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Tracking Climate Finance: What and How?

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ABSTRACT

Developed countries have committed under the international negotiations to jointly mobilising USD 100 billion per year by 2020 for climate change mitigation and adaptation in developing countries. Yet consistent and comprehensive data to track this commitment are currently lacking. Such data will also help governments and the private sector understand how much and what type of climate finance is flowing today, so as to be able to evaluate progress and effectiveness of international climate finance flows. Estimates based on available data are highly uncertain and incomplete, highlighting several challenges in establishing a robust tracking system. A more political question is what should be the internationally agreed definition of “climate finance” or, absent agreement on that, what types of flows or activities might count towards the USD 100 billion? On the more technical side, challenges include clearly defining flows and sources of international climate finance, determining the cause and effect of flows, and establishing the boundaries of finance flowing towards climate change action. This paper considers what data are currently available to track climate finance, and demonstrates the complex nature of financial flows through examples across international and domestic as well as public and private flows. The examples highlight questions on how to count and track climate finance.

JEL Classification: F30, F53, G15, H87, Q54, Q56

Keywords: Climate change, finance, investment, greenhouse gas mitigation, adaptation

RÉSUMÉ

Les pays développés se sont engagés dans le cadre de négociations internationales à mobiliser ensemble 100 milliards de dollars par an d'ici à 2020 au service de l'atténuation du changement climatique et de l'adaptation à ses effets dans les pays en développement. Cependant, des données cohérentes et détaillées permettant de suivre l'application de cet engagement font aujourd'hui défaut. Ces informations aideraient aussi les pouvoirs publics et le secteur privé à connaître le volume et la nature des financements actuellement consacrés au domaine du climat, ce qui leur permettrait d'évaluer les progrès et l'efficacité des flux internationaux de financement climatique. Les estimations établies à partir des données disponibles sont très incertaines et incomplètes, d'où il ressort plusieurs problèmes auxquels se heurte la mise en place d'un solide système de suivi. Une question de caractère plus politique est celle de savoir en quels termes il convient de définir d'un commun accord à l'échelon international le « financement climatique » ou, à défaut d'accord sur cette définition, quels types de flux ou d'activités pourraient entrer en ligne de compte dans ces 100 milliards de dollars. Sous un angle plus technique, la difficulté consiste notamment à définir précisément les flux et les sources de financement climatique international, à mettre en évidence les causes et les effets des flux, ainsi qu'à déterminer les limites du financement de l'action pour le climat. Ce rapport examine quelles données sont aujourd'hui disponibles pour assurer un suivi du financement climatique, et fait apparaître la complexité des flux financiers au travers d'exemples de flux internationaux et intérieurs, ainsi que publics et privés. Ces exemples mettent en relief les questions que soulèvent les modalités de comptabilité et de suivi du financement climatique.

Classification JEL: F30, F53, G15, H87, Q54, Q56

Mots-clés: Changement climatique, financement, investissement, atténuation des émissions de gaz à effet de serre, adaptation

FOREWORD

This document was prepared by the OECD and IEA Secretariats in winter 2012 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.

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Executive summary

In the international climate change negotiations, developed countries have committed to jointly mobilising \$100 billion per year by 2020 for the needs of developing countries. However, there is as yet no agreed definition of “climate finance”, and no centralised system for tracking all relevant climate flows. Crucial questions remain regarding what can be accounted for both under “climate” and under “finance”, i.e. which activities and which flows are eligible to be counted towards the \$100 bn. Beyond the \$100 bn, there are also broader questions about how to mobilise and incentivise sufficient levels of climate finance, and to establish a robust tracking system for climate finance more broadly. This paper highlights key issues and questions that may be taken into consideration in regards to 1) how the international community counts both public and private financial flows towards the \$100 bn commitment, and 2) how to track these flows. (The issue of which activities to count are beyond the scope of this paper).

In order to collect robust, consistent and comparable data from countries and entities, internationally-agreed definitions or guidelines are needed on the following challenging questions:

- How does “**additionality**” relate to the \$100 bn long-term commitment?
- How can “**mobilised**” climate finance be defined and demonstrated?

Recent estimates put total climate-specific North-South climate finance flows in the range of \$70 to 120 bn per year (see Figure 1). As indicated by this range, there is a large level of uncertainty in these figures and no consideration of which flows may be “additional”. These estimates are highly uncertain for several reasons: there is a lack of accurate data on the larger flows; there is a risk of double-counting across several sources; and some of the sources included in this range may not ultimately be agreed as accountable towards the \$100 bn commitment. Large gaps exist in the availability of data and there is no framework to systematically track all relevant climate finance flows. Further, there are currently no agreed definitions of “private climate finance” and sources of internationally harmonised data on private flows are limited in scope and detail. Thus while private finance is estimated to account for 50-60% of total international climate flows, less is known about these than for public flows. Further, given the international structure of some private flows, there are significant challenges in attributing private climate finance flows to individual nation states. While significant experience and data in identifying and tracking North-South public flows exists, there remain methodological questions and data gaps (e.g. for non-concessional or “other official flows”).

To illustrate some of the key tracking issues, this paper presents examples of different types of funding for mitigation or adaptation activities in developing countries. The examples demonstrate the complexity of financial flows for climate change action, across international and domestic as well as public and private flows. The examples also reflect questions and issues that negotiators may need to address when deciding which flows could be counted towards the \$100 bn, e.g. relating to the definition of flows, the cause and effect of flows, and boundaries of flows, in addition to reporting mandates, and the availability and quality of data. Table 1 provides an overview of the inter-related challenges raised by the examples outlined in this paper. Examples of tracking precedents, where available, are also included to show how some of the issues have been addressed by various institutions in other contexts.

Action items to move forward on developing a robust climate finance tracking system include:

- Working towards increased transparency and clear definitions for climate finance under the UNFCCC framework spanning both the type of flows to be included (public and private) and the types of activities that are eligible to be counted (e.g. mitigation, adaptation, enabling activities, reporting);
- Making decisions about what institutions or actors should be tracking and reporting, and with what frequency;

Table 1: Challenges for robust tracking

Challenge	Description	Tracking precedents
Lack of data and a single metric for private sector and some public sector flows	No systematic tracking of climate-related flows from private investors exists. Complex institutional structures and flows mean that defining climate finance is complicated, particularly for the private sector. Apart from charitable grants, private finance is profit seeking, although it may be mobilised through public interventions and thus attributable to specific policy objectives. For public sector, Other Official Flows (OOF or non-ODA) are not yet comprehensively tracked for climate change relevancy.	n/a
Collective versus individual reporting; disparate sources	The \$100 bn commitment is for developed countries collectively, whereas under the current UNFCCC reporting system, individual countries are charged with reporting. Because of the disparity of sources of climate finance, it may be difficult to generate a complete picture of climate finance through Party reporting only (even once it has been decided which flows this comprises).*	n/a
Aggregation of public vs. private, concessional vs. non-concessional	It is unclear if different types of financial flows can meaningfully be added together as, e.g., some are concessional and others are not, and rates of return vary.	n/a
Intertwined private/public and international/ domestic flows	Private and public streams are often feeding into the same climate actions, but are not always easy to separate, e.g. funds, joint ventures. Also, export credits are also not easy to categorise as they are a mixture of flows (public sector interventions mobilising private finance).	Public institutions, DFIs and banks track their own flows to joint projects, but not necessarily flows from others.
Timing of financial flows – disbursements vs. commitments (net or gross), point of measurement	The point at which tracking occurs, when and how (i.e. commitment or disbursement accounting), will affect the quantity of flows. Accounting for loan repayments and returns on investments (such as in disbursement accounting) will also change the net financial flow calculation.	In the DAC-CRS database (see Annex 1), information on climate change ODA commitments and disbursements is available; loan repayments are counted as negative flows.
Impact of flow on climate activity	Support for R&D, capacity building, reporting/planning, ensuring property rights, etc. can be an integral part of, and have indirect impacts on, countries' mitigation and/or adaptation actions. Plans and strategies can help mobilise funds for implementation. Determining which support or policies “mobilised” flows, and to what degree, is difficult to accurately determine.	These indirect and integrated activities are supported by bilateral donors and for example the GEF, and reported in DAC-CRS.
Loan or risk guarantees and insurance	Guarantees and insurance can help mobilise climate finance flows, but may not involve a financial payout. Thus it is difficult to account for their value compared to loans or grants under conventional ODA reporting frameworks, which may create perverse incentives against such instruments.	DAC-CRS database does not track guarantees (only flow data). The OECD export credit database lists loan guarantees before they are activated.
Double-counting of flows across datasets	Flows may be recorded in multiple datasets. In the private sector, it is not clear to what extent FDI and Bloomberg New Energy Finance data (clean energy investment) overlap; also special climate funds are in part captured in public bilateral and multilateral flow accounting. Unless reconciled in a single data base there is a risk of double-counting.	DAC-CRS covers both inflows to and outflows from MDBs, but the database structure and coding ensures there are no double-counts.
Country of origin and ultimate beneficiary	There is as yet no agreed international definition of private climate finance. Attribution to a single country of origin can be challenging for multinational companies, and for subsidiaries and/or affiliates based in other countries. Finance can also flow through intermediaries in other countries (e.g. tax havens).	OECD data on FDI outflows is to first counterparties only. BNEF data do not track ultimate country of origin.

* This challenge may be addressed by calling on collective data providers, e.g. the DAC-CRS and others as appropriate, to provide complementary reporting and information to the UNFCCC (Buchner *et al*, 2011a).

- At a more technical level, exploring various avenues of tracking climate finance within a more comprehensive MRV system under UNFCCC, including considering what levels of detail and uncertainty are feasible/acceptable, and identifying which precedents set by previous tracking systems should be taken forward; and
- Taking concrete steps towards more robust tracking and reporting on public and private sector flows, notably through: i) internationally-harmonised reporting on international public finance flows channelled through multilateral or regional development banks; and ii) an agreed methodology for public sector leveraging of private finance and pilot data collection to test the methodology.

Answers to the questions of what and how to count towards the \$100 billion commitment will be inherently political. There are a range of different answers possible, and each will have different technical and resource implications. This paper identifies what we know about climate finance based on the existing data systems, and provides examples to illustrate what we do not know, e.g. about complex financial flows and private sector flows.

1. Introduction

In the international climate change negotiations, developed countries have committed to mobilising jointly \$100 billion of climate finance per year by 2020 for developing countries. However, key questions remain regarding which activities as well as which financial flows might count towards this commitment.¹ Following the UNFCCC negotiations in Durban 2011 (see Box 1), there is no detailed guidance as to what types of financial flows might be counted, nor on how to count them. Consideration of the necessary data and systems to track financial flows is complicated by the unanswered political questions, centring around the following themes:

- **Additionality:** how does the concept of additionality relate to the \$100 bn long-term commitment?
- **Mobilising:** what constitutes “mobilised” climate finance, and how can it be demonstrated?²

The answers to these challenging questions influence the types of flows that can be counted towards the \$100 bn, and can help guide the development of tracking systems that could apply to climate finance. Ultimately the design of a tracking system will have data and resource implications for countries and entities that may subsequently be tasked with tracking them.

The aim of this paper is to highlight key questions that will impact how the international community counts financial flows (both public and private) towards the \$100 bn long-term climate finance commitment, and discuss the resulting implications for tracking these flows. Moving forward on the more political questions as well as on the technical elements can improve the tracking system. The scope of the paper includes both public and private financial flows in or to developing countries), but does not include the specifics of what types of projects might count as mitigation or adaptation actions.

What type of data needs to be collected depends largely on the purpose of tracking. Buchner et al (2011a) outlines possible goals for the MRV of climate finance in general. A robust tracking system can provide information beyond the \$100 bn, e.g. to assess effectiveness and to facilitate learning. These additional aims might also be a high priority and may require additional data, but are not explicitly considered here.

In terms of the goals of any MRV framework for tracking the \$100 bn commitment, this could focus on:

- **Transparency** on the amount of relevant climate finance flows (both public and private); and
- **Accountability** of Parties’ progress in delivering their financial commitments as outlined in the Cancun Agreements. This will be challenging as the commitment is collective, whereas at present reporting is done for individual countries and is not yet comprehensive and comparable. Further, significant levels of private climate flows may be difficult to attribute to single nation states.

¹ The Cancun agreements recognised the commitment of developed countries to a goal of “mobilising jointly \$100 billion per year by 2020 to address the needs of developing countries...from a variety of sources, public and private, bilateral and multilateral, including alternative sources” (UNFCCC, 2010).

² The Cancun agreements refer in different places to finance that is additional, and to finance that has been mobilised. It is not clear if all of the “mobilised” finance is to be additional, nor has mobilised been defined by the international community. This term could potentially include actions or policies at the international level (such as creating a market for credits via a combination of national emission targets and the CDM or a new market mechanism) or at the (sub-)national level (such as by extending guarantees or other risk mitigation mechanisms). Ideally, an objective definition of “mobilised” would be agreed, as this would give greater clarity to countries when identifying which financial flows to track.

For the purposes of this paper it is assumed that tracking will help in providing accountability and transparency to the climate finance flows related to financial and reporting commitments made under the UNFCCC.

Box 1: Durban outcomes

The UNFCCC negotiations in Durban 2011 resulted in several decisions pertaining to climate finance, but did not provide guidance on what flows to count and how to count them. The relevant Durban draft decisions include:

- **The Green Climate Fund (GCF)** is designated as an operating entity of the Financial Mechanism of the Convention, and parties are invited to make financial contributions. The Republic of Korea, Germany and Denmark have offered to contribute to the start-up cost of the GCF. The GCF will have a designated “private sector facility” to promote the participation of private sector actors in developing countries.
- **The Standing Committee** shall assist the Conference of Parties (COP) in improving coordination in the delivery of climate finance and MRV of support. It is also tasked with biennial assessment of climate finance flows drawing on available sources of information (including national communications, biennial reports, and the registry).
- Participation in **the registry**, to record nationally appropriate mitigation actions seeking international support, shall be voluntary. Parties are invited to submit information on financial support available (including the source parties and executing entity), and developing country Parties are invited to submit information on financial support needed.

The Biennial Reporting Guidelines for developed countries include guidance on providing information on financial support (including the amount of financing, the source, the financial instrument, the sector, and an indication of new and additional financial resources).

Source: UNFCCC, 2011a; UNFCCC, 2011b.

The paper is organised as follows: Section 2 describes what we know about the North-South public and private flows at present, and identifies gaps in the data and tracking systems. In Section 3 examples of financial flows are presented to illustrate key questions and the resulting tracking implications. Concluding remarks follow in Section 4.

2. What do we know?³

There are multiple sources, instruments, intermediaries and recipients involved in providing or receiving climate finance. These are of different sizes and therefore have different potential to contribute to the \$100 bn. At present, most of the detailed information on climate finance is on public finance, where the source of finance is public treasuries and where allocation is overseen by government functions. Private finance is estimated to account for at least half of climate finance (OECD 2011; Buchner et al, 2011a and b). Private climate finance is generated through a variety of means, including the carbon market, routine investment decisions by companies, and triggered by national or international policies that govern the functioning of markets in different areas (e.g. energy markets). Climate finance typically is intermediated and can flow through several channels for various reasons. As outlined in section 3.3.1, this intermediation complicates tracking of climate finance (e.g. in terms of the origin and final destination of financial flows).

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). However, as the \$100 bn commitment is expressed in monetary terms, there will be a pressure to ensure that reporting of flows is done in monetary

³ This section is adapted from Buchner *et al* (2011a).

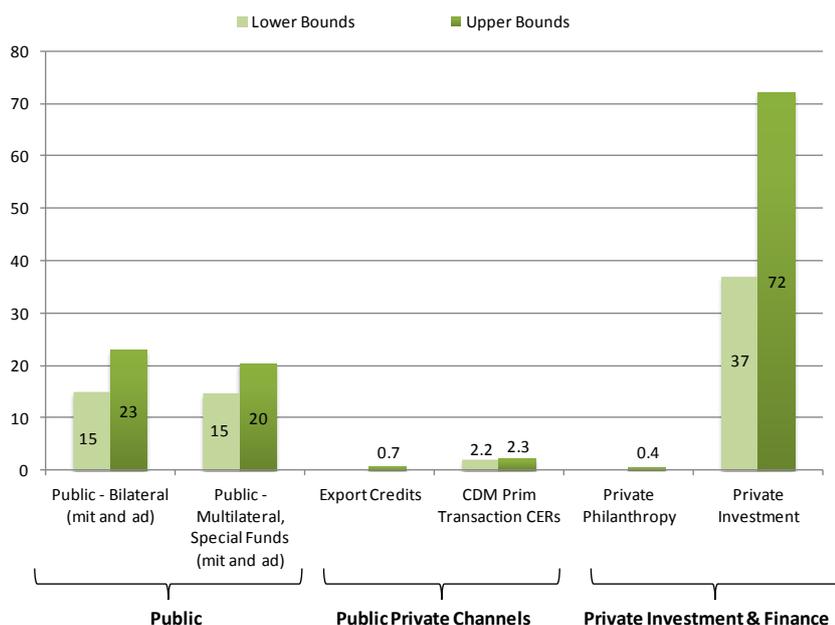
terms. The information could also be reported for different timeframes, including the most recent year and multi-period information for certain financial activities. As the \$100 bn commitment is per year, ideally information reported as part of efforts towards this commitment would be presented on a yearly basis.

As noted by Buchner et al (2011a), some systems exist for international data collection, reporting and verification of specific elements of climate finance. However these systems are limited in scope, mandate, and function. One of the main systems is the Development Assistance Committee’s Creditor Reporting System (see Annex 1); while the scope and mandate of this system is expanding to provide more comprehensive data on international public finance in particular, the system provides only a subset (ODA) of the most important data on climate finance today.

Though there are broad uncertainties, it is possible to estimate North-South climate change finance flows from available data sources and recent analyses. In the 2009-2010 period, aggregate flows are estimated in the range of \$70 to 120 bn annually (see Figure 1 and notes). These estimates depend upon a simple methodology, which “adds” different types of climate finance, from grants to non-concessional development finance and private capital. This aggregate figure has a significant degree of uncertainty, given the potential for double-counting across several of the sources, and does not take into consideration which flows might count as “additional”. In general, there is a greater degree of uncertainty underlying the private flow estimates as private flows are not routinely tracked for their purpose (e.g. climate mitigation or adaptation). However, there are also uncertainties in the public flow accounting, e.g. in MDB reporting and double-counting with special climate funds. Understanding how different types of flows are defined and tracked is important and may provide insights on whether they are additive (e.g. see Box 2 on key definitions). One of the goals of this paper is to interrogate which sources of international climate finance are appropriately accounted for in the \$100 billion envelop and whether the different types of flows are directly additive.

Table 2 specifies the main types and channels of international climate finance, organising these into public and private flows and bilateral and multilateral channels, and reviews data availability and key methodology issues in each. Some are explicitly a blend of public and private which represent clear challenges for tracking. A more detailed discussion of these different channels is outlined elsewhere (see Corfee-Morlot et al, 2009; Buchner et al, 2011a and b; Box 2 on key terms and definitions).

Figure 1: Estimates of North-South climate finance flows (~\$70 - 120 billion per year, latest year estimates 2009-2010)



Notes: Bilateral Public refers to bilateral Official Development Assistance (ODA) from OECD DAC CRS 2010 data. Multilateral Public refers to MDBs concessional and non-concessional flows (assimilated to ODA and OOF) as estimated in Buchner *et al*, 2011; these estimates are comparable on an order of magnitude basis to estimates currently reported in DAC CRS and those found in AGF report (2010c). Private investment aggregate refers to flows from developed to developing countries, and is based on recent BNEF (as summarised in Buchner *et al*, 2011b). Export credit data are shown for 2009 (latest year data). CDM refers to primary transaction value of CERs in 2010 and are also from Buchner *et al*, 2011. The lower bound of \$70 bn is based on several lower bound estimates in the series, e.g. bilateral ODA, where the lower bound deducts the “significant” mitigation and adaptation projects from the upper bound estimates which also include “principal” projects; for private investment, the lower bound is the \$37 bn estimated by UNCTAD (2010) or about half of the upper bound estimate provided by BNEF.

Source: OECD compilation from various sources: OECD DAC-CRS and export credit databases, Buchner *et al*, 2011b; see also Buchner *et al*, 2011a, World Bank, 2010; AGF, 2010; UNCTAD, 2010.

There are a number of key gaps in the data and methodology for tracking of climate flows:

◆ **Public international flows – multilateral:** There is no harmonised system of reporting or tracking in place across multilateral development banks (MDBs) for multilateral **concessional** and **non-concessional flows**; this source is estimated to represent almost half of all international public flows today but data are limited (AGF 2010a). The DAC-CRS methodology is in place to support tracking of these flows in a harmonised manner, and can be built upon, but few MDBs currently report details on the climate focus of their operations to the DAC. MDBs have however put a process in place to develop a common system to track climate finance, building on the DAC-CRS methodology, but taking it further by implementing the methodology at a component rather than project level. While it could provide valuable data and relevant lessons for the DAC system, no systematic data are available yet (Buchner *et al*, 2011a).

◆ **Public international flows – bilateral:** Complete data is also lacking for bilateral OOF to support climate change, as OOF are not currently marked for climate-relevance. Recent analyses suggest that accounting for non-concessional as well as concessional flows in bilateral and multilateral portfolios increases estimates of the amount of climate finance flowing on a gross accounting basis by between a quarter and a half. The share is greatest when looking across multilateral portfolios and for those targeting mitigation rather than adaptation objectives (UNEP *et al*, 2010; AGF, 2010b). In a move to fill this gap, the DAC recently agreed to expand the application of the climate change Rio markers to non-ODA official flows. This expansion of the Rio marker system could help to provide improved data on climate finance relatively fast. **Export credits** (public sector interventions mobilising private finance) are another common bilateral flow of OOF that is increasingly pertinent in this context, e.g. in financing investment in clean energy projects.

◆ **International private flows:** Current estimates of **international private climate finance** are large, far out-weighting all public flows (Figure 1). These can come in different forms, including but not limited to foreign direct investment (FDI), other private flows and investment, or finance flows associated with CDM (which can also involve public flows). For **FDI**, both OECD and UNCTAD operate statistical databases but their usefulness is limited for the purposes of tracking climate-related FDI by definitional problems and limited detail on the geographical origin and sector level. For flows associated with **CDM**, there is no agreed methodology to estimate either the value of credits or underlying investment, and publicly available data are limited. This means that proxies are needed to develop estimates of associated finance flows (Corfee-Morlot *et al*, 2009; Buchner *et al*, 2011a and b). Beyond FDI and CDM flows, **“other sources of private climate finance”** comprise money raised through global or local capital markets, in the form of equity or debt instruments; these may support specific projects or programmes with climate objectives (e.g. low-emission infrastructure). Commercial data sources on some specific subsets of “private climate finance” are available from financial data providers like Thomson Reuters Point Carbon CDM and JI database and Bloomberg New Energy Finance (BNEF), which focuses on clean energy technology, and a database maintained by the IFC.⁴ However none of the datasets provide the granularity nor coverage of all relevant types of climate change projects required to track climate finance flows nor do they provide sufficient information to inform questions about causality.

⁴ IFC tracks the development results of all active investments throughout their project lives. For more information see <http://www.ifc.org/results>.

Box 2: Key definitions

Finance, for the purposes of this paper, is understood to include both investment as well as debt and other instruments, including e.g. loan guarantees.

Investment is a commitment of money or capital to an activity, project or financial product with an expectation of profit or additional income (OECD, forthcoming 2012).

Official development assistance (ODA) are international public flows that aim to promote development; these take the form of grants or loans with below-market interest rates. Specifically, these public flows are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare of developing countries as the main objective; (c) at concessional financial terms (if a loan, concessional in character and having a grant element of at least 25 per cent).*

Other official flows (OOF) are official development flows that do not meet the concessionality criteria described above in ODA, but may also be used to support climate change action. These flows stand somewhere between pure aid flows and the profit-seeking private flows (with the exception of export credits which are profit-seeking public sector interventions mobilising private finance).

Foreign Direct Investment (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). South-South and South-North FDI play an increasing role.**

* See also OECD DAC glossary website: www.oecd.org/dac/glossary

** See G20 FDI data on OECD website: www.oecd.org/investment/statistics; also most recent FDI statistics for OECD and G20 countries(xls)

◆ **Domestic investment flows**, as well as South-South flows, in developing countries' infrastructure add an important element to North-South climate finance flows. Available information suggests that both public and private domestic capital play an important role, but as yet there are no reliable nor comprehensive data sources on these flows (Corfee-Morlot et al, 2009).

Table 2: Data availability and systems – who is tracking what and how?⁵

Type and channel of finance & flow estimates	Actors, Institutions	Routine reporting, data sources and systems
Public Bilateral		
ODA \$15 - 23 bn* OOF: (no comprehensive estimates of climate-related OOF available)	Bilateral aid agencies e.g. GIZ, SIDA, USAID, etc	<ul style="list-style-type: none"> ◆ UNFCCC (NCs) – While Party reporting includes financial data (Ellis <i>et al</i>, 2011), no clear set of definitions on what and how to report on finance. Data collected are not part of a statistical system with fully harmonised definitions. ◆ OECD DAC-CRS tracks Official Development Assistance (ODA) climate finance through Rio markers for mitigation and adaptation including other climate-targeted support (e.g. capacity building).⁶ Adaptation data begin only in 2010, whereas mitigation and other data are available since 1998. The system can include multilateral flows however current data coverage is limited.⁷ Other official non-concessional finance (OOF) is also tracked but Rio Markers are only recently being applied (data are not yet available). Several AI countries are not members of the DAC and thus do not routinely report [see Annex 1]⁸
Specialised climate fund, (included above)	e.g. ICI in Germany	<ul style="list-style-type: none"> ◆ Annual reports with detailed data available from fund operators but no harmonised data collection system in place. These flows can be accounted for in DAC-CRS and preliminary data are currently available. Coverage limited however. ◆ NGO efforts currently help to track such funds, e.g. the Climate Funds Update initiative, supported by the Heinrich Boll Foundation & ODI, but these are not institutionalised.
Export credits – OOF \$0.7 bn, 2009 (clean energy only)	e.g. EFIC (AUSL), COFACE (FR), ECGD (UK)	<p>OECD collects information on export credits in two different fora and for two different purposes (work to streamline OECD data on export credits is ongoing):</p> <ul style="list-style-type: none"> ◆ Export Credit Group (composed of all OECD members) to monitor members' compliance with the export credit agreements. In OECD Export Credit database, data are confidential but aggregate information can be made available; it is possible to extract flows for key sectors and "climate relevant" projects, e.g. water and clean energy (renewable energy and energy efficiency). Disbursements and repayments cannot be tracked at present. ◆ DAC (comprising 24 members – See Annex 1) to provide the "big picture" of developing countries' resource receipts.
Public Multilateral		
Concessional and non-concessional flows, \$14 - 17 bn, 2009-10 **	World Bank, ADB, AfDB, IADB, EIB, EBRD	<ul style="list-style-type: none"> ◆ No common statistical system across MDBs to track climate finance. MDBs report to DAC-CRS but have not consistently used Rio Markers to identify climate finance; main sources of data are annual reports and other uncoordinated reporting mechanisms which vary by institution. ◆ NGO efforts currently help to track such funds, e.g. the Climate Funds Update initiative, supported by the Heinrich Boll Foundation & ODI, but these are not institutionalised.

* OECD; ** Buchner *et al*, 2011b; *** UNCTAD 2010 (low, 2009 data) and BNEF (high, 2010 data as cited in Buchner *et al*, 2011b)

⁵ Most systems are designed to report on either outflows by country, inflows by country or possibly both. They are thus relevant to 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. The focus here is on outflows by country.

⁶ OECD DAC system is designed as a statistical system that tracks "commitments". Disbursements – gross and net (i.e. taking into account repayment by recipient countries) – are also tracked but there is no adjustment of Rio Marker coding if project changes.

⁷ The World Bank has reported into the system, using Rio Markers and other MDBs have also agreed to do so.

⁸ See Annex 1 for more information on the DAC statistics framework.

Type and channel of finance & flow estimates	Actors, Institutions	Routine reporting, data sources and systems
Public Channels Working with Private Sector and Public/Private Channels		
Development finance institutions (Partially included in ODA, OOF and private sector BNEF data)	OPIC, KfW, IFC, MIGA, etc.	<ul style="list-style-type: none"> ◆ Designed to partner with and de-risk private sector investment, a subset of OOF is inter-twined with private finance and investment and is only recently being tracked in the climate change area (e.g. US government reporting of OPIC finance in fast-start reporting).
Specialised climate funds, \$1 - 3 bn , 2009-10** (Partially included in public bilat and multilat estimates)	Adaptation fund; GEF Others: Clean Investment Funds; UN-REDD Programme; etc.	<ul style="list-style-type: none"> ◆ No system in place or harmonised data collection across funds; some of the funds are providing detailed annual reports ◆ Public flows: bilateral and multilateral reporting conventions and methods for public climate finance, and can be represented in DAC-CRS ◆ NGO efforts currently help to track such funds, e.g. the Climate Funds Update initiative, supported by the Heinrich Boll Foundation & ODI, but these are not institutionalised.
CDM and Specialised Carbon Finance Funds, \$2.2 - 2.3 bn , 2010** (CDM only)	CDM, BioCarbon Fund, Prototype Carbon Fund, and other country specific Funds	<p>No agreed methodologies for what or how to track finance flows related to CDM except for ODA (however some relevant information routinely provided by World Bank or other commercial information providers, e.g. Point Carbon). Estimates of CDM project investment have been constructed by analysts but are derived from proxy data (see Box 3).</p> <ul style="list-style-type: none"> ◆ UNEP-RISO CDM project database; however no statistical data on value of CERs, CDM project investments or even price of CERs.
Private Investment and Finance (other than CDM – see above)		
FDI and other private finance \$37 - 72 bn , 2009-2010***	Companies Investment and other banks Institutional investors	<p>Relevant private flows may take different forms e.g. FDI vs. mergers and acquisitions, joint ventures or loans. No internationally-agreed definition of what target activities (i.e. sector categories and types of project flows) could be considered as climate finance. Different data sets exist (see below) but it is currently not possible to combine these due to methodological differences.⁹</p> <ul style="list-style-type: none"> ◆ UNCTAD FDI statistics have broad country coverage for inflows and outflows (however database does not allow tracking of both the source and destination of the flows; also sectoral detail by country) ◆ OECD FDI statistics – higher quality data, could allow tracking of source or first counterparty destination by sector, however only covers OECD countries as “reporting” countries. Ongoing work includes: moving forward on defining green investment, and analyzing green FDI by record linkages with environmental expenditures, for those countries who have access to this data. ◆ BNEF and other commercial databases on clean energy only. The data set does not provide a way to identify the geographic origin of the capital flows, thus makes it difficult to use for N-S tracking or to attribute flows to a donor country. It is also a commercial database, accessible only on a fee basis.
Private philanthropy \$0.4 bn ** (including voluntary carbonmarket flows)	Gates, Rockefeller and Soros, etc.	<ul style="list-style-type: none"> ◆ OECD DAC system has begun to track data on a voluntary basis with philanthropic donors e.g. Gates foundation is reporting through the system. ◆ Annual reports are also available (but data is not routinely aggregated across different foundations).

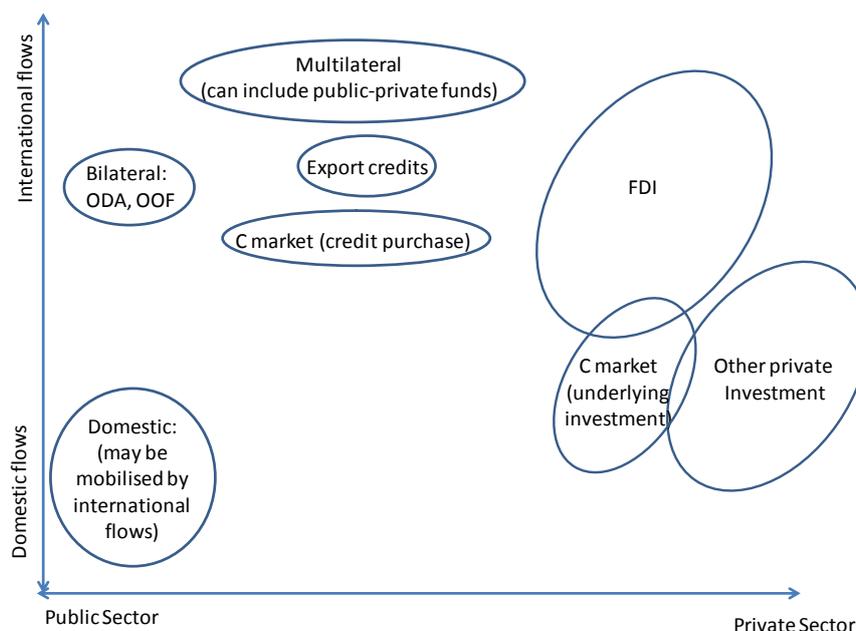
⁹ Recent OECD analysis proposes a way forward to define a range that frames “green FDI”, providing proxies for the lower and upper bounds of this range using narrow and broad definitions of “green FDI” (see Golub *et al*, 2011). However it is unclear whether FDI statisticians would place a priority on improvement required to systematically track “green FDI.” Further, FDI outflows from China, India and other non-Annex I countries are significant (Golub *et al*, 2011), hence it is important to consider eventual expansion of any tracking system to cover developing-developing (and even developing-developed) FDI. While tracking Developing-Developing flows is not of direct importance to counting the \$100 bn, it would be useful to explore in future.

3. What we do not know: Illustrated by financial flow examples

The fundamental challenges for robust tracking lie at the nexus of political and technical issues. On the political side, there are many open questions regarding what financial flows could count towards the \$100 billion. These political questions are intertwined with complex data issues, related to availability and levels of disaggregation (both geographical and sectoral)¹⁰. Some general principles of climate finance had been proposed during the on-going climate negotiations e.g. predictable, adequate and scaled-up (UNFCCC 2011). However the application of such principles becomes complicated when considering examples of entangled financial flows across a variety of financial actors and instruments, and they were subsequently omitted from the Durban outcome (UNFCCC 2011a).

Following Section 2, Figure 2 shows the range of sources for public and private flows. In reality, many of these sources are combined to support a particular climate change action. To illustrate some of the key tracking issues, this section provides examples of different types of funding provided by developed countries for mitigation or adaptation activities undertaken in developing countries. The purpose of these examples is to highlight the questions that negotiators will need to address when deciding which flows could be counted towards the \$100 billion commitment for developed countries.

Figure 2: Climate flows can be public, private (or both); domestic, international (or both)



The examples in this section, though not exhaustive, demonstrate the complexity of financial flows for climate change action, across both international and domestic scales as well as public and private flows. In addition to the eligibility/boundary questions mentioned above, the examples highlight a number of more technical “tracking issues” related to the causality of mobilised flows, data availability, and various legal

¹⁰ Geographical disaggregation is important to ensure that a distinction is possible between N-S and S-S financial flows. Sectoral and in some cases more detailed functional disaggregation is important to ensure that a distinction can be made between flows that could have a negative effect in terms of GHG (e.g. inefficient coal-fired power stations) and those that could have a positive effect in terms of GHG (e.g. renewable electricity plants). Climate-relevant actions affect GHG emissions (but do not always have positive benefits for climate change), while climate-specific actions are designed to address the climate problem (Corfee-Morlot *et al* 2009). For the purpose of this paper, the focus is on climate-specific actions.

and institutional challenges. While the issues are often intertwined across multiple examples, to simplify they are presented here according to 1) definitional challenges, i.e. which types of international/domestic and public/private flows could count; 2) causality challenges, i.e. specific actions or policies that are driving the flows; and 3) boundary challenges, i.e. origin and timing considerations.

3.1 Definitional challenges raised by financial flows examples

Fundamental questions remain on what types of flows could be eligible for counting towards the \$100 bn. The following examples highlight some of these questions on international public and private flows, private sector-driven projects, and domestic flows.

3.1.1 International (developed country) public and private flows

The Cancun Agreements highlight that both public and private sources of climate-specific funding could count towards the \$100 bn commitment. However, there is a wide variety of such flows – some of which are likely to be additional and/or “mobilised” by Annex I governments (individually or collectively), and others not. This figure shows the case of a mitigation or adaptation activity located in a developing country that has been financed by international sources (e.g. bilateral and multilateral development finance – both of which are “public international flows”, and various sources of international private finance or international “private flows”). This project combines concessional and non-concessional sources (ODA and OOF) on the public finance side. The use solely of international flows to fund projects in developing countries does occur, e.g. for smaller GEF projects (mitigation or adaptation) as well as via the Least Developed Countries Fund (for adaptation projects).

In terms of international private flows, these could flow directly to the mitigation or adaptation activity, e.g. via foreign direct investment. Alternatively, they could be channelled via a climate fund which could be private sector only, such as Climate Change Capital. They might also be from a mixture of private funds with contributions from Annex I country governments, such as the World Bank’s Prototype Carbon Fund. The questions and data implications arising from such flows are outlined in Figure 3 and Table 3 below.

Figure 3: International public and private flows

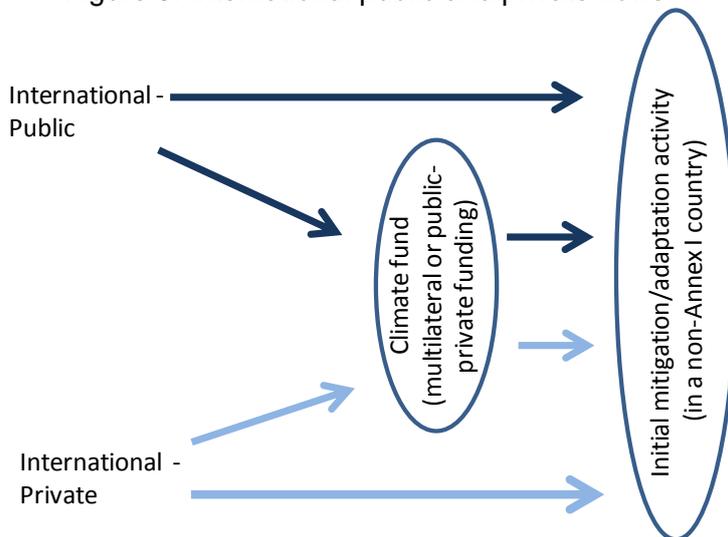


Table 3: International public and private flows: Questions & implications

Questions	Tracking implications
Should all international funding (public and private) be counted towards the \$100 bn? If so, are the data available?	<p>Information on private flows to climate-specific projects is currently not routinely collected by international donors or by host country partners. A limited picture of private flows relevant to the \$100 bn is available for some sectors (e.g. clean energy), or some specific multilateral channels (e.g. GEF – although this is not always separated into domestic and international¹¹; OPIC projects which need to leverage a minimum of 25% from other sources and are thus carefully documented¹²). However, currently available data would only provide a limited picture of private sector flows from Annex I countries to climate change projects in NAI countries.</p> <p>Decisions relating to multinational enterprises could also be needed. For example, would <u>flows</u> from a wholly-owned subsidiary in a developing country (whose parent company is domiciled in an Annex I country) count towards the \$100 bn (see example 3.3.1 on origin of international flows)? If so, who would be in a position to routinely collect and report such data? Would the <u>stock</u> of FDI also be reported and recorded, and if so, by whom?</p>
Does the answer depend on the channel through which the funding flows?	Should finance only flowing through certain development finance channels count (e.g. multilateral funds such as the GCF, WB, multilateral development banks, GEF)? If so, to ensure comparable reporting, it would be necessary to establish a list of agencies or funds that support climate-specific projects and collect detailed data on their outflows. (The DAC system has begun to do this and might be extended to do so in a comprehensive manner.)
Does the answer depend on whether funding is concessional or non-concessional?	Not all public flows are concessional (ODA is, but OOF is not). Whether and how to account for OOF in comparison to ODA is a key question. Private flows could be concessional (e.g. philanthropic grants), however most flows are profit-seeking with return on investment. Private flows may come in the form of debt or equity. FDI focuses on equity investments where ownership exists (see Box 2), whereas other private flows may be relevant (e.g. debt instruments).
Should only “additional” public and private flows count?	If so, how would the “baseline” be established, and would the approach to establishing it need to be comparable across countries, companies and funds? For example, a baseline could be set at the level of financial flows in 2009, when the date the \$100 bn figure was agreed, or based on the rate of change of funding over the last <i>n</i> years.

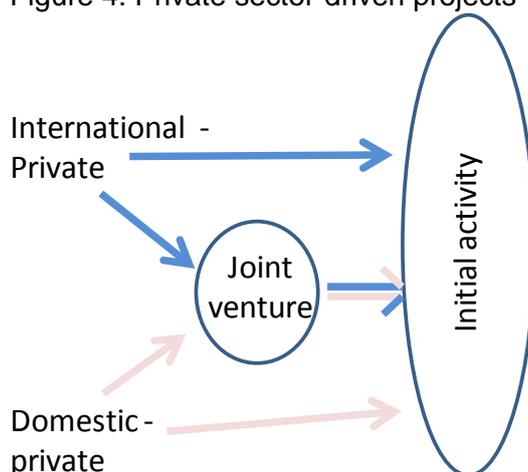
¹¹ Note that the issue of domestic sources is covered in subsequent example 3.1.3.

¹² See <http://www.opic.gov/financing/eligibility-checklist>.

3.1.2 Private sector-driven projects

The private sector plays an important role in financing projects that can have an impact on a country's climate change mitigation or adaptation activities (OECD, 2011; Buchner et al, 2011b). Projects without direct public sector involvement at the origin raise interesting questions for what might count towards the \$100 bn. Private sector monies from different sources could flow directly to a climate action in a developing country. Alternatively, funds could flow via a "joint venture"¹³ between companies domiciled in an Annex I and a non-Annex I country. JVs have become increasingly common, particularly in China, which is the largest developing country recipient of FDI¹⁴. In some cases, joint ventures are the only way for foreign companies to participate as an investor (e.g. CDM projects in China). A lack of comprehensive data on private sector flows complicates the tracking process (Figure 4, Table 4).

Figure 4: Private sector-driven projects



¹³ Joint ventures are a legal arrangement between two or more private sector partners.

¹⁴ See UNCTAD database: <http://unctadstat.unctad.org/>.

Table 4 : Private sector-driven projects: Questions & implications

Questions	Tracking implications
<p>Could international private flows to climate activities count (i.e. other than those seeking carbon crediting, see below)?</p>	<p>Tracking international private flows to climate projects at aggregate or country level would likely require improved methodologies across multiple sources of data (e.g. UNCTAD 2010). Tracking private flows should ideally give a picture of the final destination, which is not always straightforward because some finance may flow indirectly to their final destination (e.g. for tax reasons).</p>
<p>Does this depend on what catalysed the flows?</p>	<p>For example, a developed country may have policies that encourage private flows to specific countries or sectors. (See Section 3.2 for further discussion of causality.)</p>
<p>CDM (or other carbon market projects) are typically developed because of an Annex I/international policy. Could the financial flows associated with the purchase of the credits also count to the \$100 bn or would the answer depend on if the credits are used to meet a country's mitigation target?</p>	<p>Primary transactions of CERs from CDM projects could be tracked and valued at market prices and attributed to the purchasing country (see Box 3 on CDM below and Table 2). This would have to be done with proxy data and require agreement on a standard methodology, as well as consideration of how to treat intermediary purchasers. If ODA has been used to finance a CDM project, the value of CERs received need to be deducted.</p>
<p>What about the investment associated with CDM projects?</p>	<p>Investment can also be estimated (see also Box 3). However it is more difficult to attribute investment or to identify which portion of investment should be attributed to climate policy (e.g. in many cases the CDM portion of the project is relatively small part of the overall investment). It could also be difficult to assess whether it is the international regulatory framework and/or a host country regulatory framework that has "mobilised" such investment. Accounting for CDM investment flows alongside FDI would also risk double-counting private flows unless they were reconciled.</p>
<p>What about other private sector-initiated projects, e.g. asset finance from Annex I countries?</p>	<p>Data for other private sector flows are patchy. BNEF has a detailed project-level database for energy sector investments but it is not publicly available, and not focused on the geographical origin or destination of investments (Buchner et al, 2011a; Louw, 2011).</p>
<p>Does the answer differ depending on whether or not the supported projects are ultimately listed as "NAMAs"?</p>	<p>Some financial transactions related to NAMAs could potentially be tracked in the NAMAs registry. However, this would only give a partial picture as provision of information to the registry is voluntary (UNFCCC, 2011a), and focuses on mitigation actions (not adaptation).</p>
<p>Could climate-specific finance flowing through joint ventures count towards the \$100 bn? Does this depend on the relative ownership of the JV by Annex I companies? And whether the JV is driven by AI climate policies or by NAI NAMAs?</p>	<p>Information on the relative ownership shares of different partners of the JV would need to be identified. This may not be readily available in many cases. Further, equity and debt JVs would have different implications for net flows over time (e.g. return on investment for equity, interest payments for debt). There is also a possibility of double-counting with domestic flows, if these are being tracked.</p>

Box 3: Approaches to tracking climate finance flows in support of CDM

One way to assess financial flows associated with 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. These could be said to represent North-South finance flows, even for “unilateral” projects or those that have received only domestic investment. Many CDM projects do not have international involvement at the time that they are registered (Haites, 2011; Chair’s Summary, 2011), but rather seek international credit purchasers upon issuance of credits. Primary CER contracts are negotiated confidentially between those buying and selling CERs, with price dependent on project type, credit volume and risk, political risk and other factors. There is thus no single figure for primary CER value, nor are data publicly available.^[1] The estimated value of CER holdings are obtained by applying the reported average annual primary carbon offset prices to the annual volume of offsets issued.^[2] 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 estimate the finance flowing through CDM is to focus on investment flows associated with CDM projects. The flows associated with investment in the underlying project are significantly larger than CER primary or secondary transaction flows (i.e. an estimated \$45 bn of investment in registered projects in 2010 compared to \$2.2-2.3 bn of primary transaction value in the same year, see Haites, 2011 and Buchner *et al*, 2011b respectively). Data are not routinely collected on CDM investment and standard methodologies to estimate investment are lacking (Haites 2011; Buchner *et al*, 2011a; Corfee-Morlot *et al*, 2009; Seres and Haites 2008; UNFCCC, 2007). Even if data problems can be overcome to estimate investment levels, a question remains about attribution, i.e. whether investment in a CDM project can be attributed to an international climate regulatory framework and/or to an individual country.

Source: Text adapted from Buchner *et al*, 2011a.

Notes: ^[1] CDM credit (quantity not price or financial) flows data are collected by UNFCCC, UNEP Risoe, and a number of private data providers estimate the price and aggregate financial value of these (e.g. Point Carbon, see also Buchner *et al*, 2011a); but more detailed price information is available for secondary transactions. The approximate level of financial flows associated with (primary) credit transactions can therefore be estimated.

^[2] For a detailed explanation of the calculation see Buchner *et al*. (2011b).

3.1.3 Domestic (non-Annex I) flows

Many climate change projects undertaken in developing countries are financed from domestic sources (Corfee-Morlot *et al*, 2009). Such flows also frequently supplement inflows from Annex I countries, and in that context could be considered as either pre-existing or “mobilised”. A simplified illustration of the possible mixture of different sources to fund activities is outlined in Figure 5, with resulting questions and data implications outlined in Table 5 below.

Figure 5: Domestic (non-Annex I) flows

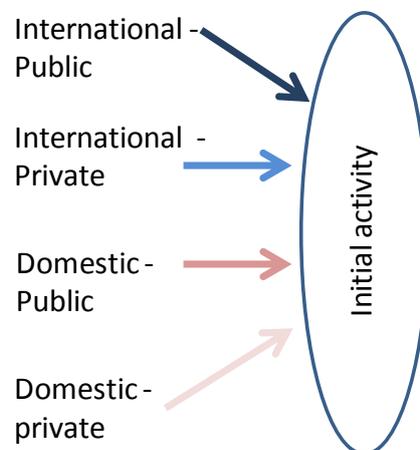


Table 5: Domestic (non-Annex I) flows: Questions & implications

Questions	Tracking implications
Where a project benefits from both AI and NAI funding, should domestic (non-Annex I) funding – public and/or private – be counted towards the \$100 bn?	This would involve identifying and quantifying the domestic investment in these activities and in particular identifying the domestic climate-specific actions that have been mobilised by climate finance from Annex I countries. Tracking this could be particularly challenging for flows outside the non-Annex I government’s budget (i.e. private flows) as these are not routinely tracked. Some data may be available from non-Annex I country partners, or from Annex I country partners. (For example, projects that are co-financed by aid agencies and DFIs are tracked, although data on the amounts of associated financial flows are not always available.) In the case of private finance it may however be difficult to distinguish country of origin.
Should the amount to be counted vary according to the project situation (e.g. depending on whether the domestic funding could be said to be directly leveraged by Annex I flows)?	Some information on leveraging is available (e.g. from GEF projects). Other MDBs have requirements on leveraging ratios which could potentially be used (although care would be needed to ensure that double-counting is avoided, e.g. if more than one MDB contributes to a specific project). However there is no standardised method to calculate leveraging and it often refers to co-financing, thus raising a difficult question of causality (Brown <i>et al</i> , 2011). Even if information is available for individual projects on the relative timing of funding decisions from different funders, it could be difficult to determine objectively if the availability of a particular funding source or guarantee was the determining factor in “mobilising” other sources (see also example 3.2.3 on cause and effect).
Should domestic “in-kind” contributions count, and how could they be tracked?	Estimates for domestic “in-kind” contributions from the domestic government are included in some GEF projects. How would in-kind contributions such as staff time be accounted for in the \$100 bn and could they be systematically monetised? International in-kind contributions are usually costed and included in project overhead costs.

3.2 Causality challenges raised by financial flows examples

Identifying specific policies or actions that drive financial flows is complicated, in part because financial flows are often combined from different sources for a climate change action, and accurate detailed data is not always available to provide a complete picture of the flow. The following examples on loan and risk guarantees, indirect climate impacts, and cause and effect of flows illustrate this challenge.

3.2.1 Loan and risk guarantees

Guarantees from trusted institutions/governments can help to incentivise and catalyse international and domestic private flows to mitigation activities in developing countries (Figure 6, Table 6). These could take the form of a guarantee on a loan or a sovereign guarantee to provide domestic funds if necessary. Could some or all of these flows count towards the \$100 bn (even if no payment were to be made via the guarantee)?

Figure 6: Loan guarantees

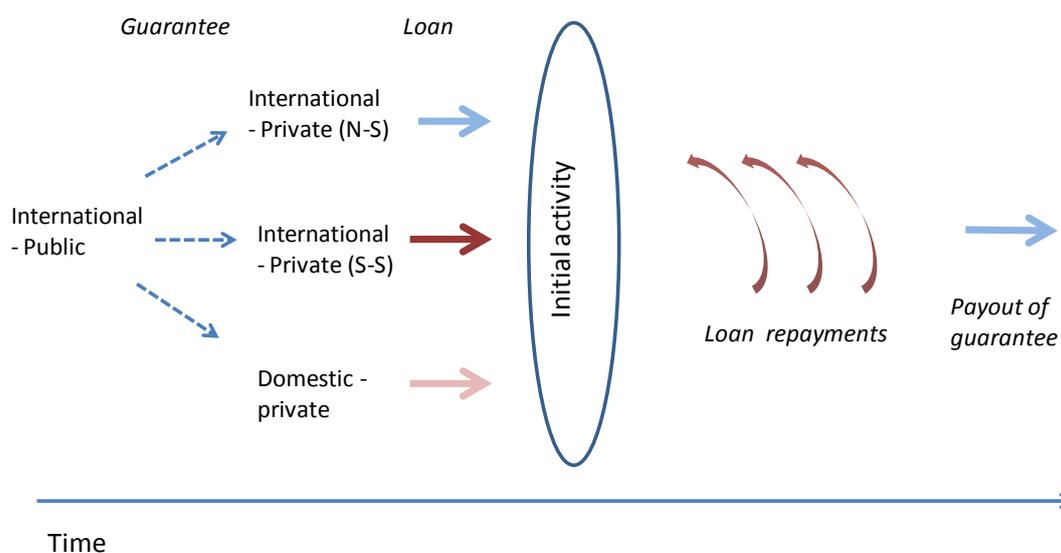


Table 6: Loan and risk guarantees: Questions & implications

Questions	Tracking implications
Guarantees involve no cross-border flows until their activation; in a successful guarantee operation there is no financial payout at all. However, guarantees may be critical to making the financing available to developing countries. Should these guarantees count towards of the \$100 bn?	Agencies extending guarantees keep detailed records of amounts guaranteed; however only export credit guarantees are subject to systematic reporting at the international level (although methodologies for tracking guarantees and other contingent liabilities are being discussed at OECD/DAC). Data collection on guarantees would require the definition of (i) point of measurement (e.g. point of time at which resources are made available to the developing country), (ii) amount to be recorded (e.g. amount covered, potential financial risk to the guarantor, leverage effect), and (iii) typology permitting to distinguish between various guarantee instruments (e.g. direct guarantees vs. guarantee funds).The DAC-CRS database does not track guarantees (only flow data are collected) whereas in the OECD export credit database guarantees are listed when extended. ¹⁵
Institutions extending guarantees work with banks at home and abroad. Which country is considered to have provided support - the guarantor or the country where the private finance is raised, or both? Should resources mobilised in developing countries (N-S or S-S or domestic flows) be counted towards the \$100 bn?	<p>If developed country X guarantees a loan extended by a bank located in developed country Y for a climate mitigation activity in developing country Z, the financial flow is from Y to Z. If the guarantee is activated, there is an additional flow from X to Y.</p> <p>If the bank extending the loan is located in a developing country (or indeed in the country in which the mitigation activity is taking place), there is no N-S financial flow (in the latter case there is no international financial flow). However, if the guarantee from X allowed the mobilisation of financing for the activity in Z, then would it be justifiably included?</p> <p>Any system tracking climate-related guarantees would need to clearly specify who reports what and in which circumstances a guarantee would qualify as climate finance.</p> <p>Risk insurance can also be provided by a non-Annex I country, e.g. Mali provides a sovereign guarantee for an SREP project (SREP MALI, 2011).</p>

¹⁵ Some countries may need to account for the full amount of a guarantee on their balance sheet.

3.2.2 Indirect climate impacts

Some non-Annex I countries have communicated activities as NAMAs that do not directly affect either GHG mitigation or adaptation. Examples include developing GHG inventories, feasibility studies, strategies and plans that can help governments to identify, prioritise and publicise mitigation and adaptation activities, as well as regulatory reform and other enabling activities such as capacity building. These supporting activities can therefore indirectly help the implementation and funding of climate actions.

UNFCCC Article 12.7 indicates that developed countries are to provide support to developing countries to compile and communicate information to the UNFCCC. The Cancun agreements state that the \$100 bn commitments are “in the context of meaningful mitigation actions and transparency on implementation”. This could imply that financial flows that help countries compile and collect information would be included as part of the \$100 bn. While these supporting activities may not have a direct mitigation or adaptation impact, they can be an essential part of adaptation and mitigation action. (The issue of whether flows associated with subsequent climate projects mobilised by the preparation of strategies and plans could be counted towards the \$100 bn is raised in section 3.2.3 below). Questions associated with this issue are raised in Figure 7, Table 7.

Figure 7: Indirect climate impacts

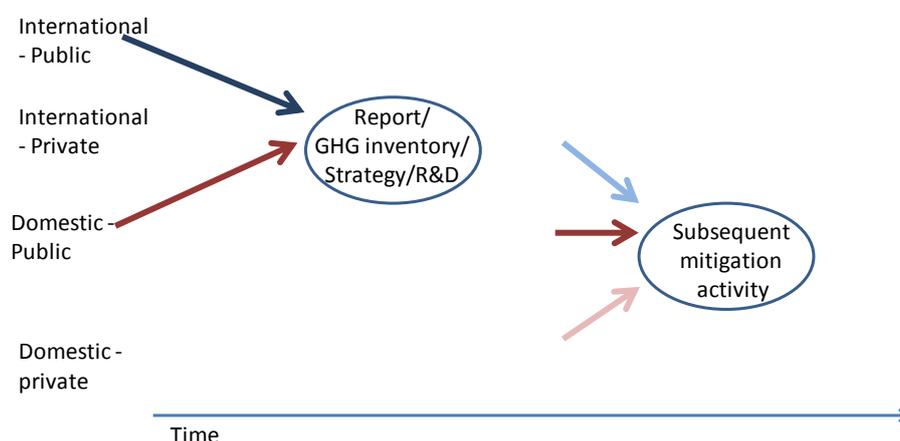


Table 7: Indirect climate impacts: Questions & implications

Questions	Tracking implications
Does funding for preparing reports or strategies, or other capacity building in preparation for an activity count towards the \$100 bn?	<p>Some bilateral and multilateral climate funding is already directed towards activities that may not have a direct climate impact, but are integral parts of a broader programme. For example, ADB agreed in 2011 to a \$750,000 grant to help China develop an emissions trading system in the city of Tianjin. GEF expenditure includes some activities that do not have a direct mitigation or adaptation impact, so some of this information is already collected (although may also be reported as climate change-related multilateral flows).</p> <p>The DAC definition of climate change-related aid explicitly mentions such activities (e.g. integration of climate change concerns with developing countries’ development objectives through institution building, capacity development, strengthening the regulatory and policy framework, or research; the range of activities includes information and knowledge generation, capacity development, and planning and implementation of climate change adaptation actions). While the reporting is at the activity level, it is not possible to distinguish between ODA with direct vs. indirect effect though proxies could be calculated using the type of aid classification. If reporting on activities with indirect effects were to be expanded too broadly, it could impact the credibility of reporting.</p>

3.2.3 Cause and effect of flows

The direct “cause” of financial flows is not always apparent. Multiple factors may have played a part in catalysing North-South flows, and the specific role of each factor may not be obvious. For example, loan conditions provided by developed countries, in addition to supporting domestic institutional frameworks (e.g. a power purchase agreement for renewable energy generators) or international policy frameworks (e.g. CDM established under the Kyoto Protocol, which provides the framework for both supply and demand of emission credits) might all be considered factors that “mobilise” climate flows (Figure 8, Table 8).

Figure 8: Cause and effect of mobilised flows

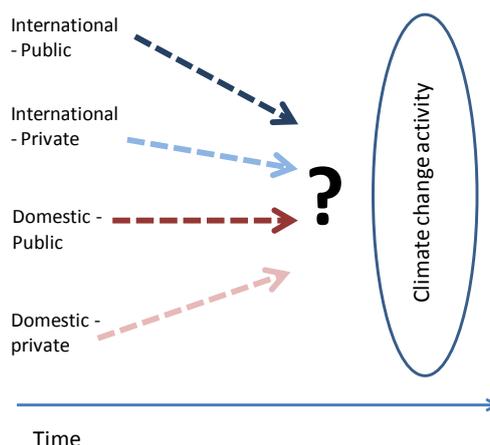


Table 8: Cause and effect of mobilised flows: Questions & implications

Questions	Tracking implications
If the host country provides a sovereign guarantee and/or other incentives (tax rebates, output-based payments etc.) to encourage investment, is it this action or other factors which “mobilised” the flows?	It is difficult to determine “cause” and “effect or what is “mobilised” in complicated financial transactions. Even if such causal information could be determined, quantifying this impact would need guidance on e.g. whether all or only part of flows associated with particular projects or investments could count towards the \$100 bn. Further, this may vary over time as the mitigation or adaptation activity (and/or policy framework in which it takes place) evolves.
What portion of financial flows is “mobilised” by a specific action?	MDBs and bilateral banks use a variety of methods and definitions to determine leveraging or co-financing ratios (Brown <i>et al</i> , 2011). All estimates of flows that have been leveraged will have some level of uncertainty associated with them. To reduce this uncertainty, could a standardised definition of leveraged be developed, e.g. for specific project types, sizes and/or situations?
What climate change investments are “incremental” to alternative investments?	<p>The “incremental” investment for a climate change activity is that which occurs beyond business-as-usual investments, which are not necessarily positive for climate change (Stadelmann <i>et al</i>, 2011). This depends on what assumptions are made for the counter-factual case, which can be politically-charged.</p> <p>This information is not routinely tracked. The CDM aims to support investments in projects that are environmentally or financially “additional”. Alternative investments are sometimes described in the project design documents (subsequently validated by an independent third party). However this information is not necessarily robust or comparable.</p>

3.3 Boundary challenges raised by financial flows examples

Identifying where to draw the boundary around flows counting towards the \$100 bn is not straightforward. This is illustrated by the following examples on origin of international flows, loan repayments and investment return, replication of activities and output-based flows, and investment funds.

3.3.1 Origin of international flows

The true source of international financial flows is not always apparent. On the private side, intermediaries include commercial banks, investment banks and other financial asset managers. Some development banks, such as EBRD, also lend almost uniquely on commercial terms for climate change or clean energy projects thus behaving in a similar manner to a private sector entity. In addition, bonds or other financial instruments can be issued by the private or the public sector, and can be purchased by a variety of private and public actors. Further, multinational corporations may have a home country, but operate affiliates or subsidiaries, or make investments, in other countries. Since these intermediaries could be developing countries, it could appear from an initial look at the statistics that there is significant South-South flows, even if in reality some of these flows go via an intermediary country for tax reasons before reaching their final country destination.

Principal intermediaries for public finance are bilateral and multilateral banks and agencies and the dedicated climate funds they manage. Such intermediaries blend public funds with private capital with the aim to build capacity and create business conditions for long-term financial sustainability of low-carbon, climate resilient investments. This intermediation and movement of flows complicates tracking of climate finance e.g. in terms of the source and final destination (Figure 9, Table 9).

Figure 9: Origin of international flows

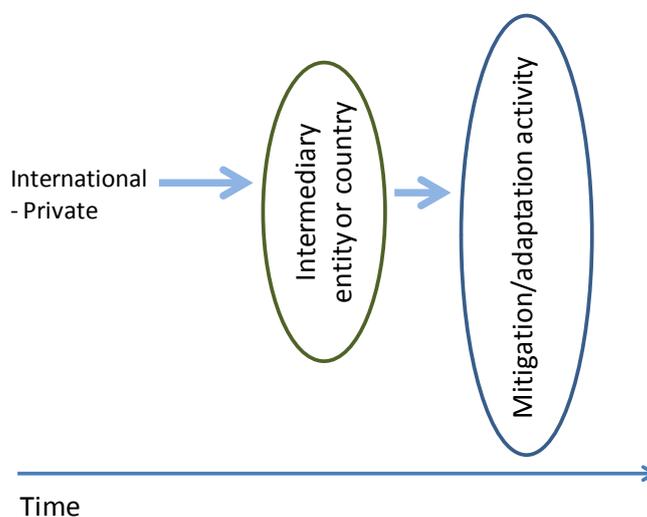


Table 9: Origin of international flows: Questions & implications

Questions	Tracking implications
<p>Can private sector international finance that flows through an intermediary country be counted towards the \$100 bn? What about transnational corporations that have affiliates in developing countries?</p>	<p>Private financial flows (including FDI) originating in an Annex I country could flow through a non-Annex I intermediary country (e.g. a tax haven) before ultimately reaching its non-Annex I destination project (Chair's Summary, 2011; Gopalan and Rajan, 2010).</p> <p>FDI data is recorded by parent companies and foreign affiliates (Corfee-Morlot <i>et al</i>, 2009). Further FDI flows may be reported without following the international standard for allocating to an industry, i.e. reporting the industry of the home country rather than the host country (OECD 2012).</p> <p>For other private financing (e.g. equity fund investment or debt financing) working through commercial intermediaries, it may not be clear from where the investment is coming (e.g. BNEF database).</p> <p>Should all flows from the parent company then count as flows from the country of origin (e.g. should all flows for climate activities from BP be contributed to the UK? If so, how would this work for companies that are jointly owned by entities based in more than one Annex I country? Debt instruments are likely to need a local license and thus flow through a local subsidiary, but this may not be the case for equity. Indeed, since the \$100 bn is for a collective commitment, would it matter if such information was reported only collectively North-South – and would this be possible?</p>
<p>If a private company domiciled in an Annex I country (or an Annex I government) generates bonds, these could be bought by a variety of actors: public/private; domestic/international. Should the source of funding (i.e. purchasers) of bonds be considered when accounting for the \$100 bn?</p>	<p>DAC statistics on climate change-related aid and other official flows cover activities funded through issuance of bond by bilateral and multilateral DFIs; however an activity is reported when funds are spent; information on the origin of funds is not collected. Further, NAI private sector could purchase bond shares issued by AI. How should this be treated, if at all, in accounting for flows associated with bonds as a form of debt finance?</p>

3.3.2 Loan repayments and investment returns

International public and private financial flows can be broken down to two major types of finance: grants and non-grants. The latter consists of loans and securities both of which generate returns, in the form of capital and interest/dividends. For non-grants, the question is whether all of the initial flow should count towards the \$100 bn, or whether interest/dividends should be deducted from the original figure, e.g. as they are repaid (Figure 10, Table 10).

Figure 10: Loan repayments and investment returns

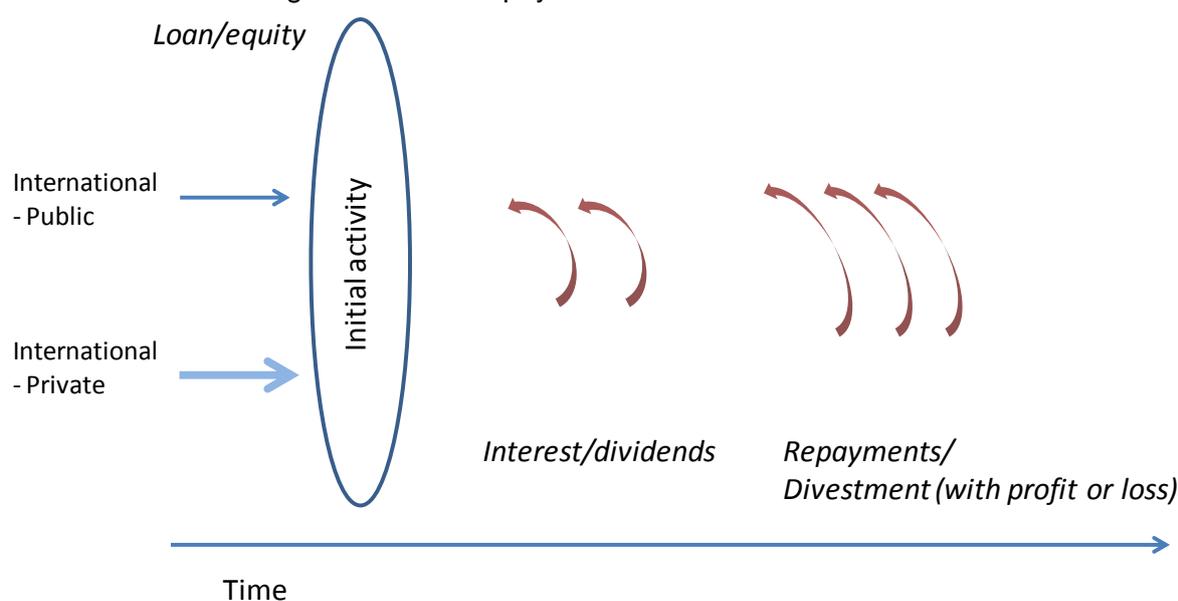


Table 10: Loan repayments and investment returns: Questions & implications

Questions	Tracking implications
Do loans extended by Annex I governments/institutions/entities count towards the \$100 bn, and if so, should they be measured gross or net?	The rules of measurement of loans extended to developing countries are well established in the DAC database. DAC statistics record loans at face value when extended and track repayments year by year until the extinction of the loan. The net flow over time as accounted for by the DAC database is zero. Data on commitments and disbursements are available at the project level for ODA and non-export credit OOF loans (see below), while repayments cannot always be linked with the initial transactions. (DAC statistics on climate change-related flows cover both grants and loans; the data are usually presented on a commitment basis.)
Should concessional loans be treated differently from non-concessional loans? Can export credits be considered as “mobilising” climate finance for developing countries?	Both public and private sector can issue loans that can be concessional or non-concessional. Loans qualify as ODA if they are developmental, concessional in character and convey a grant element of more than 25%. Non-concessional loans are those provided at, or near to, market terms. ¹⁶ These include non-concessional loans from DFIs (included in DAC statistics on climate change-related flows as from 2011) and export credits which are not developmentally motivated, but may be extended to climate-relevant sectors and for projects which would not take place without official sector involvement (direct credit from, or private loan guaranteed or insured by, the official export credit agency). The World Bank’s internal system for tracking climate benefits of the Bank’s operations covers both concessional and non-concessional loans (IDA and IBRD respectively).
Should dividends for equity investment be taken into account?	Loans generate reflows in form of interest. Similarly, equity investments generate dividends; divestment may be with profit or loss. Tracking reflows will be difficult due to confidentiality constraints, while aggregate data could be collected (e.g. DAC statistics collect data on interest received for inclusion in data series on “net transfers” to developing countries). This would be more difficult to track for a private sector transaction.

¹⁶ Further work to define criteria to clarify the meaning of “concessional in character” is ongoing in the DAC.

3.3.3 Replication of activities and output-based flows

As mitigation or adaptation activities are replicated and scaled-up, it is not clear where the boundary could be drawn as to which activities can count to the \$100 bn. This boundary issue has both a spatial aspect (which projects should count, where) and a temporal aspect (is there a time limit beyond which a project is no longer “mobilised” by an initial investment. Should financing of a “first of a kind” project also consider that it has helped mobilise investment in subsequent projects? For example, a UNDP energy efficiency pilot project in Colombia includes an estimate of impacts for replication of the pilot project over 20 years (UNDP, 2009). Tracking of flows to follow-on activities could be over-stated if based on projected financial flows. Further, it would be difficult to ensure the robustness of such information.

Issues related to the timing of climate flows may be further complicated when considering financial flows that are output-based, e.g. where Annex I funding is supporting feed-in tariff payments (or other domestic policies). In such cases, flows can occur over the whole lifetime of a project, but may have been considered by investors as an essential revenue stream when deciding whether or not to go ahead with the particular project. (Figure 11, Table 11).

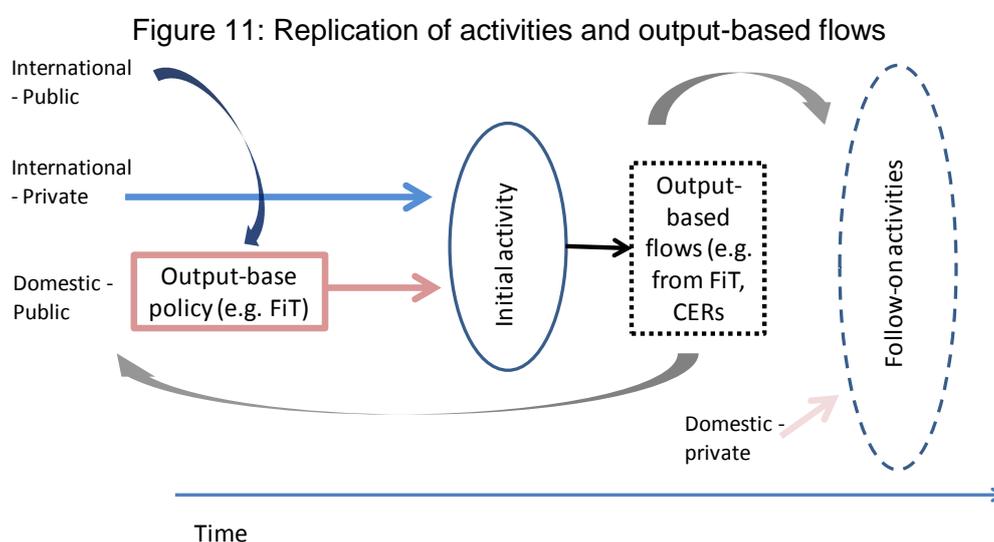


Table 11: Replication of activities and output-based flows: Questions & implications

Questions	Tracking implications
Should follow-on flows from an individual activity count towards the \$100 bn? Should follow-on activities that do not include Annex I public financing count? Should there be a timeline beyond which follow-on flows or activities no longer count?	<p>Reporting on climate change-related aid and other official flows is activity-by-activity, but “follow-on” activities cannot always be easily traced back to “initial” activities, and therefore risk being double-counted. Even if activities could be linked over time, it would be difficult to track changing financial flows, e.g. if initial public support resulted in domestically funded follow-on flows.</p> <p>For CDM PoA, projects are explicitly linked in one proposal, and the expected CER streams (although not the expected revenue from these streams) are quantified for individual projects. In BNEF follow-on projects are not necessarily linked together. Follow-on projects from bilateral ODA are also not necessarily linked, especially if follow-on projects are domestically funded. Data collected in the existing statistical systems, e.g. DAC-CRS, delimits the measurement of climate finance to flows in any given year. Some multilateral projects indicate that they expect a funded project to be replicated in future, but this information is not systematically reported.</p>
Should the \$100 bn include output-based or performance-based payments as relevant financial flows? If so, what should be counted, and when (as projected or as accrued)?	<p>Feed-in-tariffs (FITs) provide a revenue stream to climate-friendly technologies as they increase their production. The cost of FITs could be supported by domestic budgets and/or by international financial flows (AGF, 2010b)¹⁷. Other domestic output-based flows such as India’s Perform-Achieve-Trade scheme (an intra-country energy efficiency certificate trading system), green certificates, renewable energy credits, and white certificates for energy-efficiency saving, could be supported in part by public or private flows from Annex I countries. Under what conditions might the financial flows from the sale of such certificates count (e.g. if the sellers or buyers are domestic or international)? If so, systems would need to be established to track buyers and sellers.</p> <p>For performance-based payments such as CERs, expected revenue streams can be much higher than realised revenue streams (Clapp <i>et al</i>, 2010). To avoid over-counting, ex-ante projections could be reconciled ex-post, or flows could be counted only as they are realised.</p>

3.3.4 Investment funds

Donor governments and development finance institutions have established a number of investment funds to help incentivise international and domestic private flows for climate mitigation activities (e.g. energy efficiency) in specific countries or regions. Many have been established in the form of structured “umbrella” funds with variable share capital (A, B and C shares representing different tranches) to facilitate the inclusion of private investors, such as pension funds or private banks in the future (Figure 12, Table 12). Should the associated private flows count towards the \$100 bn? If so how?

¹⁷ In one interesting example, CER revenue streams will be used to support feed-in tariffs in Thailand and thus catalyse further investment (Puhl, 2011).

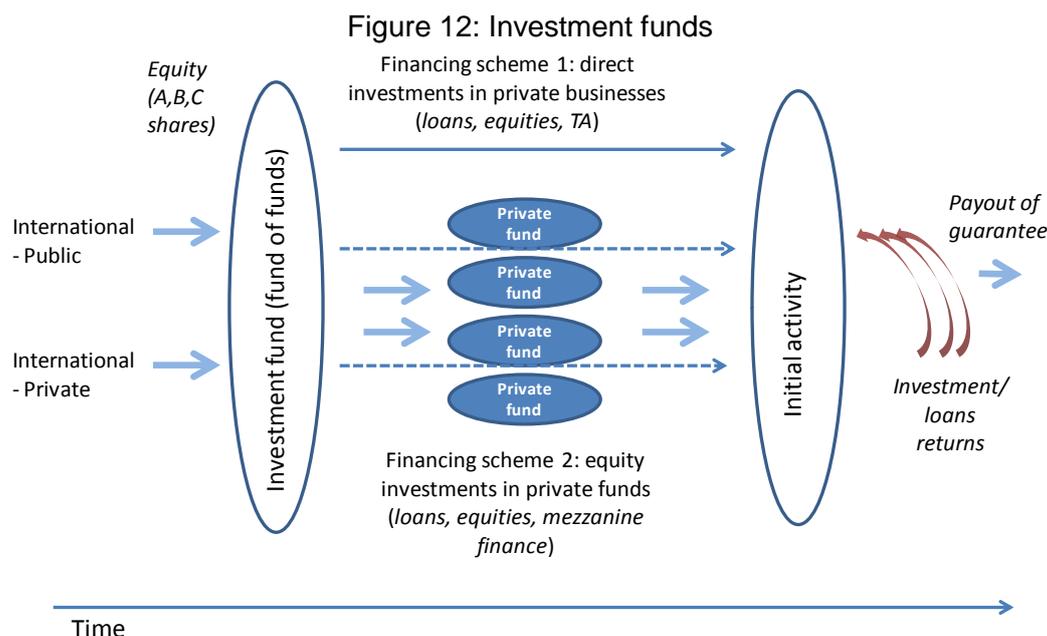


Table 12: Investment funds: Questions & implications

Questions	Tracking implications
The initial investment from the official sector, either governments (“first-loss tranche”, or C-shares) or DFIs (“mezzanine tranche”, or B-shares), is made with the aim of attracting the private sector investors (A-shares) in the future. ¹⁸ Should resources mobilised from the private sector to purchase future tranches of shares be counted?	Different shares have different expected risk and return on investment. If the investment fund is successful, the private sector investors profit. (See also example 3.3.2 on loan repayments and investment returns.)
Investment funds will apply (similarly to other actors) different definitions to determine what constitutes a climate investment. Should there be criteria for funds to qualify as climate financial funds? If so, what should they be?	Investment funds provide market-based financing (loans and equity) either to i) enterprises in developing countries or ii) financial institutions in developing countries which in turn lend money to enterprises. In the latter case, the official sector investor (government or DFI) does not have direct control over the companies and projects in which the funds are invested, although they can impose legal terms and conditions on fund managers for the types of projects invested in, e.g. the developmental, environmental and governance criteria. Should these investments count towards the \$100 bn? Counting them could be problematic. While investors do obtain reporting from the fund managers – usually at the project level – they cannot always publicly report at this level because of confidentiality concerns. OECD is moving forward on possible definitions of green investment (see Box 4 below).

¹⁸ There are many types of shares. Governments can also take on other positions besides first-loss.

Box 4: Defining “green” investment

Ongoing work through the OECD Insurance and Private Pensions Committee is exploring the range of definitions of green investment by institutional investors. A review of concepts and definitions in use related to “green” investments, including those associated with “clean”, “sustainable” and “climate” investments, reveals that there is a variety of different definitions in use across across a range of asset classes, e.g. equities, debt instruments, indices, as well as private equity and loans.

Initial findings indicate that there are some areas of common ground across the green definitions, with regards to sectors e.g. renewable energy, or services (e.g. waste management). However there are also areas of controversy (e.g. whether to include nuclear or biofuel), and areas where it is unclear or uncertain how to address them (e.g. agriculture, IT, financial services). There is also no clear metric for measuring “greenness” or the impact of green investment.

Moving forward, it is important to avoid perverse incentives to investment by using a too narrow definition or a too strictly defined standard. In this regard, taking an open and dynamic approach to definitions and standards might be the most workable approach.

Source: OECD, forthcoming 2012

4. Concluding remarks

At present, data collection systems for climate finance do not provide adequate information on climate finance flows to developing countries. If new systems are to be developed to track these flows it might require a significant lead-time. Data gaps are particularly marked for multilateral public and private sector climate finance flows. The latter are lacking methodological underpinnings and are subject to confidentiality concerns as well as different incentives to report than public flows. Clearly, both political decisions and technical information are needed to track climate change financial flows counting towards the \$100 billion commitment. In particular, decisions are needed on which types of private flows (as well as which type of activities) should count towards the \$100 bn.

The \$100 bn commitment is a collective commitment for developed countries. Tracking progress to this commitment will therefore entail compiling information on climate finance from a mix of individual countries and entities, as well as from sources of “collective” data (e.g. on the carbon market or private sector flows). This will also lead to new reporting challenges, for example, to expand reporting to include international organisations as well as national governments, since only international organisations (and not national governments) can report on “collective” and/or private-sector data flows.

In order to ensure that data and information collected from these different sources are robust, consistent and comparable, there is a need for internationally-agreed definitions or guidelines. In particular, an overarching challenge is to agree on a definition of climate finance, including what is meant by “mobilised” and “additional” if this applies, i.e. which specific sources and flows of finance or funds, as well as which type of activities, could be eligible for counting towards the mobilised \$100 bn.

Table 13 provides an overview of the inter-related challenges raised by the examples outlined in this paper, including boundaries, causality, and other data and reporting challenges. How these challenges are met will influence:

- the quality, completeness, transparency and accuracy of data,
- the resource requirements associated with collecting and reporting them.

The table also provides a few examples of precedents illustrating how some of the more technical questions on specific financial flows have been addressed by some institutions. The international community will need to decide if such precedents may need to be adjusted going forward to avoid any disincentives for climate financing.

Table 13: Challenges for robust tracking

Challenge	Description	Tracking precedents
Lack of data and a single metric for private sector and some public sector flows	No systematic tracking of climate-related flows from private investors exists. Complex institutional structures and flows mean that defining climate finance is complicated, particularly for the private sector. Apart from charitable grants, private finance is profit seeking, although it may be mobilised through public interventions and thus attributable to specific policy objectives. For public sector, Other Official Flows (OOF or non-ODA) are not yet comprehensively tracked for climate change relevancy.	n/a
Collective versus individual reporting; disparate sources	The \$100 bn commitment is for developed countries collectively, whereas under the current UNFCCC reporting system, individual countries are charged with reporting. Because of the disparity of sources of climate finance, it may be difficult to generate a complete picture of climate finance through Party reporting only (even once it has been decided which flows this comprises).*	n/a
Aggregation of public vs. private, concessional vs. non-concessional	It is unclear if different types of financial flows can meaningfully be added together as, e.g., some are concessional and others are not, and rates of return vary.	n/a
Intertwined private/public and international/domestic flows	Private and public streams are often feeding into the same climate actions, but are not always easy to separate, e.g. funds, joint ventures. Also, export credits are also not easy to categorise as they are a mixture of flows (public sector interventions mobilising private finance).	Public institutions, DFIs and banks track their own flows to joint projects, but not necessarily flows from others.
Timing of financial flows – disbursements vs. commitments (net or gross), point of measurement	The point at which tracking occurs, when and how (i.e. commitment or disbursement accounting), will affect the quantity of flows. Accounting for loan repayments and returns on investments (such as in disbursement accounting) will also change the net financial flow calculation.	In the DAC-CRS database (see Annex 1), information on climate change ODA commitments and disbursements is available; loan repayments are counted as negative flows.
Impact of flow on climate activity	Support for R&D, capacity building, reporting/planning, ensuring property rights, etc. can be an integral part of, and have indirect impacts on, countries' mitigation and/or adaptation actions. Plans and strategies can help mobilise funds for implementation. Determining which support or policies “mobilised” flows, and to what degree, is difficult to accurately determine.	These indirect and integrated activities are supported by bilateral donors and for example the GEF, and reported in DAC-CRS.
Loan or risk guarantees and insurance	Guarantees and insurance can help mobilise climate finance flows, but may not involve a financial payout. Thus it is difficult to account for their value compared to loans or grants under conventional ODA reporting frameworks, which may create perverse incentives against such instruments.	DAC-CRS database does not track guarantees (only flow data). The OECD export credit database lists loan guarantees before they are activated.
Double-counting of flows across datasets	Flows may be recorded in multiple datasets. In the private sector, it is not clear to what extent FDI and Bloomberg New Energy Finance data (clean energy investment) overlap; also special climate funds are in part captured in public bilateral and multilateral flow accounting. Unless reconciled in a single data base there is a risk of double-counting.	DAC-CRS covers both inflows to and outflows from MDBs, but the database structure and coding ensures there are no double-counts.
Country of origin and ultimate beneficiary	There is as yet no agreed international definition of private climate finance. Attribution to a single country of origin can be challenging for multinational companies, and for subsidiaries and/or affiliates based in other countries. Finance can also flow through intermediaries in other countries (e.g. tax havens).	OECD data on FDI outflows is to first counterparties only. BNEF data do not track ultimate country of origin.

* This challenge may be addressed by calling on collective data providers, e.g. the DAC-CRS and others as appropriate, to provide complementary reporting and information to the UNFCCC (Buchner *et al*, 2011a).

There are several steps that can be taken to move forward on developing a robust climate finance tracking system, while allowing more time for discussions at a political level to develop. Building on Buchner et al (2011a), action items could include:

- Encourage internationally-harmonised reporting of multilateral climate finance, e.g. by MDBs, in a manner consistent with the OECD DAC.
- Work towards an **internationally-agreed methodology for calculating public finance leverage ratios** for finance mobilised by public policy, measures or investment, which could vary across project types and regions, and begin data collection on such ratios.
- Start with targeted bottom-up decisions on flows that might count towards the \$100 bn. Initial questions to consider could include:
 - Should primary CDM flows be counted?
 - What public policy, measures or investment should be counted?
 - What project types are eligible? A working definition of mitigation and adaptation could start from the DAC definitions (see Buchner et al, 2011a). Ongoing work at OECD is taking stock of the various definitions of green investment to consider prospects for definitions of climate-related finance for institutional investors (see Box 4).
- Reflect on which **existing precedents may be used and how they might be adapted** if they are carried forward to avoid any unintended consequences such as disincentives for investment.
- Establish a dialogue to move forward on the top-down political questions and definitions, including:
 - How to define “mobilised”?
 - Should only “additional” flows be counted? If so, how to define “additional” and how to develop a baseline?
 - Who should be involved in reporting and collecting data? Building on the strawman options developed in Buchner et al (2011a), which institutions or groups should be involved beyond Parties?
- Consider **what level of granularity/aggregation of data is adequate and feasible**, with a view to **what level of uncertainty is acceptable**. Do we need to know flows by country or only in aggregate from developed to developing countries, by sector or by specific activity? What would be the reporting and MRV implications if aggregate data is acceptable?
- Work on a more **detailed analysis of private sector flows** to examine data gaps and overlaps in existing databases (e.g. on FDI and clean energy), and consider who could report on private flows and what their incentives to do so might be. If collecting accurate data is not feasible, is the use of proxies useful and necessary (e.g. estimating primary transaction value of CERs)?
- Consider how to construct a system to **avoid double-counting**. How can the ultimate source and/or beneficiary of flows be identified when funds can flow via intermediaries (e.g. for tax purposes)? At what point in a project or action timeline should financial flows be tracked?
- Consider how recipient tracking could inform a more comprehensive international MRV system.

Determining what and how to count towards the \$100 billion commitment involves asking targeted political questions as well as working through technical aspects. While Parties advance on political questions, there are clear steps forward that can be taken towards a more robust tracking system to improve transparency of the global picture of climate change finance flows.

References

- AGF (2010a), "Work Stream 4: Contributions from International Financial Institutions," http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/Work_Stream_4_International%20Financial%20Institutions.pdf.
- AGF (2010b), "Work Stream 7: Public Interventions to Stimulate Private Investment in Adaptation and Mitigation," http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/Work_Stream_7%20Public_Private.pdf.
- AGF (2010c), "Report of the Secretary-General's High-Level Advisory Group on Climate Change Financing," United Nations, 5 November 2010, http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/AGF%20Report.pdf.
- Brown, J., B. Buchner, G. Wagner and K. Sierra (2011), "Climate Finance: A Survey of Leveraging Methodologies," Climate Policy Initiative, Venice, December 2011, <http://climatepolicyinitiative.org/wp-content/uploads/2011/11/Effectiveness-of-Climate-Finance-Methodology.pdf>.
- Buchner, B., J. Brown, and J. Corfee-Morlot (2011a), "Monitoring and Tracking Long-Term Finance to Support Climate Action," *OECD/IEA Climate Change Expert Group Papers*, No. 2011/03, OECD Publishing. <http://dx.doi.org/10.1787/5k44zqcbbj42-en>
- Buchner, B., et al. (2011b), "The Landscape of Climate Finance," Climate Policy Initiative, Venice, <http://climatepolicyinitiative.org/publication/the-landscape-of-climate-finance/>.
- Chair's Summary (2011), "Chair's Summary: Expert Workshop on Tracking Long-Term Climate Finance from the Private Sector and the Multilateral Development Banks," Organised by the CCXG and the OECD DCD, 10 November 2011, Paris, <http://www.oecd.org/dataoecd/5/50/49107336.pdf>.
- Clapp, C., et al. (2010), "Cities and Carbon Market Finance: Taking Stock of Cities' Experience With Clean Development Mechanism (CDM) and Joint Implementation (JI)", *OECD Environment Working Papers*, No. 29, OECD Publishing. <http://dx.doi.org/10.1787/5km4hv5p1vr7-en>
- Corfee-Morlot, J., B. Guay and K. Larsen (2009), "Financing Climate Change Mitigation: Towards a Framework for Measurement, Reporting and Verification", *OECD/IEA Climate Change Expert Group Papers*, No. 2009/06, OECD Publishing. <http://dx.doi.org/10.1787/5k453xh6h4r6-en>
- Della Croce, R., C. Kaminker and F. Stewart (2011), "The Role of Pension Funds in Financing Green Growth Initiatives", *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 10, OECD Publishing. <http://dx.doi.org/10.1787/5kg58j1lwdjd-en>
- Ellis, J., et al. (2011), "Frequent and Flexible: Options for Reporting Guidelines for Biennial Update Reports", *OECD/IEA Climate Change Expert Group Papers*, No. 2011/02, OECD Publishing. <http://dx.doi.org/10.1787/5k45165j1kmq-en>
- Golub, S. S., C. Kauffmann and P. Yeres (2011), "Defining and Measuring Green FDI: An Exploratory Review of Existing Work and Evidence", *OECD Working Papers on International Investment*, No. 2011/02, OECD Publishing. <http://dx.doi.org/10.1787/5kg58j1cvcvk-en>
- Gopalan, S. and R. S. Rajan (2010), "India's FDI Flows: Trying to Make Sense of the Numbers," UNESCAP, Alerts on Emerging Policy Challenges, Issue No. 5, January 2010, <http://www.unescap.org/tid/artnet/pub/alert5.pdf>.
- Haites, Erik (2011), "Carbon Market Investment and Financial Flows," presentation at OECD/IEA CCXG & OECD DCD Expert Workshop on Tracking Climate Finance Flows, 10 November 2011, <http://www.oecd.org/dataoecd/56/50/49033579.pdf>.
- Louw, Abraham (2011), "Clean Energy Data: Private and Public Capital Flows," presentation at OECD/IEA CCXG & OECD DCD Expert Workshop on Tracking Climate Finance Flows, 10 November 2011, <http://www.oecd.org/dataoecd/57/7/49033652.pdf>.
- OECD (forthcoming 2012), "Defining and Measuring Institutional Investors' Allocations to Green Investments", OECD Publishing.
- OECD (2012), "Mapping Support for Africa's Infrastructure Investment," COM/DAF/INV/DCD/DAC(2011)4/REV1

- OECD (2011), “Financing Climate Change Action,” OECD Policy Brief, <http://www.oecd.org/dataoecd/18/35/49096643.pdf>.
- Puhl, I. (2011), “The SP RE PoA to NAMA Framework & AR Green Infrastructure/Carbon Fund to Finance the Delivery of Renewable Energy at Scale,” presentation in Durban, 5 December 2011.
- Seres, S., and E. Haites (2008), Analysis of Technology Transfer in CDM Projects. Report to the UNFCCC Registration & Issuance Unit CDM/SDM. <http://cdm.unfccc.int/Reference/Reports/TTreport/index.html>
- SREP MALI (2011), “SREP MALI - Investment Plan: Scaling Up Renewable Energy in Mali,” Volume 1: Investment Plan, Republic of Mali, Ministry of Energy and Water, National Directorate for Energy.
- Stadelmann, M., J. Timmons Roberts, and A. Michaelowa (2011), “Accounting of Private Climate Finance: Types of Finance, Data Gaps and the 100 Billion Dollar Question,” Climate Strategies Working Paper, August 2011.
- UNCTAD (2010), “World Investment Report,” http://www.unctad.org/en/docs/wir2010_en.pdf
- UNDP (2009), “Co-efficiency: Improving Energy Efficiency in Buildings”, UNDP Project Document, Government of Columbia, August 2009.
- UNEP (2010), *Bilateral Finance Institutions and Climate Change: a Mapping of 2009 Climate Financial Flows to Developing Countries*, United Nations Environment Programme, 2010.
- UNFCCC (2007) *Investment and financial flows to address climate change*. http://unfccc.int/files/cooperation_and_support/financial_mechanism/application/pdf/background_paper.pdf
- UNFCCC (2010), “Report of the Conference of the Parties on its Sixteenth Session, held in Cancun from 29 November to 10 December 2010,” FCCC/CP/2010/7/Add.1, <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=16>
- UNFCCC (2011a), “Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention,” FCCC/AWGLCA/2011/L.4, 9 December 2011, <http://unfccc.int/resource/docs/2011/awglca14/eng/104.pdf>.
- UNFCCC (2011b), “Green Climate Fund – report of the Transitional Committee,” Draft Decision -/CP.17/, http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_gcf.pdf.
- UNFCCC (2011c), “Draft co-facilitators consolidated text on Long Term Finance” version of 07 October 2011 @13:00 http://unfccc.int/files/meetings/ad_hoc_working_groups/lca/application/pdf/20111007_financeltf_1300.pdf
- World Bank (2010), “State and Trends of the Carbon Market 2010,” Washington DC: World Bank, http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_of_the_Carbon_Market_2010_low_res.pdf.

Annex 1: OECD DAC-CRS data collection and reporting of climate change finance¹⁹

The OECD Development Assistance Committee's Creditor Reporting System (DAC CRS) collects much of the same data from donor governments as what is requested through UNFCCC National Communications today. 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.²⁰

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',²¹ 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 are available from 2010 flows. The Rio Marker system allows for a range of estimates of climate finance to be extracted (upper and lower bounds), both by sectors and by recipient country or region. It currently 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.²²

The Rio markers have so far been applied to ODA only, but the marker system is being expanded to other official flows (OOF). In June 2011, the OECD Working Party on Statistics under the DAC agreed to expand the field of application of the climate change Rio markers (and logically all the other Rio markers) to non-ODA official flows. This expansion of the Rio marker system could result in more comprehensive

¹⁹ Text adapted from Buchner, Brown and Corfee-Morlot 2011

²⁰ OECD DAC members report aid flows to this system at the activity level. The 24 DAC members are Australia, Austria, Belgium, Canada, Denmark, European Union, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States. 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). Iceland is the only Annex 2 party that is not a member, but reports on their ODA.

* *i)* Footnote by Turkey: "The information in this document with reference to 'Cyprus' relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognizes the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the 'Cyprus issue'. *ii)* Footnote by all the European Union Member States of the OECD and the European Commission: "The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus."

²¹ 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.

²² 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.

data on climate finance relatively fast. These flows are already reported to the CRS at activity level²³ 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.^{24,25}

²³ 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

²⁴ 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.

²⁵ Rio marker data are currently received from the European Union and the World Bank.

Box 4: DAC statistics - general framework and planned developments in relation to tracking climate finance

GENERAL DAC STATISTICAL FRAMEWORK

DAC statistics are collected on both official and private flows, both concessional and non concessional. For official flows the major distinction is between official development assistance (ODA) and other official flows (OOF), while private flows are broken down into flows at market terms and charitable grants.

	Concessional	Non-concessional
Official	Official development assistance (ODA): - grants - concessional loans	Other official flows (OOF): - non-concessional loans e.g. by DFIs - investment-related transactions - export-related transactions
Private	NGO, foundation and other charitable flows	Private flows at market terms: - FDI and portfolio investment - export credits - bonds

DAC STATISTICS ON CLIMATE-RELATED FINANCE

Current status of data availability

- **Bilateral ODA for climate change mitigation and adaptation:** these data are derived from the **climate change mitigation and climate change adaptation markers**. Data for mitigation have been available for more than a decade; first data on adaptation became available for the first time at the end of 2011, on 2010 flows.

Work in progress

- **Other bilateral official (non-export credit) flows for mitigation and adaptation:** in June 2011, DAC members agreed to extend the application of the mitigation and adaptation markers to non-concessional developmental loans.
- **Multilateral ODA for mitigation and adaptation:** donors' contributions to specific multilateral climate funds are already identifiable in DAC statistics²⁶; the DAC Secretariat consults with multilateral development banks to obtain estimates of their climate finance in order to impute these amounts to bilateral donors.

Future prospects on other categories of climate-related finance

As part of its work programme to improve the statistics on non-ODA flows, the DAC Secretariat aims at:

- improving the sectoral data on **officially supported export credits** to facilitate identification of those which could potentially mitigate climate change;
- clarifying definitions of various categories of **private flows**; and
- introducing possible new statistical categories for official sector interventions that **leverage private finance**.

²⁶ World Bank, IMF and UNDP are observers to DAC.

Glossary

AGF	UN Secretary General High-level Advisory Group on Finance
AI	Developed countries listed in Annex I of the UNFCCC
AWG-KP	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
ADB	Asian Development Bank
AfDB	African Development Bank
AGF	UN Secretary General High-level Advisory Group on Finance
AI	Developed countries listed in Annex I of the UNFCCC
BNEF	Bloomberg New Energy Finance database
CCXG	OECD/IEA Climate Change Expert Group
CDM	Clean Development Mechanism
CER	Certified Emission Reduction from CDM
COFACE	French Export Credit Insurance Company
COP	Conference of Parties to the UNFCCC
CRS	OECD Creditor Reporting System
DAC	OECD Development Assistance Committee
DFI	Development Financial Institutions
EBRD	European Bank for Reconstruction and Development
ECGD	United Kingdom Export Credits Guarantee Department
EFIC	Australian Export Finance and Insurance Corporation
EIB	European Investment Bank
FDI	Foreign Direct Investment
FIT	Feed-in tariff
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIZ	German Agency for International Cooperation
IADB	Inter-American Development Bank
ICI	German International Climate Initiative
IFC	International Finance Corporation
KfW	German Development Bank
KP	Kyoto Protocol
MDB	Multi-lateral development bank
MIGA	Multilateral Investment Guarantee Agency
MNE	Multi-national enterprise
MRV	Measurable, Reportable and Verifiable
NAI	Developing countries that are not listed in Annex I of the UNFCCC
NAMA	Nationally Appropriate Mitigation Action
NCs	National Communications to the UNFCCC

ODA	Official Development Assistance
OOF	Other Official Flows
OPIC	United States Overseas Private Investment Corporation
PoA	Programme of Activities (under the CDM)
REDD	Reducing Emissions from Deforestation and Forest Degradation
SIDA	Swedish International Development Cooperation Agency
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development

www.oecd.org/env/cc/ccxg.htm

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