</p> <p>MDBs – as above</p> <p>OECD Export-Credit database (confidential but aggregate information can be made available; can identify renewable energy and energy efficiency)</p>
South-South	UNCTAD statistics includes inflows and outflows from these countries	No known data system exists; some estimates available from academic literature however often not consistent with DAC definitions so not comparable
Domestic	No known international tracking	No known international tracking

²³ Most systems are designed to report on either outflows by country, inflows by country or possibly both. They are thus relevant to different parts of the UNFCCC reporting needs i.e. what money is flowing from developed to developing countries and what money is being received and used for in developing countries.

Box 3: Measuring climate finance in gross or net metrics

The amount of climate finance could be measured in terms of gross or net metrics. Under the gross approach, flows would represent the resources transferred to developing countries in any given year. These include grants, concessional and non-concessional loans mobilised through the bilateral and multilateral institutions, private capital flows and flows from GHG offset projects (in terms of revenue flows to developing countries from the purchase of carbon credits by developed countries).

Under the net approach, amounts repaid by developing countries would be deducted (e.g. repayments of loan principal, repatriation of capital).

The gross and net approaches serve different purposes, and their use should be clarified in a future MRV system of finance, especially to avoid a mixture of both which would lead to inconsistent aggregate results.

- Gross flows can be used to measure the level of international investment mobilised to address climate change. This investment estimate will enable the assessment of the scale of investment relative to the need to achieve transformation towards a low-carbon, climate resilient future and to drive technological innovation.
- Net flows can be used to assess the net contribution of developed countries to financing investments that address climate change in developing countries. (In this context, flows measured on a gross basis could be considered an over-estimate because developing countries must repay loans over time.)

The current practice for monitoring several international pledges, for example G20 and G8 pledges, is to draw on DAC sector statistics which are available on a gross basis only.

The High-level Advisory Group on Climate Change Financing (cf. AGF, 2010) highlighted different perspectives on whether finance should be measured on a gross or net basis, and also referred to the possibility of measuring the “grant equivalents” of flows. The grant equivalent²⁴ of ODA can indeed be calculated to assess the overall concessionality of donors’ support. However, the grant equivalent does not constitute a “flow” in itself nor does it apply to non-ODA flows. (It cannot be calculated for equity investment, for export credits and private flows more generally because at market terms it is by definition zero.)

The functions and questions outlined as well as related types of information demonstrate the challenge a revised MRV framework for climate finance faces. A variety of information is needed to provide a satisfying and comprehensive picture of support. The next sections will clarify the role of existing MRV channels, including both the UNFCCC national communications as well as non-Party sources.

2.4 Types of international finance

To understand the main issues that a MRV framework for finance needs to track, it is useful to discuss at the outset the sources of climate finance, i.e. whether finance is public or private or some combination of both, and define financial flows in more granularity according to the channels through which they are intermediated.

2.4.1 International public finance

There are several sources of information on public financial support for addressing climate change. The discussion that follows looks first at information available for bilateral financial support, then multilateral financial support, and lastly at data for finance flowing through export credits.

Bilateral climate finance

Bilateral climate finance consists of party to party official development assistance (ODA) – also referred to as “climate change aid” – and other official resource flows (OOF) targeted to climate

²⁴ In DAC statistics, face value of a loan multiplied by its grant element, calculated using a discount rate of 10%.

change mitigation or adaptation. The boundary of ODA has been carefully delineated in many fields. In general, in order to qualify as ODA, financial flows must meet three criteria:²⁵

- They must be addressed to countries and territories on the DAC List of ODA Recipients²⁶ or to multilateral development institutions;
- They must be provided by official agencies, including state and local governments, or by their executive agencies; and
- They must aim at the promotion of the economic development and welfare of developing countries (defined here as those eligible to receive ODA) as their main objective; and be concessional in character and convey a grant element of at least 25%.

For more than a decade, the DAC has monitored climate-change specific aid using a policy marker for climate change mitigation. Activities targeting the objectives of the UNFCCC are identified using the so-called “Rio Markers”, which screen for policy objectives that have a cross-sectoral nature including climate change, biodiversity, and desertification. According to the Rio Marker definition on climate change mitigation-related funding, an activity should be classified as climate change-related if ‘it contributes to the objective of stabilisation of greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration.’²⁷ From 2009, a new policy marker is in place to track ODA in support of climate change adaptation. Aid that is targeting both mitigation and adaptation objectives can be simultaneously marked for both to reflect this overlap in objectives. These flows are separately identifiable in the CRS database, and will not be double-counted when aggregating “climate change” aid. Users of the CRS database will need to be alerted that total amounts targeting the each of the two objectives (adaptation and mitigation) should not be added up to avoid double-counting.

Official development flows that do not meet the concessionality criteria are classified as OOF. These flows, standing somewhere between pure aid flows and the profit-seeking private flows, may be instrumental to combat climate change, particularly as they are often designed to support private investment and market activity that can ultimately drive long-term change. For example, in the United States the development finance institution of the Overseas Private Investment Corporation (OPIC) provides innovative financial solutions, including debt financing, political risk insurance, and support of private equity investment funds in emerging markets to support US companies operating abroad. While detailed data are lacking on how these flows target climate change, non-concessional public sources of finance in the aggregate are estimated to be significant (see for example AGF, 2010b).²⁸

Multilateral climate finance

Public financing also flows through multilateral development bank and multilateral agency channels. Multilateral institutions are an important channel for DAC member countries’ ODA. They offer the advantage, particularly for smaller donors, of being able to mobilise significant volumes of resources and to broaden development objectives. Money that flows to these intermediaries includes proceeds of

²⁵ Cf. <http://www.oecd.org/dataoecd/21/21/34086975.pdf>

²⁶ This list is available at www.oecd.org/dac/stats/daclist

²⁷ More information is provided on www.oecd.org/dac/stats/rioconventions.

²⁸ Reporting by Bilateral Financial Institutions (BFIs) can add more detail to the values reported in the public domain, given that BFIs themselves have a better understanding of their climate finance and climate-relevant lending. As a consequence, a more accurate classification of financial flows is possible than what it is possible to obtain through the automated coding system of the OECD DAC. Yet, given that the judgments are often based on common sense, the comparability of finance flows across different source institutions becomes challenging when resorting to their own individual data sources. For a mapping of selected BFIs’ financial commitments for climate change mitigation and adaptation, including non-concessional official flows, for the years 2008 and 2009, see Atteridge *et al.* (2009) and UNEP (2010).

major borrowing programmes, gross income from loans, investments and shareholdings and direct contributions from donor countries to specific disbursement programmes. In addition, these actors raise finance on capital markets, from a mix of public and private investors.²⁹ For an overview of the role and functions of these institutions see e.g. World Bank (2010b).

Within multilateral development banks' main lending portfolio, financing can be at concessional ("ODA-like") or non-concessional terms. For example, the World Bank group is a consortium of different funding arms, some of which provide concessional finance and some do not. The Bank can provide loans from the International Development Association (known as IDA loans), which are concessional and provided to the poorest member countries of the Bank. The Bank can also provide loans through the International Bank for Reconstruction and Development (known as IBRD loans), and these are offered at market-rates to middle-income and credit-worthy poorer countries, and are classified as non-concessional. Both IDA and IBRD lending can have climate-specific co-benefits.

MDBs report on how they use their capital through the DAC-CRS. In principal both ODA and non-concessional development finance can be reported under the DAC-CRS however MDB use of the system has not been systematic and the data are thought to be incomplete. Not only have the Rio markers not yet been widely used by the MDBs, the markers also do not extend yet to OOF (though there are plans to do so).

Outside the main development and lending portfolios, multilateral development banks also sometimes manage dedicated multilateral climate change funds and carbon funds. The number of dedicated climate change funds managed by multilateral development banks is growing. These include for example the Climate Investment Funds, the GEF Trust Fund, or the Congo Basin Forest Fund managed by the African Development Bank, and are targeted at mitigation and adaptation activities in developing countries and tend to be highly concessional (often grant-based). However there is currently no harmonised system operating across these funds to track commitments or disbursements of funds.

Finally, MDBs also manage carbon market funds³⁰. Carbon market funds are investment schemes that either aim to purchase carbon offset credits or invest in projects that have the potential to reduce greenhouse gas emissions and thus generate carbon assets. Such funds do not provide concessional finance but are market-based transactions. Nevertheless they are often a mix of public and private funds and transactions undertaken through these funds can be expected to leverage private investments in CDM or other carbon offset projects in developing countries (see below). As noted above, tracking financial flows related to these funds remains an open challenge as there is no international agreed methodological approach or reporting system in place.

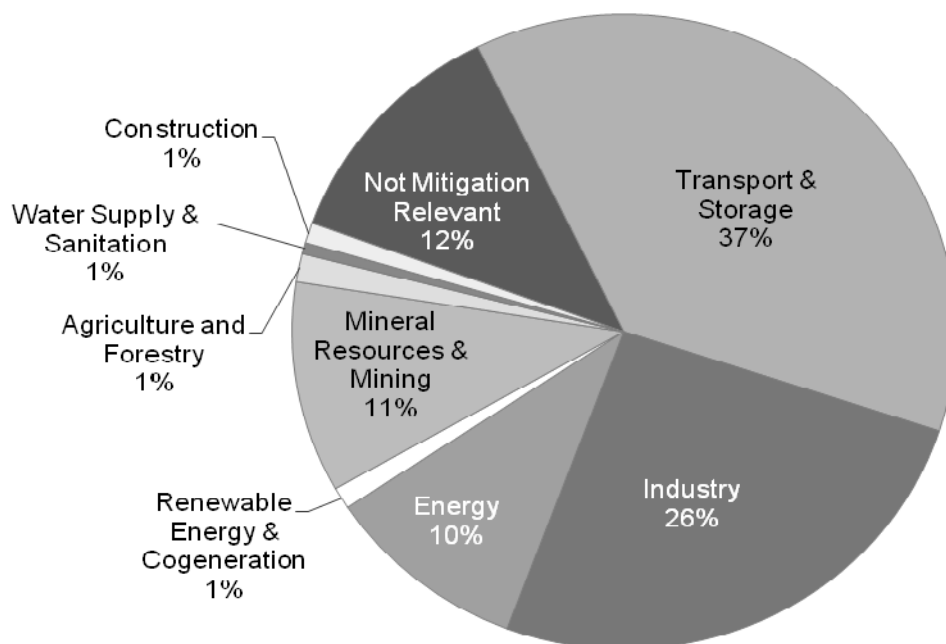
Export credits

The term export credits in this report refers to three types of export credit flows: (i) official direct export credits (loans provided directly by a government), (ii) private export credits with repayment insurance provided by the government, and (iii) private export credits with repayment guarantee provided by the government. In international financial statistics (i) is classified under official flows and (ii) and (iii) under private flows; all three are jointly referred to as "official or officially supported export credits". The rationale for considering them jointly is that direct export credit financing, export credit insurance and export credit guarantees all have essentially the same effect. (The government intervention facilitates a credit in support of an export transaction by assuming the risk of non-repayment in all cases.)

²⁹ For example, investors who purchased IBRD green bonds between 2008 and 2010 included the state of California, public pension funds, NGOs, private banks and life insurance companies (WB, 2010).

³⁰ Amongst these carbon funds are the Forest Carbon Partnership Facility (FCPF) and the Carbon Partnership Facility (CPF). For more information see <http://www.climatefinanceoptions.org/cfo/node/38>

Figure 3: Official and officially supported long-term export credits from OECD countries to developing countries, new commitments by sector (2002-2009): 18 billion USD/year (average)



Source: OECD ECA data 2010

Currently available data on the sectoral breakdown of export credits suggests that this form of financing may provide a vehicle to stimulate private investment in developing countries in low carbon development. Over the last years, the majority of the medium and long term official export credit flows that go from OECD governments to developing countries have supported the transport (37%) and industry (26%) sectors, followed by energy projects (11%) of which about 1% is estimated to go to renewable energy and energy efficiency in the power sector. While no information is available on the carbon-intensity of these projects overall, it is striking that projects supporting renewable energies and cogeneration/district heating represent only a minor share of official export credits to the energy sector (USD 0.2 billion on average per year over the period 2002-2009) (see Figure 3).³¹

By comparison to official or officially supported export credits, private export credits differ. Private export credits occur among exporters, importers and financial institutions on commercial terms and are without direct or indirect government involvement; they are part of normal market transactions. No aggregate data are available on these at present.

2.4.2 Private flows

As with public financial support to address climate change, there are many sources and types of international and domestic private finance to support climate action. This section is organised considers three main categories: private finance through the carbon offset market, foreign direct investment, and other private flows, including domestic and other public-private investment.

Carbon market finance – resources for purchasing offsets in developing countries

Offset markets, mostly consisting of the Kyoto Protocol's Clean Development Mechanism (CDM) and the voluntary carbon market, may be considered a source of public-private climate finance, where project development or market activity leads to some amount of finance and investment flowing from

³¹ Interestingly the amounts going to this cluster of clean energy activities rose dramatically in 2009 to about 0.7 billion. With time, it will be possible to see whether this represents a persist shift in flows in this area or not.

developed (Annex I) to developing (non-Annex I) countries³². Private money (and some amount of government funding) is increasingly invested in specific offset projects aimed at addressing climate change. These investments represent both North-South flows and domestic flows. A significant share of all CDM capital is invested in unilateral projects for which project proponents in the host country bear all the costs before selling the related credits (UNFCCC, 2007a). This discussion focuses on CDM given that it constitutes the largest part of the offsets market, is most relevant to North-South financing flows, and has the best available information.

One way to assess CDM is by the primary transaction value of the CDM certified emission reduction units (CERs) that are generated by the corresponding CDM projects and purchased by developed countries (therefore representing North-South finance flows, even for projects unilateral projects – those that have received domestic project investment). The total monetary value of primary transactions in CERs can be estimated using market prices of CERs and volume of CERs generated in any one year. Based on the different available data sources, CDM is estimated to provide between USD 1.7 and USD 1.9³³ billion in value of CER holdings in 2009. Primary CER contracts are negotiated confidentially between parties, with price dependent on project type, political risk and other factors. There is therefore no internationally agreed figure for primary CER value. These value of CER holdings are obtained by applying the reported average annual primary carbon offset prices to the annual volume of offsets issued.³⁴ Also, the CERs essentially measure a part of return on CDM investment, as opposed to the amounts invested, which would be a more comparable metric given the other financial flows discussed in this paper.

Another way to understand the finance flowing through CDM is to focus on investment flows associated with CDM projects. However, while there are a few efforts to assess annual investment flows into the CDM, standard methodologies to do so are lacking. This paper draws on previous analysis (Haïtes 2011; Corfee-Morlot et al. 2009; Seres and Haïtes 2008; UNFCCC, 2007a) updating it with data for 2010; it is based on investment estimates constructed on the basis of project documents (PDDs³⁵) and reported values of anticipated investment by project type work (see below). Analysis points to a lag of almost one year between when projects enter the pipeline and are actually registered, showing that the amount estimated to be invested in projects implemented during 2009 (about USD 11 billion) is significantly lower than the amount for projects registered during the same year (about USD 27 billion) (see Figure 2). Investment may not occur during the year a project is registered, as there is a lag between project registration and its implementation³⁶.

While investment in CDM projects (either registered or implemented) is potentially more interesting and comparable as a metric of flows than is the estimated value of CERs in any one year for CDM, the investment estimates are not necessarily North-South. It is estimated that roughly 50% of CDM projects are unilateral (UNFCCC, 2007a), where investment sources are largely domestic³⁷.

³² According to the AGF the 2 percent levy on the CDM which is transferred to the Adaptation Fund could become an innovative source for climate finance as well. The World Development Report 2010 expects the levy to raise between \$300 million and \$600 million over the medium term (2008-2012), depending on the carbon price.

³³ The lower bound is based on the figure of issued CERs by the UNFCCC, and the upper bound is based on figures from IGES (figures from UNEP-Risoe lay in the middle of these two ranges). The primary CER price is based on the World Bank State and Trends of the Carbon Markets 2010 (World Bank, 2010a).

³⁴ For a detailed explanation of the calculation see Buchner *et al.* (2011).

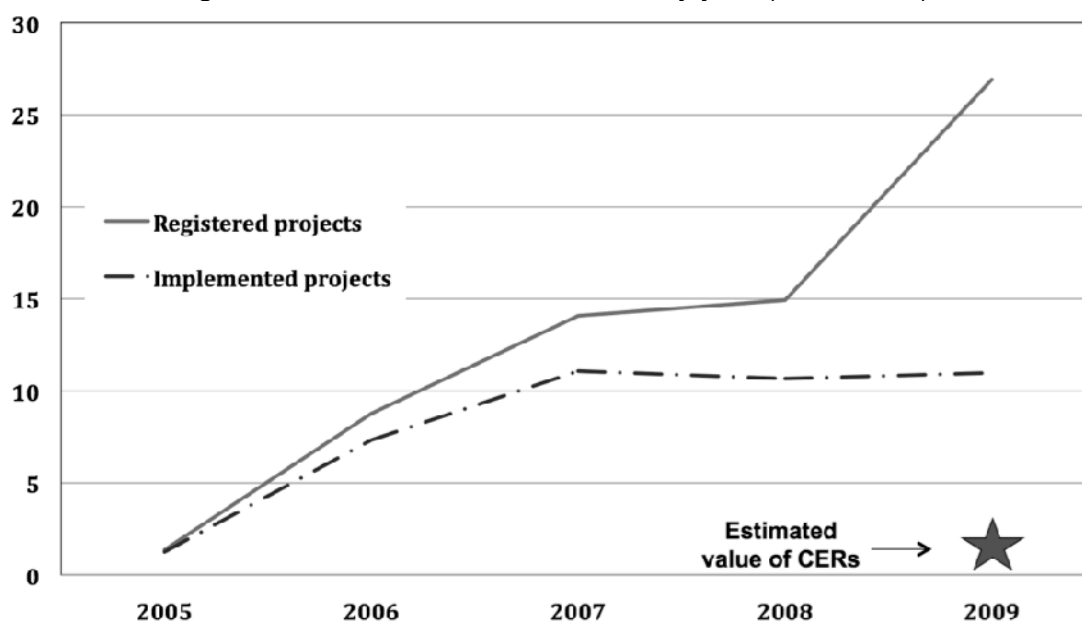
³⁵ It should be noted however that PDD investment data can often be unreliable given the incentive to inflate costs to improve the financial additionality argument.

³⁶ However the investment can also – and often does – occur before the year of registration, due to the slow registration process.

³⁷ Lütken (2010) estimates that this figure is even higher in China: state-ownership for Chinese CDM projects are estimated to be about 90%.

Accounting for CDM investment flows alongside FDI would also risk double-counting private flows unless they were reconciled.

Figure 4: Estimated CDM investment by year (billion USD)



Source: Investment data: personal communication, E. Haites, S. Seres, G. Kirkman, Oct 2010. CER estimates from Buchner *et al.* (2011)

Foreign Direct Investment (FDI)

FDI is defined as an investment made by a resident entity in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) resident in another economy (UNCTAD 2010; OECD 2010a). An increasing role is being played by South-South and South-North FDI. Recent OECD estimates suggest that the non-OECD G-20 countries (namely Argentina, Brazil, China, India, Indonesia, South Africa – excluding Saudi Arabia) account for FDI outflows that are on the order of 10% of outflows from G-20 OECD countries.³⁸

In looking at climate change relevant financial flows from developed to developing countries – or those representing investment in the emitting sectors (e.g. energy, industry, construction, water, transport, etc) – FDI is the largest source of financing across all public and private sources.

FDI can play an important role in addressing climate change by supporting the diffusion of environmentally-friendly technologies and industries. However, there is no readily available set of statistics that matches these two categories. As a consequence, OECD analysis proposes the definition of a range that frames green FDI. As proxies for the lower and upper bounds of this range, narrow and broad definitions of green FDI are suggested. The narrow definition is limited to FDI in a few industries or sectors where one objective of the investment is to reduce environmental harm (e.g. renewable energy, environmental services such as waste management and recycling), while the upper bound includes all FDI in mitigation-relevant sectors, i.e. in which FDI could potentially contribute to energy efficiency and pollution reduction (i.e. agriculture, manufacturing, mining, forestry, transport, construction and energy).

³⁸ Data are available from the OECD website – see: www.oecd.org/investment/statistics; also [most recent FDI statistics for OECD and G20 countries\(xls\)](#)

So far there is limited information on the scale of “green” FDI, also due to a lack of an internationally agreed definition and comparable data on green FDI (OECD, 2010a). This is discussed further in Section 3.1.6.

Other private, including domestic and other public-private investment

Private finance to address climate change uses more channels than CDM and FDI, and does not only originate in developed countries. These additional flows comprise money raised through global capital markets, through domestic finance channelled through specific projects or programmes (e.g. unilateral CDM project investments).

Global capital markets raise money from institutional and individual investors with a view to invest in various forms of investment vehicles (equity, debt and structured finance). In this way, governments, MDBs, BFIs and multinational companies, are able to raise capital from private sector including those actors specifically investing in climate finance or clean energy technologies. Data sources include major financial data providers like Reuters and Bloomberg New Energy Finance, and a database maintained by the IFC.³⁹

Developing country investors have emerged as a major source of investment finance in many mitigation relevant sectors (OECD, 2006; Schur *et al.*, 2008), both providing domestic money and South-South FDI (Kragelund, 2010). South-South investment flows are increasingly gaining in importance, but a significant amount of information is required to identify their scale. In addition, domestic and international investments in developing countries’ infrastructure add an important element in the climate finance flows, and available information suggests that both public and private capital play an important role (cf. Corfee-Morlot *et al.*, 2009 based on data by the World Bank).

3. A review of existing information systems and reporting mechanisms

With the ultimate aim to create one integrated and comprehensive MRV system, Section 3 describes the existing picture of climate finance information systems. This section examines sources and flows of finance along the dimensions identified above. The discussion is organised by sources and types of financial support, starting first with public sources, moving onto private and finally public-private financial support. The review that follows provides an overview of these areas, and is based on a detailed analysis of existing reporting systems and processes (cf. Buchner *et al.*, 2011). Current reporting and information systems related to climate-related financial flows is reviewed to understand how and by whom financial flows tracking is currently taking place, and to identify strengths and weaknesses of existing systems.

The section firstly describes existing reporting systems, and looks at ways to improve and expand the current reporting systems as they stand, focusing on recommendations to improve (1) reporting inconsistencies and data gaps, and (2) methodological and measurement issues, and where appropriate including a suggested template for reporting. Finally, outstanding challenges are identified.

3.1 Existing reporting systems and their strengths and weaknesses

The various financial flows introduced in Section 2.4 are captured in different financial reporting systems. For public international climate finance, there are two main information systems in the public domain that provide comprehensive data on these financial flows: the UNFCCC reporting

³⁹ IFC tracks the development results of all active investments throughout their project lives. For more information see <http://www.ifc.org/results>

system and the OECD Creditor Reporting System (CRS). Multilateral institutions and dedicated research organisations add detail and clarity to the data captured in these major information systems.⁴⁰

3.1.1 UNFCCC national communications (NCs)

The current reporting framework for support established under the UNFCCC and its Kyoto Protocol requires Annex II Parties (OECD countries) to periodically report information on bilateral financial support for mitigation and adaptation in developing countries. Non-Annex I countries are also requested to provide information on the support received from the GEF, Annex II countries or bilateral and multilateral institutions (such as the World Bank Group, United Nations programs, etc). This information system could provide an important element in the tracking of public climate finance and illustrates the scale of money provided by Annex II Parties for mitigation and adaptation, and for specific sectors within these two areas.

However, the present framework has many weaknesses. In particular, it does not provide comparable data nor on the amounts of capital disbursed or received; whether their uses are effective; what level of support is directed to specific categories, sectors and technologies (both in the context of mitigation and support); or whether there is any matching between parties' support needs and support provided (UNFCCC 2011). For example recent analysis point to discrepancies in financial information reported through national communications compared to what is reported by the same party through the OECD DAC system (Enting and Harmeling 2011; see also below). These shortcomings impede national communications from helping steer the provision of support to the most needed areas and its most productive uses, and hinder them from demonstrating whether Annex II parties are meeting their commitments to provide support.

The current UNFCCC reporting framework for financial support is based on the guidelines for national communications, which are relatively old for both Annex I countries (last revision 1999: UNFCCC, 1999) and non-Annex I countries (last revision 2002: UNFCCC, 2002). As a consequence, the provisions for reporting support are out of date in various respects. While the UNFCCC requires that all parties to prepare national communications to report on the activities they are undertaking to implement the Convention, including on financial resources and other support activities, current reporting guidelines require different types of information from developed and developing countries. Most importantly, while developed countries listed in Annex II of the Convention are required to include detailed information on the provision of financial support in their national communications, partly in a common reporting format, the guidelines for non-Annex I national communications mainly encourage parties to provide information on various aspects related to financial support, capacity building and technology transfer without requesting information on the extent of support received for such activities.

Annex II countries typically report extensive data under the section related to support, including quantitative data on the provision of financial resources by country and by sector, along with a qualitative description of programmes and projects supported (cf. UNFCCC, 2007b). However, while many Annex II parties have in general taken steps to improve the quality and transparency of their reporting on financial and technology actions in their Fifth national communications, the usefulness and comparability of this information is still limited, for a number of reasons that will be discussed below.

The current reporting categories, as specified by the guidelines, are also inconsistently used by Parties, leading to the patchy reporting of several required categories, such as private sector engagement by Annex II countries or of support for technologies and endogenous capacities of Non-Annex I countries (UNFCCC 2005, 2007b). Reporting deficiencies include the incoherent use of

⁴⁰ The ODI Climate Funds Update and from individual funds themselves can provide further information on climate funds related to multilateral institutions. A notable example is the database maintained by the GEF (see <http://www.gefonline.org/>).

reporting years or reporting periods as well as the inconsistent use of common formats to report information on bilateral support. In addition, the guidelines include an outdated list of multilateral institutions and programmes, so do not account for more recent initiatives (e.g. further specific dedicated climate funds by MDBs). Some Parties themselves emphasise difficulties related to the reporting guidelines and stress the need to improve them.⁴¹

Given the context of the Cancún Agreements, which mandates the drafting of enhanced guidelines for UNFCCC national communications, including a common reporting format (see Annex I), this section provides the necessary detailed recommendations to improve the current guidelines and reporting system. Building off the strengths and weaknesses of the reporting systems identified above, the following main revisions are suggested.

Recommendations to minimise reporting inconsistencies and data gaps

NCs and biennial reports need to adopt a more systematic reporting approach. Reporting guidelines need to become more comprehensive in terms of financial support and flows reported. This includes reporting by Annex I parties that are not Annex II parties as well as non-Annex I parties that are currently providing support (South-South flows). A revision of the guidelines needs to take into account existing gaps in information. For example, Annex I countries not included in Annex II of the Convention are not required to report on financial support to climate change-related activities in Non-Annex I countries (although some do), and there is no common reporting format for non-Annex I countries to provide information on their needs for and receipt of financial resources and technical support from various sources (see Ellis *et al.* 2011).

Additionally, reporting guidelines generally need to request greater detail on key support metrics, divided between mitigation and adaptation support, according to different sources, channels, recipients/endpoints, sectors, etc. in order to address current weaknesses. For example, for adaptation, categories could be expanded to include health, energy, forestry, agriculture, water, etc. as well as using the existing categories of capacity building, coastal zone management, and other vulnerability assessments. This would allow information reported to capture all major sectors receiving support to build climate resilience. Guidelines also need to improve clarity regarding reporting on whether funds have been committed or disbursed, to understand the phase of project implementation.

The Cancún Agreements recognise the shortcomings of the current reporting under the UNFCCC and have strengthened the frequency and coverage of reporting (see Annex I of this paper), calling for a revision of the guidelines and more frequent reporting under countries' biennial reports and the registry of NAMAs. The main outstanding issue is how to use these different vehicles to ensure that they build on and complement each other. As previously discussed (Ellis *et al.*, 2010a), reporting information that can change more regularly, such as finance needs and delivery, is more usefully reported biennially in a more strategic, summary form, while national communications can provide more in-depth information every four to five years.⁴²

⁴¹ For example, in its Fifth National Communication which was published in 2010 (cf. http://unfccc.int/resource/docs/natc/aus_nc5.pdf), Australia improved the clarity of categories of assistance, but specifically mentions the danger of incomplete reporting as well as over-reporting given other initiatives, suggesting to establish and implement a definitive set of markers to facilitate and improve future national communications through the UNFCCC to enhance the quality and usefulness of national communications.

⁴² Ellis *et al.* (2011) discuss the role biennial reports could play.

Recommendations to address methodological and measurement issues

One important methodological issue common to all existing reporting systems is how climate finance is strictly defined. Reporting of climate finance would be made more consistent and comparable if national communications (as well as the biennial reports and the registry) were to use clearer and comparable definitions and classifications. Ideally standard definitions and categories of climate finance would be agreed and adopted by the international community notably by all reporting parties and entities. Instead, Parties are allowed to use their own methodologies or approaches to specify information on support in the NCs and making it difficult to compare information reported .

A common methodology and measurement approach will allow for comparability of data across contributors, as well as comparability of data between support provided and support received. Classifications of data and methodologies for measuring climate-specific support should be streamlined with other systems such as the OECD DAC Rio markers, to allow for comparability and verification.

As noted, within NCs, there is no clear-cut definition of mitigation and adaptation finance that allows for quantification of financial support to these individual areas. Tracking adaptation finance may be particularly difficult given that support for adaptation is highly contextual and covers a broad diversity of activities which significantly overlap with traditional development activities. As Tirpak et al (2010) point out, guidelines for reporting adaptation support must be carefully designed so as not to overestimate support going to adaptation.

The OECD DAC Rio Marker for adaptation could provide useful lessons for furthering a common definition and means to tracking adaptation finance. In this context, climate change adaptation-related aid is defined quite broadly as activities that aim “to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience”.⁴³

There is also no common definition or a lack of quantitative metrics for activities that leverage private investment. Such metrics should be developed and adopted, along the lines discussed in section 3.2 and recent discussions (cf. AGF, 2010; Brown and Jacobs, 2011; Hosier *et al.*, 2010), for use in the NCs and BRs. (For a recent example see Box 4.)

⁴³ Cf. www.oecd.org/dac/stats/rioconventions

**Box 4: ADB financing practice in addressing climate change
-- leveraging private sector participation**

The Asian Development Bank (ADB) takes the lead role in helping the Asia-Pacific region mitigate the causes and adapt to the consequences of climate change in its Developing Member Countries by expanding the use of clean energy,⁴⁴ among others.

Among the available financing for clean energy investments is the Clean Energy Financing Partnership Facility (CEFPPF). ADB established the facility in 2007 to help improve energy security in its DMCs and is composed of three funds: the multi-donor Clean Energy Fund supported by the governments of Australia, Norway, Spain, and Sweden; the single donor Asian Clean Energy Fund supported by the government of Japan; and the newly established Carbon Capture and Storage Fund supported by the Global Carbon Capture and Storage Institute of the government of Australia.

Since its establishment, CEFPPF had allocated USD 64 million to 69 projects. In the year 2010 alone, the CEFPPF had allocated USD 35.8 million to 34 projects. It has catalysed USD 547.8 million of clean energy investments resulting to a leverage ratio of 1:15. The projects are expected to contribute 6.1 terawatt-hour of energy savings and 5.1 million tons of carbon dioxide (tCO₂) emissions reduction per year.

The CEFPPF clean energy leverage ratio is computed by taking the total volume of CEFPPF clean energy allocations in proportion to the total volume of investment that is attributable to the clean energy components of the CEFPPF investment. The total volume of CEFPPF clean energy allocations considers all Grant Component of Investments, Technical Assistance Linked to Loan, Technical Assistance, and Direct Charges allocations - but only the clean energy components that are attributable to the CEFPPF financing are considered. The amount of total clean energy investment is stated in the proposal requesting CEFPPF clean energy assistance. The amount identified by the project team leader is also indicated in the application form and concept paper submitted for consideration. If the clean energy investment component is not yet identified in the project documents, ADB's "Framework for Estimating, Designing and Monitoring Clean Energy Projects (Draft)"⁴⁵ is used where estimates are based on a review of ADB's loans with CE investment components from previous years.

Recognizing the private sector's role in clean energy development, ADB is working on making clean energy a priority for private investment. In 2010, of the eight private sector project loans (amounting to USD 756.1 million), 80% is dedicated to clean energy investments (USD 607.4 million). Two of these private sector projects had allocations from the CEFPPF amounting to USD 2.592 million directly resulting in clean energy investments of USD 153.2 million. Moving forward, CEFPPF will continue to enhance private sector participation in expanding CE investments in the region and contribute to ADB's target of increasing CE investments to \$2 billion per year starting in 2013.

Source: Xuedu Lu and Robert J. Dobias, Asian Development Bank, personal communication.

3.1.2 The OECD "Rio Markers" for climate change support

The OECD DAC collects much of the same data from donor governments as what is requested through NCs. Specifically, countries report national data on official development assistance (ODA) and other official resource flows in their Creditor Reporting System (CRS). Following review and limited verification, data collected are made publicly available in the form of an open access database i.e. publically accessible from the internet. The CRS system is a statistical system established for the purpose of analysing financial flows to ODA-eligible countries, with a particular focus on aid allocations and trends.⁴⁶

⁴⁴ Clean Energy in ADB includes initiatives in renewable energy, energy efficiency and cleaner fuel areas.

⁴⁵ Guidelines for Estimating Asian Development Bank (ADB) Investments in Renewable Energy and Energy Efficiency Projects (Draft) at: <http://www.adb.org/Documents/Clean-Energy/Guidelines-Estimating-ADBInvestments.pdf>. This document is presently being updated.

⁴⁶ OECD DAC members report aid flows to this system at the activity level. There are currently 24 members of DAC, including the European Union Institutions (or 23 countries that are a sub-set of the 34 OECD Member countries); the EUI acts as a full member of the committee, although not being a member state in the judicial

The CRS is by far the most comprehensive system for tracking aid flows related to climate change. Data on bilateral flows in support of climate change mitigation have been collected for the last 10 years (as part of the regular reporting system since 2007). Since 1998, the DAC has monitored climate-change-related aid flows using the 'Rio Marker' for climate change mitigation (see also section 2.4.1). Donors are required to mark each funded project or programme as either (i) targeting climate change as a 'principal objective' or (ii) a 'significant objective',⁴⁷ or (iii) not targeting the objective. In 2009, the DAC also developed a new policy marker to track ODA in support of climate change adaptation; data on adaptation will become available as from 2010 flows. The Rio Marker system allows for a range of estimates of climate finance to be extracted, both by sectors and by recipient country or region. It provides important information on the order of magnitude and the trends in climate aid extended by DAC members to countries and territories eligible to receive ODA.⁴⁸

The Rio markers are currently applied to ODA only, but discussions are ongoing to expand the marker system to other official flows (OOF). According to an issue paper prepared for the DAC Working Party on Statistics (WP-STAT)⁴⁹, the OECD Development Co-operation Directorate (often referred to as the DAC Secretariat) was requested to work on the issue of expanding the field of application of the climate change Rio markers (and logically all the other Rio markers) to non-ODA official flows. The issue paper proposes to modify the reporting Directives to this effect; the proposal will be considered by the WP-STAT in June 2011. It is expected that this expansion of the Rio marker system could result in more comprehensive data on climate finance relatively fast. These flows are already reported to the CRS at activity level⁵⁰ in the same way as ODA. In fact, several agencies extending OOFs already apply the markers to all their projects and some even report these to the CRS (e.g. Agence Française de Développement).

The CRS database also tracks data on government core contributions to multilateral institutions, but these are not marked for climate change. However, contributions to a number of multilateral climate funds (e.g. LDCF, SCCF) can be identified through the so-called channel of delivery classification. Moreover, the CRS database does allow for and encourage voluntary reporting by MDBs or other multilateral development institutions of their outflows to climate related projects, applying the Rio markers.^{51,52}

meaning of the term. The 24 DAC members are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States, European Union Institutions. The non-DAC donors reporting on their ODA include Chinese Taipei, Cyprus, Czech Republic, Estonia, Hungary, Iceland, Israel, Kuwait, Latvia, Liechtenstein, Lithuania, Malta, Poland, Romania, Saudi Arabia, Slovak Republic, Slovenia, Thailand, Turkey, United Arab Emirates. Apart from the UAE, these donors report their aid flows aggregated by recipient. (Those underlined in the list are OECD Member countries but not DAC members; of OECD Members, only Chile and Mexico are neither DAC members nor do they report through the DAC system).

⁴⁷ The difference between targeting climate change as a 'principal' or 'significant' objective is that the first implies that assistance would not have been given but for that objective, while the latter means that the assistance has been formulated or adjusted to help meet the objective.

⁴⁸ These consist of all low and middle income countries, except G8 members, EU members, and countries with a firm date for entry into the EU.

⁴⁹ DCD/DAC/STAT(2011)2.

⁵⁰ An aid activity can take many forms, including a project or a programme, a cash transfer or delivery of goods, a training course or a research project, a debt relief operation or a contribution to a non-governmental organisation. The CRS database covers all these forms, but some of them may have been grouped to facilitate database management. For more information see http://www.oecd.org/document/50/0,3746,en_2649_34447_14987506_1_1_1_1,00.html

⁵¹ The climate-specific portion of multilateral ODA could however be imputed through the percentages that climate-specific flows represent in multilateral outflows, which are specified with the Rio markers.

⁵² Rio marker data are currently received from the European Union and the World Bank.

With regard to the definition of multilateral and bilateral finance, projects executed by multilateral institutions *on behalf of* DAC members are classified under bilateral aid, since it is the donor country that effectively controls the use of the funds (OECD 2008). Care should be taken to ensure this flow is not double counted in estimates of multilateral climate finance flows.

Despite its strengths, the DAC system of Rio Markers also has a number of weaknesses. The Rio Markers do not allow exact quantification of amounts allocated within projects specifically to address climate concerns but instead provide an indication of the extent to which donors address the objectives of the Rio Conventions in their aid programmes. There is thus significant room for interpretation and also opportunity for error.⁵³ A marker for adaptation has been included only in 2009; while the initial Rio markers did not explicitly exclude adaptation projects, rendering the distinction between adaptation and mitigation for the past years could only be attempted by review of individual project details and even then may not be possible.

Recommendations to minimise reporting inconsistencies and data gaps

Statistical presentations of DAC members' aid flows targeting Rio Convention objectives have to date only related to bilateral aid, not multilateral flows. In order to provide a more complete picture, multilateral contributions should also be taken into account. The OECD Working Party on Statistics propose a possible approach to classifying and reporting both bilateral and multilateral climate finance in the future (in their technical document DCD/DAC/STAT(2011)11). The approach would separate out the following bilateral and multilateral climate finance flows⁵⁴:

- Figures on **bilateral** climate aid, based on DAC members' reporting through the Rio markers
- DAC members' **multilateral contributions to specific climate funds** to be represented separately (a few funds are already identifiable in DAC statistics using the channel codes on multilateral aid, but the system would need to be adapted to cover other funds as well).
- As regards the share of **DAC members' general multilateral contributions** to the GEF, UN agencies, and multilateral development banks that can be attributed to addressing climate change, this could be estimated by the DAC Secretariat using a standard imputation methodology⁵⁵, provided that the institutions concerned make the relevant information on their outflows available.

The CRS could further be strengthened by demanding stronger consistency in project descriptions. This would require improved capacity and training for data coders. Related to the need to strengthen project descriptions and given the rise in dedicated bilateral and multilateral climate change funds⁵⁶, CRS could request a clearer indication of bilateral flows through specific fund or initiative, as part of the channel codes.

The CRS could also work towards increased integration of non-DAC emerging donors on a voluntary basis to increase the comprehensiveness of the donor database and allow for improved comparability

⁵³ For a discussion of some of the issues with respect to coding errors see Michaelowa and Michaelowa 2011 and Enting and Harmeling 2011. The OECD DAC statistical team has in turn benefited from information gathered by researchers in this area to work with countries where errors were identified and correct statistical entries. It also led to an exchange between DAC Secretariat and the researchers about methodological issues, with the DAC team suggesting that some of the conclusions in Michaelowa and Michaelowa should be revised. This constructive and iterative process between the research community, the statistical agency and the national statistical contact points is made possible by the "open access" to data inherent in the design of the OECD system.

⁵⁴ See Table 4 in DCD/DAC/STAT(2011)11 for a visual representation of this approach.

⁵⁵ See for example OECD's methodology for calculating imputed multilateral ODA: http://www.oecd.org/document/54/0,3746,en_2649_34447_41037110_1_1_1_1,00.html

⁵⁶ See Climate Funds Update for comprehensive list of dedicated bilateral and multilateral climate change funds: www.climatefundsupdate.org.

across and between DAC and non-DAC donors. As of 2010, 20 countries outside the DAC's membership reported their development assistance flows to the DAC *aggregate database* to a varying degree, including Chinese Taipei, Thailand, Turkey, and the UAE⁵⁷. The UAE's Office for the Co-ordination of Foreign Aid, which was established in 2008, started reporting *activity-level data* to the CRS database in 2009. It is the first and only country outside the DAC's membership to have done so (Tirpak et al, 2010). At present, only DAC Members – 23 countries and the EUI -- use the climate change mitigation marker (see footnote 46 for a full list). However, once a country reports data at the activity level in the format required by the CRS, using the Rio markers is a relatively straightforward next step. Therefore, OECD could encourage all donors to report using the markers.

Recommendations to address methodological and measurement issues

Despite being a relatively well developed statistical system, there are a few key issues that the DAC CRS could improve upon to help move towards a more precise quantification of climate finance.

Box 5: OECD DAC CRS commitments vs. disbursements

Commitments measure donors' intentions and permit monitoring the targeting of resources to specific purposes and recipient countries. They fluctuate as aid policies change, and reflect how donors' political commitments translate into action. They thus give an indication about future flows.

Disbursements show actual payments in each year. They show the realisation of donors' intentions and the implementation of their policies. They are required to examine the contribution of donors' actions in development achievements. They better describe aid flows from a recipient's point of view.

Analysing the relation between commitments and disbursements can provide useful insights on aid delivery. **Commitments** are often multi-year and subsequent disbursements spread over several years. In DAC statistical reporting systems, commitments, even if multi-year, are recorded in whole in the year they are signed (the use of moving averages in statistical presentations smoothes the resulting fluctuations). Subsequent **disbursements** of an earlier commitment are recorded annually, in the years they are transferred from donors to recipients. An increase in aid allocations (commitments) is thus visible in disbursements data only with a few years' time lag. Consequently, disbursements in one year cannot be directly compared to commitments in the same year, as disbursements relate to commitments originally recorded in different years.

Rio markers seek information on the donor's policy objectives which can be best assessed at the design stage of projects. This is why Rio markers are applied to commitments. Rio marker data on a disbursement basis are also available, but it is important to note that this does not mean the policy objectives of projects under implementation would have been re-assessed. Rather, the disbursements are linked to the qualitative information on the original commitment through project identifiers. Consequently, a project marked as climate-related at the commitment stage will be flagged as climate-related throughout its lifetime, unless the qualitative information was changed.

The Rio markers could move towards a more precise quantification of climate-related support. Currently, policy objectives are applied to entire aid activities based on a three-tiered value of degree⁵⁸). Investments are therefore categorised on a subjective scale. While the Rio marker definitions provide some guidance⁵⁹, they do not provide a clear approach for how to rank each and every project. As such, different donors may approach the 0-2 scale differently, and reporting will not be uniform. The 0-2 scale is also problematic given both adaptation and mitigation activities are often

⁵⁷ The other non-DAC donors reporting on their aid to the DAC at the aggregate level are Cyprus, Czech Republic, Estonia, Hungary, Iceland, Israel, Kuwait, Latvia, Liechtenstein, Lithuania, Malta, Poland, Romania, Saudi Arabia, Slovak Republic and Slovenia.

⁵⁸ 'Principal objective' is tagged as a '2'; 'significant objective' is tagged a '1'; 'not significant' is tagged a '0'.

⁵⁹ For the definition of the Rio marker for mitigation: www.oecd.org/dataoecd/32/0/45917783.pdf (page 3). For the definition of the Rio marker for adaptation: www.oecd.org/dataoecd/1/45/45303527.pdf (page 5).

integrated with other development objectives such as poverty alleviation and energy access. Particularly given the highly contextual nature of adaptation, it is often very difficult to tell from a project description of an activity whether or not it is adaptive. As Tirpak, et al (2010) point out, an activity that supports adaptation in one context may be maladaptive in another, depending upon climatic, environmental, socio-economic, cultural and institutional factors.

Absent a more robust methodology, the markers allow only an approximate quantification of the amount of aid that targets climate change concerns. Rio markers could move towards a more exact definition and quantification by moving away from the binary classification approach and towards a percentage allocation for each project. The DAC could follow the lead of the World Bank Group, as they are currently working towards tracking the adaptation and mitigation ‘co-benefits’ of their investments, based on a percentage of each sub-sector in each investment, across their entire portfolio and all core funding sources.⁶⁰ Australia is also testing such a system.

Another idea would be not to require a percentage breakdown of climate-related finance for each ODA project but to limit the adaptation Rio marker to certain activities that are highlighted as a result of climate impact assessments. Tirpak et al (2010) recommend that, given the contextual nature of adaptation, adaptation financing should only be counted for projects that are directly linked to or emerge from climate vulnerability or impact assessments, a recipient country adaptation planning document, a climate risk screening or another study on climate risk.

Finally, and in relation to the recommended shift in measurement methodology, climate change-related flows cannot currently be tracked against general budget support (GBS), given that by definition the funds are not earmarked in any way. This is significant given budget support may become a more prominent funding approach to deliver climate-related ODA as support continues to move towards programmatic forms. One way to track any climate-specific elements of general budget support would be to request recipient governments to report their GBS spending ex-post, and classify how the funds were used according to specific sectors and themes. If such data could be provided, GBS could be incorporated into any ex-post analysis on climate finance flows to recipient countries.

3.1.3 MDB reporting

MDBs themselves report on activities and the amount and location of funding provided, including climate funds that are being set up or managed by multilateral institutions. Public databases are available on most of the MDB websites, but their degree of user friendliness and comparability varies to a great extent (cf. Tirpak et al, 2010). An ongoing exercise by the MDBs to improve and standardise their reporting could significantly improve the value of this information source. As noted, MDBs also have the option to report on climate finance through the OECD DAC system. While most of them report activity-level data to the CRS, only the World Bank applies the Rio markers to provide details on the climate change focus of its operations. As noted above, the World Bank is also expecting to report to DAC once they have implemented their new methodology to assign a specific share of each project or programme supported to climate change.

⁶⁰ Following the sector/theme code model of the OECD DAC system, the WB aims to introduce two new fields in its production system that will be linked to existing sector codes. These will be based on a series of vetted investment activity typologies. Each WB project task team leader will then allocate what percentage of a project’s individual sub-sector allocations could be attributed as adaptation and/or mitigation co-benefits (the tracking of the mitigation co-benefits is considered an interim solution and will be superseded by a complete ex-post GHG analysis if and when it is approved).

Recommendations to minimise reporting inconsistencies and data gaps

From a reporting perspective, one easy solution to address some of the specific weaknesses and data gaps associated with reporting from multilateral institutions and dedicated climate change multilateral funds would be to work towards full reporting of multilateral climate change related flows to the OECD DAC system (as highlighted above, by separating out (i) bilateral support, (ii) DAC members' multilateral contributions to specific climate funds, and (iii) DAC members' general multilateral contributions that address climate change). This would allow for all public climate finance flows, bilateral and multilateral, to be stored in one database, would allow for mainstreaming of definitions and classifications, and would avoid double counting between bilateral and multilateral flows.

Recommendations to address methodological and measurement issues

The move towards robust and transparent reporting of multilateral institutions will face significant methodological hurdles. Multilateral institutions will face the same definitional and methodological issues that the OECD DAC system will need to address, particularly around identifying what is adaptation specific. As previously mentioned, there is currently a process underway within the World Bank Group to identify the percentage share of each project in the Bank's portfolio which supports climate change related outcomes. The methodology for calculating the percentage of a 'climate change co-benefit' could then be applied across all multilateral institutions. There could be ways to aggregate the data into the DAC system, and could also provide lessons for how a similar percentage breakdown could be done at the level of bilateral support.

3.1.4 Export credit reporting system

Official and officially supported export credits are reported by contributing countries through the OECD, where rules to ensure a level playing field are negotiated and monitored. The OECD Trade and Agriculture Directorate (TAD) maintains a (closed access) database on export credits provided by OECD members to developing countries with long term repayment of 5 years or more.⁶¹ The data are organised by end sector with the same level of disaggregation as with ODA; however the purpose codes have been slightly modified from those used by OECD DAC.

The OECD TAD export credit database provides some data relevant to tracking climate finance, but is also characterised by a number of limitations. Given that the database includes information on the end sector of projects, it is possible to derive statistics on 'mitigation-relevant' flows (meaning funding that will have an impact on emissions in developing countries). However, these data do not indicate whether, the financial support will enhance or counteract GHG reduction. It is also possible to identify support going to renewable energy and energy efficiency but this is likely to be an underestimation of overall "green" flows in this area. Also, access to the database is restricted to the Export Credit Committee (though data can be disclosed to the public in semi-aggregate form). At present, data are published publically up to and including the year 2005 only.⁶²

Finally, some export credits fall outside of the OECD's arrangement on reporting of official export credits and are therefore not captured in their database (OECD, 2010b).

⁶¹ The database on export credits is also part of the Creditor Reporting System.

⁶² OECD (2007), Statistics on Export Credit Activities.

Recommendations to minimise reporting inconsistencies and data gaps

To measure climate finance and climate-relevant finance in the form of export credits, methodologies used in the OECD statistics could be applied. Work is currently underway to address some key issues related to the reporting of export credits and to examine the scope for streamlining TAD and DAC statistical data collection on export credits. This could facilitate obtaining standardised data on the sectoral breakdown of export credits and help determine the extent to which this form of financing is climate-relevant. However, expanding the Rio marker system to official export credits would be a challenge, at least in the short run. This is because export credits are not supply driven but follow demand from exporters. It would thus be impossible to argue that export credits have a principal objective to address climate change, rather it might be a main outcome. There is also the possibility to adapt export credit rules to offer more favourable terms for exporters of clean technology thus affecting the demand for export credits. Any application of a Rio marker type tracking system to export credits would need to be adapted to the unique features of this instrument.

Recommendations to address methodological and measurement issues

The all-inclusiveness of the term ‘official or officially supported export credits’ creates some confusion around how these flows should be classified for the purpose of monitoring the international climate finance pledges. In particular, clarification is required regarding whether officially supported private export credits will be treated in climate finance analyses as official or private flows.

3.1.5 Information on offset markets

There is no centralised information source that systematically monitors financial flows associated with the carbon offset market, and even more importantly, systematically gathering information on investment from offset projects. As noted in section 2, there is also no internationally agreed methodology on what should be measured and how this should be done (although several different institutions currently estimate carbon market flows). Nevertheless, various information systems exist to provide data on carbon offset finance, including World Bank, IDEACarbon, Point Carbon, UNEP/RISØ, UNFCCC, IGES and Ecosystem Marketplace.⁶³ Availability of information is greater for CDM than for JI or voluntary offsets.

While many report on the overall size of the CDM market (i.e. the value of CERs) to represent the financial flows associated with the CDM, this is not a good indicator of the investment in CDM projects nor the North-South financial flows generated by CDM projects. Once CERs generated by CDM projects have been sold, the CERs can then be transacted on the secondary market – transactions on the secondary market do not represent a new investment in a CDM project within a Non-Annex I country, but the transactions are counted in the overall size of the CDM market⁶⁴. Estimating investment associated with CDM projects is also not straightforward as there is no centralized and detailed database containing information needed to identify and isolate the origin of and amount of project investment.

⁶³ For more information see World Bank (2010a), <http://www.ideacarbon.com/>, <http://www.pointcarbon.com/>, <http://cdmpipeline.org/>, <http://www.iges.or.jp/en/cdm/report.html>, and <http://cdm.unfccc.int/Registry/index.html>. Ecosystem Marketplace <http://www.ecosystemmarketplace.com/> reports on voluntary carbon markets, a small but increasing share of carbon markets.

⁶⁴ For example, a recent estimate of the size of the CDM market puts the value of transactions at approximately USD 20 billion in 2008 (World Bank, 2010a). However almost 87% of the total value represents secondary trading of CERs; only the primary sales of USD 2.7 billion USD could be considered to represent a North-South financial flow. This is lower than the estimated investment, indicating that it will take several years to recover the investment.

Recommendations to minimise reporting inconsistencies and data gaps

To track investment flows from the CDM in a systematic manner, Parties would need to decide on accounting rules, including for unilateral projects, and assign the UNFCCC to generate and report estimates on an annual basis.

As CDM is a blend of private and public-private (as well as national and international) flows, the public financing which is often instrumental to build capacity can and is reported as ODA in the OECD DAC CRS system; however direct project investing or purchase of CERs is not captured through bilateral and multilateral public climate finance reporting as non-concessional finance⁶⁵, nor through national communications to the UNFCCC. However either system could be extended to include these flows. If reported in the DAC system, this would be under the non-concessional flows (OOF).

However, reporting private CDM finance is a trickier issue. The lack of robust reporting of CDM financial flows is due to the lack of standard methodologies to assess and quantify annual investment flows into CDM.

Recommendations to address methodological and measurement issues

Robust CDM reporting could be developed with an agreed methodology for how to measure the international (and possibly domestic) investment flows stemming from CDM projects. There are perhaps two different potential approaches to assess these investment flows:⁶⁶

1. **Assessing PDD project capital costs:** Investment in the CDM can be estimated based on project capital costs as sometimes reported in the Project Design Documents (PDDs), but this is possible only in cases where projects use financial analysis to demonstrate additionality (and again the quality of cost data reported in the PDDs may be weak), not in cases where barrier analysis data is used. Moreover, it needs to be decided whether total or incremental costs are included in the assessment. Project capital costs will also vary depending on if the CDM project is an add-on to an already existing facility ('brownfield projects') or if the CDM investment equals the entire project costs.
2. **Value of CERs generated:** Another way to assess the CDM financial flows is by the value of the CERs that are generated by the CDM projects. The monetary value of primary transactions in CERs can be estimated using market prices of CERs and volumes of CERs generated in any one year. The methodological draw back with this approach given that this indicator measures part of the *returns* on CDM investments, as opposed to the amounts invested.

Yet, even in cases where one can accurately monitor investments, there is no straightforward solution to determine which proportion of the CDM investment is stimulated by carbon offset sources. For example, wind farm and hydro projects are implemented to increase the host country's power generation capacity. Without the CDM, another investment to increase the country's power generation capacity might have occurred, albeit with a cheaper (and dirtier) technology) and lower capital outlay. Only when there is no revenue stream other than CDM credits, such as in the case of HFC destruction, are the capital cost expenditures solely attributable to the CDM (Ellis and Kamel, 2007; Seres and Haites, 2008). The inherent methodological difficulty to determine what share of CDM project

⁶⁵ In April 2004, members of the OECD's DAC ruled out the possibility of counting funds used to purchase CERs as ODA. They also decided that the value of CERs received in connection with an ODA-financed CDM project should lead to a deduction of the equivalent value from ODA, irrespective of whether the CERs are sold or retained by the donor. For more information see <http://www.oecd.org/dataoecd/12/47/33657913.pdf> and <http://www.oecd.org/dataoecd/12/47/33657913.pdf>

⁶⁶ Explored in more depth in Corfee-Morlot *et al.*, 2009; authors are grateful to Eric Haites for inputs to this discussion.

investment is attributable to CDM itself constitutes a significant challenge to measuring its role in generating private climate finance.

In addition to CDM, potential number of new carbon market mechanisms may emerge, such as the Japanese bilateral offset mechanism or broader sectoral crediting schemes. New sources of carbon offset finance will represent new challenges to tracking and measuring investment flows and give greater weight to the need to think through a sound methodological approach for quantifying investments and private finance flows associated with offsets.

At a minimum, the financial flows associated with primary transactions of CERs can be accounted for in any comprehensive MRV system as a financial flow (public and private) to support mitigation action in developing countries. As these flows are fundamentally different in nature from others accounted for here, they might be reported on separately. To avoid double-counting, they should also be deducted from any climate-specific FDI flows that may be included in such a system.

3.1.6 Information on FDI

Two main data sources exist in the public domain that provide information on FDI.^{67 68}

The UNCTAD Foreign Direct Investment online database provides inflow and outflow aggregate data for over 190 different economies, including also data relating to inward and outward FDI stocks. UNCTAD also maintains an online version of the World Investment Directory, which grants access to detailed country-specific FDI information, comprising detailed statistics on flows, stocks and TNC operations, disaggregated by components, industry and investor/recipient country.⁶⁹ The public database does not however allow the user to query and track aggregate flows from investor to recipient country (whether at sector level or not). This makes it difficult to use for the purpose of tracking climate finance or climate-related finance.

OECD statistics maintains a database titled “International Direct Investment Statistics” which provides data on both FDI flows and positions by country and industrial sector for 35 countries (OECD countries only). Most variables are available from 1980-present.⁷⁰ This database is superior to the UNCTAD database for the purpose of tracking North – South climate-related flows because it is possible to query aggregate flows from investor to recipient by sector. However it does not provide equivalent information and data on outflows from developing countries (South – South or South – North).

Notwithstanding the wealth of information, and the granular knowledge on FDI per country and sector, relatively little attention has been paid to the role of FDI in addressing climate change until recently, notably compared to ODA. One exception is a recent UNCTAD report (2010) which partly focused on this theme. However the UNCTAD analysis has not yet been translated into a methodology nor is it integrated into the data collection and reporting system.

⁶⁷ A useful overview of further FDI data resources is available at <http://hcl.harvard.edu/research/guides/fdi/> Data is also available at the IMF International Financial Statistics Online database.

⁶⁸ A further source for FDI data is the World Development Indicators (WDI) database maintained by the World Bank. The World Tables of Economic and Social Indicators collect FDI net and inflow data on a country level since 1960 and has net FDI data for over 220 countries from 1960-2009. Yet, this database is not based on primary data collection, and therefore is not considered in more detail in this paper. Available at <http://databank.worldbank.org/ddp/home.do?Step=1&id=4>

⁶⁹ The UNCTAD resources are available at http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx?sRF_ActivePath=P,5,27&andsRF_Expanded=P,5,27&andsCS_ChosenLang=en and <http://www.unctad.org/Templates/Page.asp?intItemID=3204&andlang=1>

⁷⁰ The database is accessible at http://www.oecd-ilibrary.org/finance-and-investment/data/oecd-international-direct-investment-statistics_idi-data-en

The lack of systematic consideration of climate finance in FDI flows might be due to the lack of an operational definition of “green” FDI, as discussed by a recent OECD study. So far there is limited information on the scale of “green” FDI, also due to a lack of an internationally agreed definition and comparable data on green FDI (OECD, 2010a). Many goods and services have multiple uses, firms produce a variety of products and often it is not the good or service but rather the process or technology that render an activity ‘green’. These issues imply difficulties of dealing with green FDI statistically (OECD, 2010a).

Following UNCTAD (2008 and 2010), OECD (2010a) is advancing the notion of a two-part definition of “green” FDI, distinguishing between FDI in green industries and environmental services on the one hand, and FDI in environmental mitigation processes, i.e. use of cleaner and/or more energy-efficient technologies. However, there is no readily available set of statistics that matches these two categories. As a consequence, the OECD analysis proposes the definition of a range that frames green FDI.

As proxies for the lower and upper bounds of this range in the near-term, a narrow provisional definition of climate finance within FDI might focus on mitigation and flows to a few environmental industries (e.g. renewable energy, environmental services such as waste management and recycling). Climate-relevant reporting of FDI could in turn focus on the upper bound definition that includes all FDI in emitting or mitigation-relevant sectors, i.e. in which FDI could potentially contribute to energy efficiency and pollution reduction (i.e. agriculture, manufacturing, mining, forestry, transport, construction and energy).

Recommendation for improved tracking of FDI

The main difficulty in the context of monitoring green FDI is the lack of an agreed definition and reporting at a fine level of detail that would generate comparable data for green FDI. Given this situation, it is currently not possible to determine the climate-specific portion of FDI, but the climate-relevant portion can be bound by a narrow and a broad definition. Depending on the definitions adopted, contributions of FDI to addressing climate change could lay in a very wide range.

Significant improvements are needed to build a better understanding of the role that FDI plays in financing climate-friendly technologies and industries. Improvements are needed along two lines:

- In the short-term, tracking could focus on a proxy definition of climate finance within FDI that would encompass low-carbon FDI only. At a minimum, on the mitigation side it might include flows to renewable energy and environmental services such as waste management and recycling. FDI data on renewable energy would provide a point of comparison for similar data available on export credits.
- In the long-term, the aim could be an improved data collection and statistical system which is designed to be able to identify the climate friendly portion of FDI flows. Such work could build upon the experience from the Rio Markers applied to ODA in the DAC-CRS. UNCTAD and the OECD could work collaboratively with other relevant partners to lead this effort (OECD 2010a).

3.1.7 Other private finance reporting, including domestic and other public-private investment

Private climate finance that does not flow via the CDM or FDI faces even more challenges with regard to accurate tracking. Scattered information on the various financial flows is available in several data sources, but confidentiality issues and the amount of data needed render the accurate identification of climate-relevant private and public-private finance difficult. Data sources include

major financial data providers like Bloomberg New Energy Finance, Dealogic, Reuters and the database maintained by the IFC.⁷¹

Detailed, sector-specific clean energy investment flows from Bloomberg New Energy Finance provide useful information on developed to developing country flows and developing to developing country flows (both domestic and international) on clean energy investment figures. However these data are likely to be part of the broader trends observed in FDI data. The database is also commercially operated and access is on a fee for use basis only.

Global capital markets raise money from institutional and individual investors with a view to invest in various forms of investment vehicles (equity, debt and structured finance), thereby providing capital to governments, MDBs, BFIs and multinational companies, including those specifically investing in climate finance.⁷²

UNEP SEFI and Bloomberg New Energy Finance provide annual reports on global trends in sustainable energy investment, giving an overview of capital flows and an analysis of the trends in sustainable energy investment activity. The underlying database allows access to information on specific technologies and sectors as well as on larger regions and is publicly available.⁷³

3.2 Outstanding issues for current reporting

Overall, data availability and quality on climate finance flows is growing and this has become a much more significant and robust field of interest and activity in recent years. The previous section details the significant strengths as well as weaknesses associated with information and reporting systems covering the various financial flows and corresponding reporting systems, and proposes ways to improve information for each. Significant gaps in data remain, which often reflect weaknesses in the methodological approaches to quantify climate finance as well as lack of statistical systems to track how and what share of flows support climate change action. Any framework for MRV of climate finance requires attention to the gaps and weaknesses embedded in existing systems and data sets and an approach to weave the various sources of information together for a more comprehensive assessment. Table 3 below provides a summary of the quality and availability of existing climate finance data.

⁷¹ IFC tracks the development results of all active investments throughout their project lives. For more information see <http://www.ifc.org/results>

⁷² The Deutsche Bank defines this area as the climate change investment universe, represented by companies and capital flows which mitigate climate change by developing low carbon emissions technologies or adapting to climate.

⁷³ See http://sefi.unep.org/fileadmin/media/sefi/docs/publications/sefi_unep_global_trends_2010_data_pack.pdf

Table 3: Evaluation of availability of existing climate finance support data provided

	Public				Private		
	Concessional		Non-concessional		CDM	FDI	
Data or reporting system	National Communications	Rio Markers OECD/CRS - ODA	Rio Markers OECD/CRS - ODA	Export Credit database	UNEP-RISO – project data (partial / no finance data)	UNCTAD	OECD
Open access?	Yes	Yes	Yes	No ⁷⁴	Yes	Partial ⁷⁵	Yes
Sources - origin (country)	+	++	++		-	++	+ limited to only OECD countries
Intermediaries	?						
Bilateral		++	++	++			
Multilateral		+	+				
Information on leveraging	-	Planned	Planned	?	Can be constructed from PDD		
Instrument	-	?	?				
Recipient	+/-	++	++	++		-	
Adaptation /mitigation (or relevant sectors)	+/-	+	+	- (sector data but no cc markers)	Mitigation only – by sectors	+/- (sector data but no cc markers)	+/- (sector data but no cc markers)
Specific uses (e.g. sector endpoint, project type)	-	++	++	++	++	?	?

Legend:

‘++’ implies the best availability of existing climate finance support data for the specific category,

‘+’ implies good availability,

‘+/-’ implies variable availability,

‘-’ implies bad availability and

‘?’ implies uncertain availability.

⁷⁴ Data are confidential but aggregated data available on request.

⁷⁵ This information system cannot query sector or recipient data.

Box 6: What to measure and how?

Beyond understanding what flows are relevant for measurement, it is important also to devise standardised ways to measure flows and what precisely falls under the MRV framework for climate finance. Any comprehensive framework might aim to measure:

- Climate finance, measured as annual commitments of funds or capital flows (disbursements of public funds or private investment) that support climate action as well as cumulative amounts of investment or public fund capital over time. Measurements should be in a common currency and real year monetary units (e.g. real USD for the most recent year).
- Climate-related finance across the different sources and types, to be measured in the same way as climate finance.
- Leveraging ratios of public international climate finance. This is important given the recognition in the Cancún Agreements that long-term climate finance can come from a range of sources, including private sources. A standard definition of leveraging ratio is needed and is proposed here to be: the incremental private investment over the aggregate international public finance flow (concessional and non-concessional).

The system should be designed to accommodate accounting for climate finance flows of different origin or source country and in different directions (North-South, South-South, South-North or even North-North or domestic flows), however, in the spirit of the Cancun Agreements, a first priority is a comprehensive picture of the international (N-S flows).

Capital flows should include both concessional and non-concessional flows of public funds as well as climate finance from the private sector (which by definition is non-concessional). As the value of these flows differs with respect to how they “support” action in developing countries, it is advisable to collect data so that concessional public flows can be analysed separately from private flows e.g. for the purposes of understanding the leveraging effects of public support. Public flows of concessional and non-concessional finance can be aggregated for the purpose of comparing levels of support by donor or donor institution (e.g. MDBs) however such aggregations should also be handled with care, delineating also the two separate categories of flows.

Even if the necessary improvements are made to the existing and recently proposed (e.g. BR and registry) reporting systems, there remain a few outstanding issues. Perhaps most importantly, there remains no internationally agreed definition of what constitutes climate finance, and therefore no agreed basis for measurement or methodology for tracking climate finance flows. Tracking the exact share of expenditure that addresses climate change will be particularly challenging for adaptation given its intricate linkages with development.

This lack of a common definition translates into two major remaining challenges:

- The definition of public climate finance flows, which can be addressed relatively easily given the ongoing work in the aid community. The Rio markers already provide an approximate way of quantifying the contribution of funding to address climate change. These allow also for multiple goals, which in the light of the broader goal of green growth has its rationale. Further improvements of these policy markers are expected to ease definitional deficiencies in the context of public climate finance; and
- The definition of private climate finance flows, which poses a major difficulty with no straightforward solution. Confidentiality issues and the amount of information needed make it hard to find a comprehensive solution. To address these issues, short-term proxies for private climate finance flows are required, to move towards a better understanding of the characteristics and scale of these flows.

As mentioned within the context of existing reporting systems, underlying methodological issues need to be addressed to strictly define climate finance in a way that allows for specific quantification of mitigation and adaptation support. The challenge is complex. For example, some commentators have suggested that only the incremental cost of a project or programme that achieves a climate change

goal should be accounted for as climate finance, compared to what would have occurred otherwise. Along these lines, for a renewable energy project supported by international public climate finance, the accounting would only take into account the difference in the investment cost of that facility compared to a conventional facility (e.g. fossil-fuel fired) (Enting and Harmeling 2011). While this approach is logical given the language in the Convention referring to incremental cost, it would be analytically burdensome to apply in practice because it would require explicit estimation of a business-as-usual baseline for each investment. In many cases such an estimation might even prove to be impossible, reflecting thus only theoretical assumptions. Whatever definitions and methodologies are agreed upon will also need to be pragmatic and feasible to implement with information readily available to the actors engaged.

Any robust MRV system must engage in a process to work towards an internationally recognised definition and methodological approaches to quantify support, through dialogue and exchange with relevant climate finance reporting institutions. A series of expert workshops could be established to facilitate this process.

Box 7: How to report?

At present, both electronic reporting and text-based reporting is being utilised in systems providing data for financial flows, using both quantitative and qualitative metrics. For example, the UNFCCC national communications ask Annex I countries to report specific amounts of financial support provided to address climate change, and for more qualitative information related to technology transfer and capacity building. This practice needs to be continued in the several information systems including the national communications and the new NAMA registry to ensure a more comprehensive picture of climate finance and other forms of support:

- Electronic reporting according to some common template, using quantitative metrics including monetary figures. This type of reporting will be essential to track the financial flows from the sources to the recipients, allowing comparisons across countries.
- Text-based reporting for additional qualitative information. Qualitative information will be particularly important to specify the nature and process of disbursed finance. It might also help to clarify the financial needs, particularly of developing countries.

In addition, vehicles that provide frequent information such as the biennial reports could focus on strategic information in standardised electronic reporting formats.

Some of these kinds of data, particularly the non-monetary and qualitative information, will be more difficult to compare than others, but are still important in order to outline comprehensively the needs for and provision of finance. A clear outline of how different types of climate finance information will be reported is essential for the transparency, consistency and comparability of both developed and developing countries' submissions across different reporting vehicles (i.e. national communications, biennial reports and the NAMAs registry).

4. Strawman options for an integrated and robust MRV system

As highlighted in previous sections, there is currently no comprehensive system for storing and accessing data on international climate finance. While systems exist for reporting and verification of specific elements of climate finance, these systems are limited in scope, mandate, and function. Moreover, none of the current systems are comprehensive nor do they foster comparability or integration of data across sources. This section provides suggestions to improve and streamline reporting systems in an effort to create a comprehensive and integrated framework to monitor, report, and verify climate change support.

Given that ultimately the desire is to create one integrated and comprehensive climate finance MRV system, two strawman options are outlined here:

1. Reporting through limited sources
2. Reporting through expanded sources

In both approaches, the UNFCCC becomes the recipient of all data flows and would serve as the main ‘clearinghouse’ of information. Having the UNFCCC as the recipient creates a centralised system directly tied to negotiations. The UNFCCC would play the role of oversight, data manager and collator, and would co-ordinate the verification and review and/or international consultation and analysis processes. The UNFCCC would need to conduct detailed reviews, with an independent third party.

Both options work from the suggestions above for how to improve the current reporting systems. They emphasise the linking of current systems (assuming they are expanded and improved based on the recommendations above). Ideally a comprehensive MRV system can be established to report to the UNFCCC, but could be used by various audiences and within different foras to provide comprehensive and robust data on climate finance.

Both options recognise that the DAC CRS system covers an important sub-set of the information needed and therefore needs to be included in any robust MRV system – either as a main data source or as a verification tool. This is because the OECD DAC Rio marker data represents a more systematic treatment of the same bilateral delivery channels for support than what is currently reported by countries through the UNFCCC national communications system. By building on the DAC CRS it is possible to limit the risk of errors or inaccurate information on bilateral and possibly multilateral flows of climate finance.

Both options need a strengthened focus on private finance, an area which still lacks a concerted effort while representing the major piece in the overall climate finance spectrum. Due to the scattered information of private flows, primarily because of confidentiality reasons, and the fact that detailed data resides in information systems of commercial data providers, the design of the private finance tracking pillar remains difficult. In the context of our strawman options, the representation of private flows in tracking initiatives could be improved in the following way:

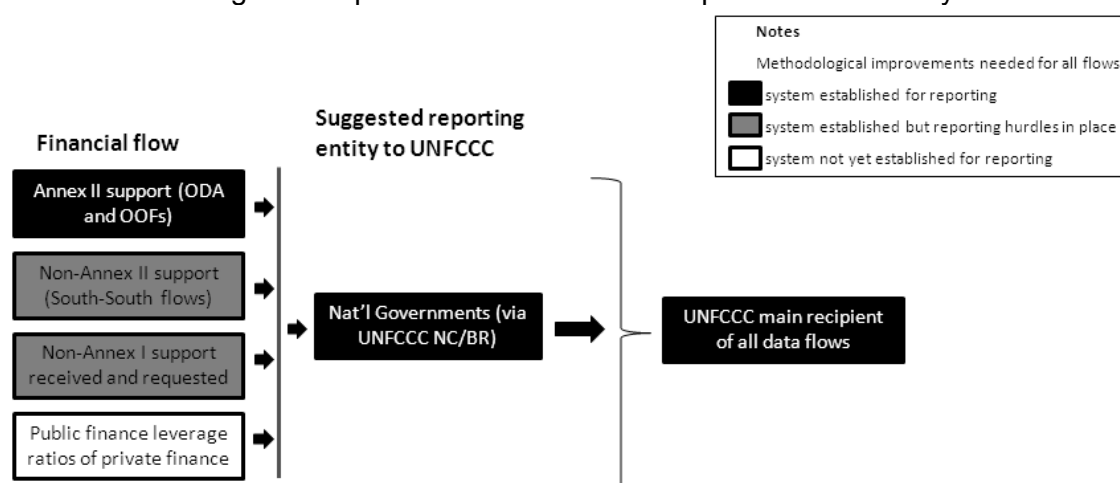
- To capture a minimum level of information regarding private finance, both options need to ensure that public finance sources report on leveraging ratios. Leveraging ratios for public finance that catalyses private finance represents an important proxy to measure the scale of private finance;
- Several information systems, maintained by UN agencies, private and non-profit organizations, provide good data on finance flowing through carbon markets. A reporting system based on these available systems should be determined to allow to track carbon finance in more granularity and included in option 2;
- FDI is likely to be amongst the largest sources of financing across all public and private flows. Tracking information of ‘green’ (i.e., mitigation-specific) FDI flows would therefore be important and is included in option 2. However, while the UNCTAD and OECD information systems provide useful background information on potentially green FDI, they cannot advance in terms of tracking climate finance until an accepted definition of low-carbon FDI or climate resilient FDI emerges.

In addition to this minimum representation of private finance, both options need to be complemented with systems that track other private sector flows (i.e., in addition to carbon market and FDI) in more detail.

4.1 Option 1: Reporting through limited sources

This option focuses on strengthening the guidelines to national communications and biennial reports (cf. Ellis et al, 2011), relying on increased direct Party reporting, and establishing a reporting format for Parties to follow. A strengthened framework for reporting could be layered into the existing system. Data gaps and reporting frequency could be corrected through the suggested improvements to reporting guidelines for national communications and biennial reports as detailed above. The OECD DAC CRS system could be used as a resource for the verification of Annex I Party-reported information to the UNFCCC, for example to be used to support discussion in the In-Depth Reviews of national communications. It could also be useful in any International Consultation and Analysis process with non-Annex I Parties as an additional source of information on financial support committed (to check against support received). This option would require Parties to propose these new and improved guidelines for national communications as well as presumably biennial reports to cover reporting on financial support. Reporting on private finance would be limited to Party reporting on public finance leveraging ratios.

Figure 5: Option 1 - strawman for comprehensive MRV system



Source: Authors

There are several strengths and weaknesses to this approach. The strengths of this approach are that:

- It builds off and strengthens the existing reporting and review system under the Convention;
- NCs represent an agreed reporting framework by all Parties and consensus has been reached by Parties on reporting guidelines. It may therefore be more politically palatable for Parties to agree to this approach.

Possible weaknesses or concerns about this approach include:

- There will inevitably be holes in reporting due to the need for information and data that cannot be provided by Parties (e.g. Parties are not well-placed to report on private sector finance nor on public-private finance).
- In particular, given that MDB reporting just relies on NCs/BRs, the data quality and details might be rather weak.
- If NCs are limited in scope to only cover public flows, this would miss out on several key elements of the climate finance picture, such as export credits, FDI and private CDM flows.
- There is a risk of poor statistical harmonisation and comparability, unless a statistical competence is built up in the UNFCCC. Were statistical competence established at the UNFCCC it would potentially duplicate work already ongoing in other inter-governmental organisations operating relevant reporting and data systems (e.g. OECD DAC-CRS secretariat, UNCTAD secretariat of FDI statistics, etc)

- It requires significantly increased engagement across all Parties and the Secretariat, which has financial and technical implications.

Past experience with the NCs indicate that their preparation require significant resources, both in terms of time and skilled workforce. This has posed particular problems in non-Annex I countries, and the agreement to require more frequent and more robust NCs and biennial reports— covering an increasingly wide number of issues in-depth -- will certainly add to this pressure. If this proposal is taken forward, such capacity constraints will need to be addressed.

4.2 Option 2: Reporting through expanded sources

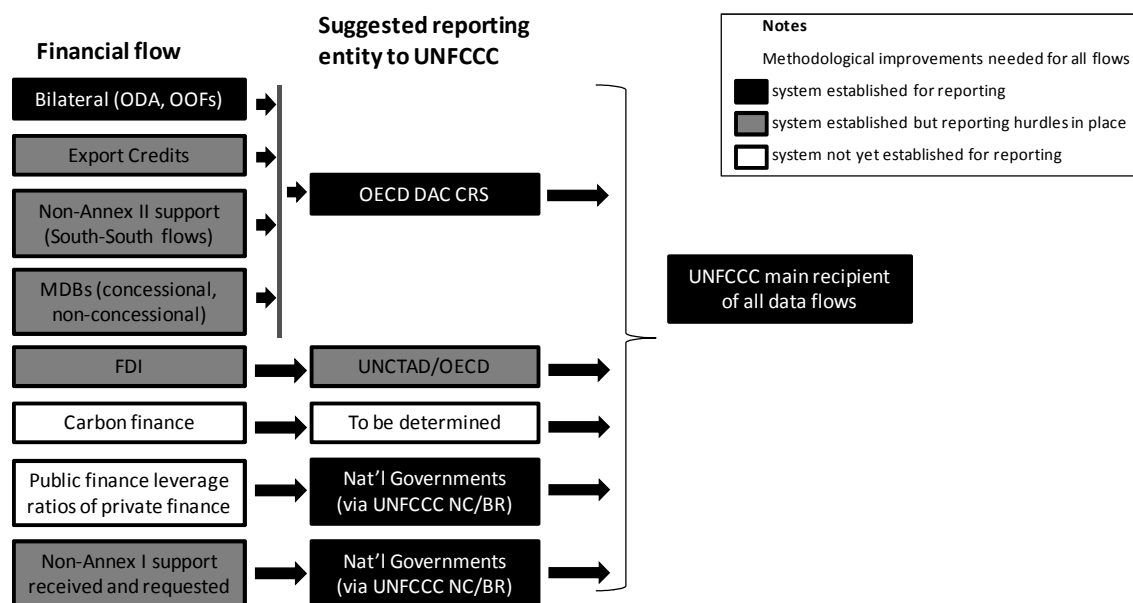
Taking into account the high reporting demands placed on Parties and their limited reporting capacity as well as the existence of several reliable information systems, this proposed MRV approach would limit direct Party reporting on financing through NCs and biennial reports and work towards a model of full institutional collaboration. Under this approach, the UNFCCC would collaborate with other institutions already reporting on financial flows to develop and draw on more standardised data from existing sources. OECD DAC CRS would serve as a direct input (for certain financial flows, including bilateral ODA and OOFs, including export credits) into an MRV system and become an agent of the UNFCCC (Figure 6).⁷⁶ Reporting from MDBs will be a critical component. MDBs could use a reporting framework equivalent to or similar to the DAC reporting framework, and reporting could happen through or in parallel to the DAC system. Several other agents could also directly report to the UNFCCC, such as UNCTAD on FDI and/or the multilateral development banks (however there is potential for these also to be covered by the DAC-CRS). Significant methodological and measurement improvements would be needed to incorporate the private finance flows in this MRV system.

The NCs and biennial reports could still be used to provide information on main strategic lines, trends and shifts in aggregate flows (e.g. commitments vs disbursements) from Annex I Parties, as well as non-Annex I Party support received and support requested. They could serve as way to verify the flows reported through the DAC CRS and other reporting systems. Reporting channels could resemble the diagram below.

With the DAC CRS as one primary conduit of information, the data provided would already be verified within the DAC system. Such a heavy reliance on the OECD CRS would require significant attention to be placed on strengthening and refining the Rio markers (see recommendations made above), particularly in terms of coming up with improved methodologies for climate-specific support, and applying Rio markers to disbursements as well as commitments. UNFCCC would need to ensure uniform methodologies and reporting guidelines across all reporting entities and use of biennial reports to highlight key changes from year to year, while national communications might be used to consider the longer term achievement of goals for provision or receipt of climate finance.

⁷⁶ This would be in line with the process adopted by the UN Convention to Combat Desertification, which recently revised the financial Annex to its national communications to introduce a number of CRS format items, including the Rio markers; CRS data can then be provided as an input to Parties, to facilitate their reporting.

Figure 6: Option 2 - strawman for comprehensive MRV system



Source: Authors

There are both strengths and weaknesses to this approach. The strengths include:

- A less burdensome approach for Parties than Option 1 as it relies more heavily on other pre-existing statistical reporting systems which already collect and collate national data
- Reliance on existing and reliable statistical information systems that have their own internal verification procedures to screen for accuracy and consistency
- Such an approach would thus increase efficiency in reporting by avoiding duplication in reporting and international statistical functions given that national governments are already reporting in a harmonised fashion to the OECD CRS.
- It would also allow the NCs to be refined and focus on other issues including qualitative rather than data issues in the area of climate change support (e.g. financial support strategies as well as how support is targeting capacity building and technology)

A number of possible weakness or concerns include:

- It will take time to build, structure and overcome hurdles to harmonise across pre-existing statistical systems and requirements or goals that will eventually be outlined by the COP.
- This approach will increase the reporting requirements and require some level of harmonisation across several different sources of information and statistical systems, so as to ensure comparability across all reporting entities.
- This approach will require altering the current NC system on reporting of financial support and would thus require a change in the current approach to NC reporting on financial matters.

Questions would undoubtedly arise about governance, transparency and trust with respect to use of information from other systems where there may not be adequate representation of all Parties. For example, the OECD DAC reporting system, which presently does not include non-DAC donors in its formal decision-making process (e.g. decisions about how to refine the Rio Marker series are taken by the DAC - non-DAC members are consulted but do not have a direct say in the formal decision-making process).

Indeed, Option 2 will require significant effort and resources to co-ordinate different reporting systems and their sponsoring institutions, as each information source and reporting system has been established separately for different purposes. This option would therefore presumably include expanded capacity within the UNFCCC secretariat to serve both a co-ordinating function and as a data clearinghouse.

It should be noted that both options represent two extremes, and there are intermediary options between the two that could be considered. It may also be useful to allow time for learning through a phasing-in and/or piloting new elements of an improved system to allow time for countries and other institutions to build necessary capacity to ensure its success over time.

4.3 Verification and ICA options

Whatever MRV option is preferred, consideration needs to be given towards how to verify the reported financial flows. While there is some international peer review of self-reported support under the UNFCCC system, including in-depth reviews conducted by the UNFCCC Secretariat and experts from both Annex I and non-Annex II Parties, the focus is on reporting rather than implementation. In other words, no specific verification procedures regarding data on support exist. Also, the Convention itself does not lay out specific guidelines for review of non-Annex II national communications in this area. The lack of such procedures is a major flaw of the current MRV system for support and a continuation of such an approach would need to rectify this missing component. Specific guidelines for the review and verification of support reported to national communications need to be included, particularly given reference to this issue in the Cancún Agreements, which call for ‘an enhanced review of national communications and in particular elements relating to the provision of finance by developed countries’ (para. 42b).

There are a number of ways to further develop current review procedures. The review procedures could be based on the experiences of current reviews in the context of Annex I national communications and GHG inventories, and could therefore suggest technical review teams involving financial experts and experts from dedicated organisations and MDBs. Alternatively, independent verifiers could be certified by the UNFCCC similarly as to the procedures in the context of the Clean Development Mechanism. Given the specific expertise required, the review and verification process could also be handled by the UNFCCC Secretariat, in collaboration with some of the non-UNFCCC institutions active in monitoring and tracking financial flows. Both experts from developing and developed countries could be included in any targeted review of financial support issues so as to build trust and common understanding of these issues. Together with the proposed standardised reporting by both donor and recipient countries, this revision will significantly enhance transparency and build trust between the parties. The absence of these procedures instead threatens the success of any revised reporting framework. Regardless of the reporting option decided upon (i.e. Option 1 or 2 above), there is a need to strengthen review procedures in parallel.

As mentioned, the OECD DAC CRS can serve as a source of information as a cross-check for accuracy for some of the financial information. Additionally, Parties agreed to develop a registry system proposed in the Cancún Agreements – a new mechanism to be set up under the UNFCCC to ‘record nationally appropriate mitigation actions seeking international support and to facilitate matching of finance, technology and capacity-building support to these actions (para. 53).’ Such a registry could provide a means to report and review progress internationally, and could also provide a cross-check or alternatively a source of information on NAI needs and support received. Once the registry is up and running, it may be possible to streamline reporting by pulling information on support received directly from the registry to serve as an input to biennial reports or national communications.

5. Conclusions

The success of international climate policy crucially depends on how much and what type of support is going to be made available to advance action on low carbon, climate resilient development, and how these types of support correspond to the needs in countries, particularly developing countries.

Currently there is no integrated or comprehensive international system for storing and accessing data on climate financial flows, although individual components of a system reside in several UN and non-UN sources, including the UNFCCC, UNCTAD, the OECD, MDBs, research bodies and the private sector. Yet, many flows are not systematically measured, reported or verified and the granularity in which the details are tracked varies across the UNFCCC and non-UNFCCC systems. As a result, information on the extent of support is likely to be unclear and thus misunderstood. This situation also renders a proper evaluation of the effectiveness and productivity of climate support programmes difficult and hinders countries from learning about effective ways of spending their money wisely.

A comprehensive picture of climate finance may not be possible until all sources are reported in sufficient detail. Given that private sector finance will be an instrumental force in any effort towards a low-carbon future, the flows need to be appropriately tracked. Similarly, South-South flows are gaining importance, but no existing information systems track these flows systematically. While the priority for a comprehensive system of MRV would be to track North-South flows, it should also be designed to allow tracking South-South flows over time.

5.1 Strawman proposals

The objective of this paper is to stimulate the thinking on ways to improve the current system. Any effort to advance a more rigorous, transparent and comprehensive system would be valuable in filling today's gaps related to the amount, sources, channels and recipients of support.

Beyond stepping through recommendations and elements to improve today's various information systems, the paper has proposed two different options or strawman proposals to revise the current framework to measure, report and verify support. These are: i) reporting through limited sources; or ii) reporting through expanded sources, building on broader institutional collaboration and non-party reporting. Both build upon existing data systems with the aim of strengthening the tracking of public and private climate finance. Based on the reporting framework already in place, the paper suggests that the MRV system for financial support could be significantly strengthened and extended to include more detailed, accurate and reliable measurement and reporting as well as a clear focus on the dimension of verification.

Both strawman options require agreed definitions on what constitutes climate change finance. Agreement on these could only be developed through a thorough assessment and discussion before being put into practice.

An improved reporting system could also pave the way for a stronger assessment of the effectiveness of support, which is critical to understanding the performance and accountability of parties compared to their commitments. Given the complexity of the issue, an improved MRV system for climate finance can build on existing reporting and information systems. Such a robust MRV system would establish the foundation to facilitate learning amongst countries and would provide more accurate information to assess effectiveness, and thereby help to steer future efforts and investments to address climate change.

5.2 Next steps

In the context of the Cancún Agreements, Parties may wish to discuss the options for a more comprehensive MRV system to clarify and agree to the functions and requirements of such a system. Table 1 of this paper lays out some of the key questions that might guide such a discussion. Parties

could also review the specific system design issues, and make a plan for how to solve the various technical methodological, reporting, and data issues. Finally, Parties would benefit from evaluating the current options based on their goals for any MRV system for climate finance, including effectiveness, efficiency, transparency, and accuracy.

The following four action items call for priority treatment in this context:

- Adopt clear definitions of climate finance spanning both public and private sources and prioritise work to improve standardised tracking of international climate finance flows from both a donor and a recipient perspective.
- Explore various avenues of tracking climate finance within a more comprehensive MRV system, drawing the lessons from existing information systems.
- Improve reporting of public climate finance flows from both a donor and a recipient perspective building on existing information systems and on ongoing efforts to improve these (e.g. national communications) and new reporting tools established under the Cancun Agreements (i.e. biennial reports, registries).
- Extend reporting to include a basic reporting of private climate finance. A minimum level of information could be ensured by requesting public finance sources to report on leveraging ratios and by streamlining the reporting on finance flowing through carbon markets. For this purpose, there is a need to:
 - develop an agreed methodology for calculating leveraging ratios;
 - develop an agreed methodology for tracking investments in CDM, REDD+ and any new market mechanisms;
 - work with appropriate organisational partners, advance statistical methods to begin to systematically track FDI flows that are indisputably green e.g. renewable energy, energy efficiency and waste management projects.

Finally, whatever the preferred option for an MRV system, consideration needs to be given to how to improve the currently weak verification of reported financial flows. Various options to advance this situation exist, including (i) an appropriate design of the new vehicles introduced in the Cancun Agreements – e.g., the registry and the enhanced review of national communications, (ii) the design of review procedures based on experiences in the context of Annex I national communications and GHG inventories, and (iii) lessons from information sources that reside outside the UN system, such as the OECD DAC CRS. It will also be necessary to allow time to build capacity across the relevant actors to provide additional, more accurate and more harmonised information on climate finance. This suggests that a “phasing in” and/or piloting of the new elements of such a system could be an important first step.

References

- AGF (2010), Report of the Secretary-General's High-level Advisory Group on Climate Change Financing, November 2010. Available at http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/AGF%20Report.pdf
- AGF (2010a), Work Stream 7: Public Interventions to Stimulate Private Investment in Adaptation and Mitigation. Available at http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/Work_Stream_7%20Public_Private.pdf
- AGF (2010b), Work Stream 4: Contributions from International Financial Institutions. Available at http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/Work_Stream_4_International%20Financial%20Institutions.pdf
- Atteridge A., C. Kehler-Siebert, R.J.T. Klein, C. Butler, and Patricia Tella, (2009), *Bilateral Finance Institutions and Climate Change: a Mapping of Climate Portfolios*, Stockholm Environment Institute, Working Paper, Stockholm, November, 2009.
- Brown, J, N. Bird, L. Schalatek (2010), *Climate finance additionality: emerging definitions and their implications*, Overseas Development Institute and Heinrich Boell Foundation, Climate Funds Update Policy Brief #2, <http://www.climatefundupdate.org/resources/climate-finance-policy-briefs>.
- Brown, J. and M. Jacobs (2011) "Leveraging private investment: the role of public sector climate finance", *Background Note*, April, <http://www.odi.org.uk/resources/download/5701.pdf>
- Buchner, B., A. Falconer, M. Hervé-Mignucci, C. Trabacchi and M. Brinkman (2011), *The Landscape of Climate Finance*, CPI Discussion Paper (forthcoming).
- Corfee-Morlot, J., B. Guay and K.M. Larsen (2009), *Financing for Climate Change Mitigation: Towards a Framework for Measurement, Reporting and Verification*, OECD/IEA Information Paper, <http://www.oecd.org/dataoecd/0/60/44019962.pdf>
- Ellis, J., G. Briner, S. Moarif, B. Buchner, (2011), *Frequent and Flexible: Options for Reporting Guidelines for Biennial Reports*, www.oecd.org/env/cc/ccxg
- Ellis, J., S. Moarif, G. Briner, B. Buchner and E. Massey (2010a), *Options to Revise Reporting Guidelines for Annex I and non-Annex I National Communications*, OECD/IEA Information Paper, <http://www.oecd.org/dataoecd/32/59/46553464.pdf>.
- Ellis, J., S. Moarif and G. Briner (2010b), *Core Elements of National Reports*, OECD/IEA Information Paper, <http://www.oecd.org/dataoecd/28/32/45409866.pdf>.
- Ellis, J., S. Moarif and J. A. Kim (2009), *Reporting and Recording Post-2012 GHG Mitigation Commitments, Actions and Support*, OECD/IEA Information Paper, <http://www.oecd.org/dataoecd/48/63/43975705.pdf>.
- Ellis, J. and S. Kamel (2007), *Overcoming Barriers to Clean Development Mechanism Projects*, OECD/IEA Information Paper. COM/ENV/EPOC/IEA/SLT (2007) 3, Paris.
- Enting, K and S. Harmeling (2011) "German Climate Finance Put to the Test." Germanwatch. www.germanwatch.org/klima/gcf10.pdf
- Fransen, T. (2009), *Enhancing Today's MRV Framework to Meet Tomorrow's Needs: The Role of National Communications and Inventories*. WRI Working Paper. Washington, DC: World Resources Institute. Available online at <http://www.wri.org>.
- Hosier, R., N. Kulichenko, A. Maheshwari, N. Toba, and X. Wang (2010), *Beyond the Sum of Its Parts. Combining Financial Instruments for Impact and Efficiency*. World Bank Issues Brief

- no. 3, June 2010. <http://climatechange.worldbank.org/sites/default/files/documents/DCFIB3-web.pdf>
- Kim, J., Corfee-Morlot, J. and de T'Serclaes, P. (2009) "Linking Mitigation Actions in Developing Countries with Mitigation Support: a Conceptual Framework", OECD/IEA. <http://www.oecd.org/dataoecd/27/24/42474721.pdf>
- Kragelund, P. (2010), *The potential role of non-traditional donors' aid in Africa*. ICTSD Series on Trade Supported Strategies for Sustainable Development. February. <http://ictsd.org/downloads/2010/03/the-potential-role-of-non-traditional-donorse28099-aid-in-africa.pdf> [accessed 15 February 2011]
- Lütken, S. O. (2010), A Grand Chinese Climate Scheme, Risø DTU Climate Paper Serie No.1, November 2010, <http://cd4cdm.org/Publications/GrandClimateSchemeChina.pdf>
- Michaelowa, A and K. Michaelowa (2010), "Coding Error or Statistical Embellishment: The Political Economy of Reporting Climate Aid", CIS Working Paper No. 56, Center for Comparative and International Studies, ETH Zurich and University of Zurich.
- Michaelowa, A., (2007), Experiences in Evaluation of PDDs, Validation and Verification Reports, presentation at an Austrian JI/CDM Workshop, Vienna, Austria
- OECD (2005), *Bridge Over Troubled Waters: Linking Climate Change and Development*. Paris: OECD.
- OECD (2010a), *Defining and Measuring Green FDI: Preliminary Findings and Issues for Discussion*. Working Party of the Investment Committee. DAF/INV/WP/WD(2010)1. Paris: OECD.
- OECD (2010c), *Arrangement on officially supported export credits*, January 2010 REVISION, TAD/PG(2010)2. OECD: Paris.
- OECD (2011a) *Financing Climate Change Action and Boosting Technology Change*, flyer updated December.
- OECD (2011b), *Development Perspectives for a Post-2012 Climate Financing Architecture*, available at <http://www.oecd.org/dataoecd/47/52/47115936.pdf>
- Project Catalyst (2010), *Making Fast Start Finance Work*, Briefing paper, European Climate Foundation and Climate Works Foundation.
- Schneider, L. (2009) *Assessing the additionality of CDM projects: practical experiences and lessons learned*, *Climate Policy* 9 (2009) 242–254
- Tirpak, D. and H. Adams (2008), *Bilateral and Multilateral Assistance for the Energy Sector in Developing Countries*. *Climate Policy* 8: 135–151.
- Tirpak, D., A. Ronquillo-Ballesteros, K. Stasio, H. McGray (2010), *Guidelines for Reporting Information on Climate Finance*. WRI Working Paper. World Resources Institute, Washington DC. Available online at <http://www.wri.org>.
- UNEP (2010), *Bilateral Finance Institutions and Climate Change: a Mapping of 2009 Climate Financial Flows to Developing Countries*, United Nations Environment Programme, 2010.
- UNFCCC (no date), *Fifth National Communications*, http://unfccc.int/national_reports/annex_i_natcom/submitted_natcom/items/4903.php.
- UNFCCC (no date), *Non-Annex I National Communications*, http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php.
- UNFCCC (1999), Guidelines for the preparation of national communications by parties included in Annex I to the Convention Part II: UNFCCC reporting guidelines on national communications. UNFCCC/CP/1999/7, <http://unfccc.int/resource/docs/cop5/07.pdf>.

- UNFCCC (2002), Decision 117/CP.8 - Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention. UNFCCC/CP/2002/7/Add2.
- UNFCCC (2005), *Sixth compilation and synthesis of initial national communications from Parties not included in Annex I to the Convention. Note by the secretariat*, FCCC/SBI/2005/18, <http://unfccc.int/resource/docs/2005/sbi/eng/18.pdf>.
- UNFCCC (2007a) *Investment and financial flows to address climate change*. http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/background_paper.pdf
- UNFCCC (2007b), *Compilation and synthesis of fourth national communications. Note by the secretariat. Addendum. Financial resources, technology transfer, vulnerability, adaptation and other issues relating to the implementation of the Convention by Parties included in Annex I to the Convention*, FCCC/SBI/2007/INF.6/Add.2, <http://unfccc.int/resource/docs/2007/sbi/eng/inf06a02.pdf>.
- UNFCCC (2009a), *Copenhagen Accord*, http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf.
- UNFCCC (2009b), *Investment and financial flows to address climate change – an update*. http://unfccc.int/resource/docs/publications/financial_flows_update_eng.pdf
- UNFCCC (2010), *Cancun Agreements*, <http://cancun.unfccc.int/> [last accessed 25 May 2011]
- UNFCCC (2011), *Compilation and synthesis of fifth national communications, Addendum, Financial resources, technology transfer, vulnerability, adaptation and other issues relating to the implementation of the Convention by Parties included in Annex I to the Convention*, FCCC/SBI/2011/INF.1/Add.2
- World Bank (2006) *Clean Energy and Investment: Towards An Investment Framework*. Available at: [http://siteresources.worldbank.org/DEVCOMMINT/Documentation/20890696/DC2006-0002\(E\)-CleanEnergy.pdf](http://siteresources.worldbank.org/DEVCOMMINT/Documentation/20890696/DC2006-0002(E)-CleanEnergy.pdf) [last accessed 8 March 2011]
- World Bank (2010a), *State and Trends of the Carbon Market 2010*. Washington DC: World Bank. Available at: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_of_the_Carbon_Market_2010_low_res.pdf [last accessed 14 February 2011]
- World Bank (2010b), *Annual Report 2010*. Washington DC: World Bank. Available at: <http://siteresources.worldbank.org/EXTANNREP2010/Resources/WorldBank-AnnualReport2010.pdf>
- World Economic Forum in collaboration with Bloomberg, *New Energy Finance (2010), Green Investing 2010: Policy Mechanisms to Bridge the Financing Gap*. Available at http://www3.weforum.org/docs/WEF_IV_GreenInvesting_Report_2010.pdf

Glossary

CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CIF	Climate Investment Trust Funds
COP	Conference of the Parties
CRS	Creditor Reporting System
DAC	Development Assistance Committee (of the OECD)
FDI	Foreign direct investment
GEF	Global Environment Facility
GBS	General budget support
GHG	Greenhouse gas
KP	Kyoto Protocol
LDCF	Least Developed Countries Fund
MDB	Multilateral development bank
MRV	Measurable, reportable and verifiable
NAMA	Nationally appropriate mitigation action
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
REDD	Reducing Emissions from Deforestation and Degradation
SCCF	Special Climate Change Fund
SEFI	UNEP Sustainable Energy Finance Initiative
UNCTAD	UN Commission on Trade and Development
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change

Annex I – Excerpts and overview of key MRV of finance outcomes Cancun Agreements Decision 1/CP.16

Fast-start finance

95. *Takes note* of the collective commitment by developed countries to provide new and additional resources, including forestry and investments through international institutions, approaching USD 30 billion for the period 2010-2012, with a balanced allocation between adaptation and mitigation; funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa;

96. *Invites*, in order to enhance transparency, developed country Parties to submit to the secretariat for compilation into an information document, by May 2011, 2012 and 2013, information on the resources provided to fulfil the commitment referred to in paragraph 95 above, including ways in which developing country Parties access these resources;

Long-term finance

97. *Decides* that, in accordance with the relevant provisions of the Convention, scaled-up, new and additional, predictable and adequate funding shall be provided to developing country Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change;

98. *Recognizes* that developed country Parties commit, in the context of meaningful mitigation actions and transparency on implementation, to a goal of mobilising jointly USD 100 billion per year by 2020 to address the needs of developing countries;

99. *Agrees* that, in accordance with paragraph 1(e) of the Bali Action Plan, funds provided to developing country Parties may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources;

100. *Decides* that a significant share of new multilateral funding for adaptation should flow through the Green Climate Fund;

101. *Takes note* of the relevant reports on the financing needs and options for mobilisation of resources to address the needs of developing country Parties with regard to climate change adaptation and mitigation, including the report of the High-level Advisory Group on Climate Change Financing;

Table A1: Annex I Country Reporting and Review Provisions – Cancún Agreement – Decision 1/CP.16

Reporting tool, frequency	Reporting on financial support and review	Outstanding issues
Nat. comms. (no specified frequency)	<p>Enhance reporting to include: “... <i>provision of financial, technological and capacity-building support to developing country Parties</i>”</p> <p>Enhance the guidelines to include: “... <i>development of common reporting formats, methodologies for finance, and in order to ensure that information provided is complete, comparable, transparent and accurate</i>” (para 40)</p> <p>Also decides on a work programme “<i>for the development of modalities and guidelines described above, building on existing reporting and review guidelines, processes and experiences</i>” to include (para 42):</p> <p>“...<i>the revision of guidelines, as necessary, on the reporting of national communications, including the biennial report:</i></p> <p>(i) <i>The provision of financing, through enhanced common reporting formats, methodologies for finance and tracking of climate-related support; ...</i>”</p>	Frequency of Annex I Party national communications not specified in Cancún agreements or previously. Next AIP national communications due 1.1.2014 (Decision 9/CP) ⁷⁷
Biennial reports, review and relevant guidelines	<p>“<i>Should</i>” submit biennial reports including on “their progress in...the provision of financial, technology and capacity-building support to developing country Parties” (para 46)</p> <p>Guidelines for biennial reports (see above)</p>	
Review	Enhance guidelines for the review of this information in national communications. (para 41); also modalities and guidelines to build on existing review guidelines... (para 42); agree to revise guidelines for review of the national communications, including biennial reports...” (para 46b)	No explicit mention of how to treat financial information in review but presumably it is included

Table A2: Non-Annex I Country Reporting and Review Provisions – Cancún Agreement – Decision 1/CP.16

Reporting tool, frequency	Reporting on financial support and review	Outstanding issues
Nat. comms. (every 4 years ¹)	Enhance reporting in national communications, “...on ...support received” (para 60)	No mention of guidelines for reporting
Biennial reports	“Should also submit biennial update reports, containing updates of ... needs and support received” (para 60) where biennial reports are noted “ as part of national communications from non-Annex I Parties.” (para 66) To develop modalities and guidelines for biennial reports (para 66)	
International Consultation and Analysis	Decides that “internationally supported mitigation actions will be measured, reported and verified domestically and will be subject to international measurement, reporting and verification in accordance with guidelines to be developed under the Convention” (para 62) “...conduct a process for international consultations and analysis of biennial reports in the Subsidiary Body on Implementation, in a manner that is non-intrusive, non-punitive and respectful of national sovereignty; he international consultations and analysis aim to increase transparency of mitigation actions and their effects, through analysis by technical experts in consultation with the Party concerned, and through a facilitative sharing of views, and will result in a summary report; (para 63) “... information considered should include information on support received.... Discussions should be intended to provide transparency on information related to unsupported actions;” (para 64)	To develop modalities and guidelines for ICA (para 66) but unclear if only for– only mitigation actions or also other actions? Unclear scope of ICA across different reporting tools: no mention of ICA for national communications – only biennial reports
Registry	“...record nationally appropriate mitigation actions seeking international support and to facilitate matching of finance, technology and capacity building support to these actions” (para 53) “...developing country Parties to submit to the secretariat information on nationally appropriate mitigation actions for which they are seeking support, along with estimated costs and emission reductions, and the anticipated time frame for implementation; (para 54)... developed country Parties to submit to the secretariat information on support available and provided for nationally appropriate mitigation action;” (para 55) “Agrees on a work programme for the development of modalities and guidelines for: facilitation of support to nationally appropriate mitigation actions through a registry; measurement, reporting and verification of supported actions and corresponding support ,,,domestic verification of mitigation actions undertaken with domestic resources; and international consultations and analysis;” (para 66)	No clarity on relationship between registry, national communications and biennial reports. Registry only clearly covers mitigation actions and related financing needs. No mention of financing received nor of adaptation.

¹ Decision 1/CP.16, para. 60. The text notes “...with additional flexibility to be given to the least developed country Parties and small island developing states.” The frequency of reporting is further qualified for developing countries as follows: “...in accordance with any further decisions on frequency by the Conference of the Parties taking into account a differentiated timetable and the prompt provision of financial resources to cover the agreed full costs incurred by non-Annex I Parties in preparing their national communications.”