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## Official climate-related development finance in Belgium: Concepts and methodologies

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# Preface

This study is part of the activities of the Belgian Policy Research Group on Financing for Development<sup>1</sup>. In particular, this study provides analysis to help DGD to identify potential pathways to improve its current international reporting practices on climate-related development finance at the federal and regional governance level. This paper presents a conceptual framework to analyze the reporting and mapping of climate finance. In particular, the paper discusses the most relevant concepts and definitions with respect to climate-related development finance. In addition, it presents a comprehensive overview of the most important methodologies used to report and map climate finance, discussing the strengths and weaknesses of each methodology.

In a second paper (due in 2016), we will use this conceptual framework to draw up a comprehensive overview of the current reporting on official climate-related development finance in Belgium, distinguishing between the different levels of governance. Based on this mapping exercise, we will then identify potential gaps in the reporting of official climate-related development finance in Belgium.

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<sup>1</sup> BeFind, [www.befind.be](http://www.befind.be)



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# List of abbreviations

<b>COP</b>	Conference of the Parties
<b>CRS</b>	Creditor Reporting System
<b>DAC</b>	Development Assistance Committee
<b>GHG</b>	Greenhouse gas(es)
<b>FDI</b>	Foreign Direct Investment
<b>MDB</b>	Multilateral Development Bank
<b>NGO</b>	Non-Governmental Organization
<b>ODA</b>	Official Development Assistance
<b>OECD</b>	Organisation of Economic Cooperation and Development
<b>OOF</b>	Other Official Flows
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change





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# Executive summary

This study is part of the activities of the Belgian Policy Research Group on Financing for Development (BeFinD)<sup>2</sup>. In particular, it fits within the overall objective of **WP-PG1** which is to improve the understanding of the different mechanisms that are, or could be, used for financing action on climate change and biodiversity in developing countries. This paper is the first of two working papers that will be published in WP-PG1.

In the current working paper (“Official climate-related development finance: Concepts and methodologies”), we provide a conceptual framework to analyze the reporting and mapping of climate finance. The specific objectives in this paper are to

- Provide an overview of the most relevant concepts and definitions with respect to climate finance and development finance, distinguishing between official and private finance;
- Provide a better understanding of the role of official flows in mobilizing private flows and its implications for reporting on climate flows;
- Provide a comprehensive mapping of the most important methodologies used to report and map climate flows, discussing the strengths and weaknesses of each methodology.

In the second working paper (entitled “Official climate-related development finance: Mapping” which is due in 2016), we will use the conceptual framework developed in the first paper to provide a comprehensive inventory of official climate-related development flows in Belgium, distinguishing between the different levels of government. In this mapping exercise, we will distinguish between climate-related official development assistance (ODA) and other official flows (OOF). Finally, we will identify potential gaps in the reporting of official climate-related development finance and provide policy recommendations to improve the mapping and reporting of official climate-related development flows.

## Take away insights on the typology of climate-related development finance

The Organization for Economic Cooperation and Development (OECD) distinguishes between four main types of development finance depending on the source (official vs. private) and the nature (concessional vs. non-concessional):

### 1. *Official Development Assistance (ODA)*:

Definition: According to the definition of the Organization for Economic Cooperation and Development (OECD), ODA is defined as “those flows to countries and territories on the Development Assistance Committee (DAC) list of ODA recipients and to multilateral development institutions which are:

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<sup>2</sup> www.befind.be

- i. provided by **official agencies**, including state and local governments, or by their executive agencies; and
- ii. each transaction which:
  - a) is administered with the **promotion of the economic development and welfare** of developing countries as its main objective; and
  - b) is **concessional** in character and conveys a grant element of at least 25% (calculated at a discount rate of 10%).”

Climate-related ODA: Since most DAC-OECD members, including Belgium, have a long experience in reporting on bilateral ODA, there is - in principle - a good baseline for quantifying climate-related bilateral ODA. For the quantification, different methodologies (discussed in section 3) are used.

With respect to climate-related multilateral ODA, the Multilateral Development Banks (MDBs) have developed a methodology to collect data. In addition, there have been some efforts by the OECD-DAC to attribute multilateral flows to specific donor countries and calculate climate-related ODA from multilateral funds.

## 2. *Other Official Flows (OOF):*

Definition: Other Official Flows (OOF) are transactions by the official sector that do not meet the eligibility conditions for ODA. Those transactions can be bilateral or multilateral. OOF include mainly transactions by official agencies whose objective is other than development-oriented or, if development-oriented, whose grant element is below 25%. OECD has defined an extensive list with the different categories of OOF.

Climate-related OOF: In general, reporting on bilateral OOF is incomplete and there are inconsistencies between countries. As a result, information on climate-related bilateral OOF is scarce and currently the OECD figures on climate related OOF are driven by the figures reported by France and Germany.

With respect to climate-related multilateral OOF, the MDBs include OOF in their total figure for climate-related development aid. The data available do not allow distinguishing between the type of support (concessional or non-concessional) and the source (public or private) nor is the support attributed to the specific donor countries.

## 3. *Private grants:*

Definition: Private grants include grants provided by Non-Governmental Organizations (NGOs) or philanthropic institutions for development assistance and relief. In addition, grants from private institutions can be included, provided there is no commercial motive.

Climate-related private grants: Data reporting on private grants by NGOs and institutions is voluntary and therefore only partially covered in the OECD-DAC database. As a result, there is no comprehensive and detailed information on climate-related private grants available. In addition, there is no information on the potential financial flows by concessional business initiatives, such as “Corporate Social Responsibility”-programs.

#### 4. *Private flows at market terms:*

Definition: Private flows play an important role for climate change mitigation and adaptation in the developing countries. It is a wide category that includes all private long term (more than one year) capital transactions of natural persons or legal entities to developing countries. Examples are direct investments, other securities and claims (e.g. bonds, export credit) and private acquisition of multilateral securities.

Climate-related private flows at market terms: Up to date there is no comprehensive mapping or database covering climate-related private flows to developing countries.

In the past years, a specific type of climate finance has received particular attention, namely “mobilized climate finance”. This is generally defined as “private finance mobilized as a result of direct public policy interventions or financial instruments (e.g. grants, loans, guarantees) as well as indirect public policy interventions or non-financial instruments”. The identification and quantification of mobilized private finance is the topic of a lively debate in the current literature. In the framework of the OECD-led research collaborative on Tracking Private Climate Finance, three crucial factors have been identified which should be taken into account when analyzing and quantifying mobilized climate finance, namely causality, attribution and timing. In particular, the key challenge for the calculation of leverage ratios is related to the causality as it is difficult to estimate to what extent public investments actually mobilize private investments, or whether these would have taken place anyhow.

### **Take away insights on the identification of climate-related development finance**

There is large uncertainty on the magnitude of financial flows to climate financing. The estimates by UNFCCC presented in the UNFCCC’s 2014 Biennial Assessment and Overview of Climate Finance Flows, show that global total climate finance ranged between 340 and 650 billion USD per year in the period 2010-2012. Financial flows from developed to developing countries are estimated to range between 40 and 175 billion USD. Moreover, figures on climate-related development finance strongly depend on the definitions and methodology used by the institution that collects and assesses the data. For example, there are substantial differences between the figures reported by the UNFCCC and OECD.

Those differences can be attributed to differences in the methodological approach. We discuss the methodologies used by the UNFCCC, OECD and MDBs and assess their strengths and weaknesses based on four criteria: (1) Countries covered; (2) Type of financial flows included; (3) Type of instruments; and (4) Definitions and eligibility criteria.

#### 1. *Countries covered:*

The UNFCCC and OECD include information on bilateral climate-related development finance reported by the OECD-DAC members and information on multilateral climate-related development flows from the MDBs. In addition, for the UNFCCC other developed countries can voluntarily report on bilateral climate-related development flows. However, it should be noted that for both the UNFCCC and OECD there are important inconsistencies between the countries. The joint MDB methodology only concerns multilateral flows from the MDBs and does not include information on the contributions of specific countries. For the OECD and MDBs the reporting is annual while for the UNFCCC reporting is biannual.

2. *Type of financial flows included:*

The UNFCCC, OECD and the MDBs focus in their reporting on official flows (bilateral and multilateral ODA and OOF). Information on private flows is limited and – if provided – incomplete. None of the reporting institutions report on ‘enabling measures’, such as measures that create awareness, certification, etc.). For the UNFCCC a distinction is made between pledges, commitments and contributions, while OECD and MDBs only take into account commitments. For the UNFCCC, a distinction is made between three categories of climate finance: mitigation, adaptation and cross-cutting. The presence of this cross-cutting category reduces the risk of double counting and increases transparency. This is different from the methodology with the Rio Markers used by OECD which has a risk of double counting.

3. *Type of instruments:*

The reporting institutions cover a wide variety of financial instruments, including grants, concessional and non-concessional loans, debt relief, equity contributions and capital contributions. However, in practice reporting is often limited to grants and loan contributions, particularly for the UNFCCC and OECD.

4. *Definitions and eligibility criteria:*

There is no formal, widely agreed definition of climate finance and each reporting institution uses its own definition. For the OECD and in particular for the UNFCCC, this leads to important inconsistencies between countries as reporting countries can decide for themselves which support is classified as climate-related finance for developing countries. For the MDBs, inconsistencies are less of a concern as reporting is done by a central unit in each MDB and classification is centralized and done by bank staff. This centralized approach should reduce inconsistencies in reporting and classification of financial flows from different MDBs. For the UNFCCC and OECD, reporting happens at the project-level, while for the MDBs the analysis takes into account the objectives of the components or even sub-components of projects.



# Introduction

Environment and development are inextricably linked as in particular in developing countries' social and economic development is being threatened by local and global environmental risks triggered by climate change. Development finance for the environment – and in particular for climate change - can play an important role in supporting developing countries to adapt to environmental changes caused by climate change and to enhance their transition to low-carbon, climate-resilient and sustainable development pathways.

Climate-related development finance is globally coordinated by the international agreement of United Nations Framework Convention on Climate Change (UNFCCC). At the 15th session of the Conference of Parties to the UNFCCC, in Copenhagen in 2009, the developed countries agreed to raise \$100 billion per year by 2020, from "a wide variety of sources", to address the needs of developing countries. In order to monitor progress towards this commitment, it is important to have a clear overview of all climate-related financial flows (official and private). However, up to now there is no international agreement on the definition of climate finance nor is there an agreement on the methodology that should be used to measure climate finance.



# 1 | Objective and purpose of the study

## 1.1 General and specific objectives

This study is part of the activities of the Belgian Policy Research Group on Financing for Development (BeFinD). In particular, it fits within the overall objective of **WP-PG1** which is to improve the understanding of the different mechanisms that are, or could be, used for financing action on climate change and biodiversity. This paper is the first of two working papers that will be published in WP-PG1.

In the first working paper (“Official climate-related development finance: Concepts and methodologies”), we provide a conceptual framework to analyze the reporting and mapping of climate finance. The specific objectives in this paper are to

- Provide an overview of the most relevant concepts and definitions with respect to climate finance and development finance, distinguishing between official and private finance;
- Provide a better understanding of the role of official finance in mobilizing private finance and its implications for reporting on climate finance;
- Provide a comprehensive mapping of the most important methodologies used to report and map climate finance, discussing strengths and weaknesses of each methodology.

In the second working paper (entitled “Official climate-related development finance: Mapping” which is due in 2016), we will use the conceptual framework developed in the first paper to provide a comprehensive overview of official climate-related development finance in Belgium, distinguishing between the different levels of governance. In this mapping exercise, we will distinguish between climate-related official development assistance and other official flows. Finally, we will identify potential gaps in the reporting of official climate-related development finance and provide policy recommendations to improve the mapping and reporting of official climate-related development finance.

## 1.2 Outline of the study

The study consists of the following chapters:

- Chapter 2 presents a brief overview of the different channels of development finance in general and climate-related development finance in particular. The overview focuses mainly on official finance. However, we also briefly discuss the role of private finance. In particular, we provide insights on the role of mobilized private finance and the implications

and bottlenecks of including this type of finance in the reporting of climate-related development finance<sup>3</sup>;

- Chapter 3 presents an overview of the three most important methodologies that have been developed to report and quantify climate-related development flows. In particular, the chapter discusses the methodology designed by the UNFCCC, Organization for Economic Cooperation and Development (OECD) and a group of six Multilateral Development Banks (MDBs).

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3 However, note that the detailed discussion of private climate-related development finance is beyond the scope of this paper. For more insights on private finance we refer to other BeFind Working Papers, such as the paper by Bécault and Marx ("Transnational Climate Finance: Tacking stock of bilateral, private, and hybrid financing initiatives") and by Vaes and Huysse ("Mobilising Private Resources for Development").

## 2 | Typology of climate-related development finance

The Organization for Economic Cooperation and Development (OECD) distinguishes between four main types of development finance depending on the source (official vs. private) and the nature (concessional vs. non-concessional)<sup>4</sup> (OECD, 2013). Table 2.1 presents an overview of the different flows.

For official flows, the major distinction is between official development assistance (ODA), which includes concessional flows, and other official flows (OOF), which include non-concessional flows, investment- and export-related transactions. Private flows are broken down into private grants (e.g. grants by Non-Governmental Organizations (NGOs) and philanthropic organizations) and private flows at market terms (e.g. Foreign Direct Investment (FDI), export credits, bonds).

In addition, a distinction is made between bilateral and multilateral flows. Bilateral flows are flows from a donor country directly to a recipient country. Multilateral flows include contributions to multilateral development agencies, which are official bodies themselves. Examples of such agencies are the Multilateral Development Banks (MDBs), such as African Development Bank or World Bank.

**Table 2.1** Types of development finance according to the nature and source of the financial flow

		Nature	
		Concessional	Non-concessional
Source	Official	Official Development Aid (ODA)	Other Official Flows (OOF) (e.g. non-concessional flows, investment- and export-related transactions)
	Private	Private grants (e.g. grants by NGOs and philanthropic organizations)	Private flows at market terms (e.g. FDI, export credits, bonds)

Source OECD (2013)

In the remainder of this section, we will discuss the different types of development flows in detail. For each type, we will discuss the definition and instruments that are generally used and its coverage in the current reporting practice on climate-related development finance.

<sup>4</sup> The concessionality level refers to the element of "gift" that is included in a financial element. For example, for a loan the concessionality level refers to the level of "softness", which reflects the benefit to the borrower compared to a loan at market rate. For loans, the level of concessionality is determined by the difference in the interest rate and/or grace period of the loan as compared to a loan at market terms.

## 2.1 Official development finance

### 2.1.1 Official Development Assistance (ODA)

Official Development Assistance (ODA) is a concept that was launched and developed in 1969 by the Development Assistance Committee (DAC) of the OECD to measure official development aid flows.

**Definition:** According to the OECD definition (OECD, 2008), ODA is defined as “those **flows** to countries and territories on the DAC List of ODA Recipients<sup>5</sup> and to multilateral development institutions which are:

- iii. provided by **official agencies**, including state and local governments, or by their executive agencies; and
- iv. each transaction which:
  - a) is administered with the **promotion of the economic development and welfare** of developing countries as its main objective; and
  - b) is **concessional** in character and conveys a grant element of at least 25% (calculated at a discount rate of 10%).”

This definition consists of four important elements (OECD, 2008):

- **Flows:** Flows are defined as transfers of resources, either in cash or in the form of commodities or services. In principle, official institutions can use a wide range of instruments to finance ODA. However, in practice the most commonly used instruments are grants and loans<sup>6</sup>:
  - Grants can be included as financial flows under the condition that they fulfill the other ODA criteria.
  - Loans can be included as financial flows under the condition that they fulfill the other ODA criteria. Repayments of ODA loans count as negative flows so that by the time a loan is repaid, the net flow over the period of the loan is zero. Interest is not taken into account. Loans with a duration of one year or less are excluded as they are considered to have no significant development impact.

Flows can be bilateral or multilateral. OECD provides a list of international agencies and international non-governmental organizations to which contributions can be reported as ODA. In addition, OECD provides coefficients for United Nations agencies which conduct part of their activities in favor of development. For example, for Assessed Contributions to the International Labor Organization only 60% of the contribution can

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5 The list of ODA-eligible countries can be found on <http://www.oecd.org/dac/stats/daclistofodarecipients.htm>.

6 In addition, under some circumstances also equity investments can classify as ODA. Equity investments are direct capital contributions to a project in which ownership is acquired (buying of shareholdings), but without any guarantee of return or even repayment. In case equity investments are included as ODA and the equity is sold later on, the proceeds from the sale are counted as a negative flow.

be attributed to ODA. These coefficients are revised every few years in consultation with the agencies concerned.<sup>7</sup>

- **Economic development and welfare as the main objective:** The intention of the financial flow should be economic development and welfare of the recipient country. This implies that official subsidies to private companies are not recognized as ODA as their objective is mainly commercial. In contrast, subsidies to NGOs are recognized as ODA flows. In order to create more transparency and facilitate data comparability, DAC members have agreed rules concerning specific financial flows.<sup>8</sup> For example, with respect to research, only research that is directly related to the problems of developing countries, such as research into tropical diseases or developing certain crops, may be counted as ODA under the condition that the research is carried out in a developed country.
- **Official:** Official flows are transactions undertaken by the official sector (i.e. government), regardless of the source of funds (taxation of or borrowing from the private sector). Official flows can come from the national, regional or local level. In fact, some official agencies may subsidize each other (e.g. national level subsidizes the regional level). However, since in this case the subsidy is internal to the official sector of the donor country, the subsidy should only be counted once: e.g. when the subsidy flows from the donor country to the recipient country (OECD, 2008).
- **Concessional in character:** Official flows should be concessional in character and have a grant element of at least 25%. As a result, loans against market interest rates are excluded and only loans that are concessional in character, i.e. with a grant element of 25% and an interest rate below market rates can be included as ODA.<sup>9</sup>

**Climate-related ODA:** Since most DAC-OECD members, including Belgium, have a long experience in reporting on bilateral ODA, there is - in principle - a good baseline for quantifying climate-related bilateral ODA.<sup>10</sup> For example, with respect to the OECD database, data on bilateral ODA for mitigation have been available for more than a decade, while data on bilateral ODA for adaptation have been available since 2010 (OECD, 2014a). In the second working paper in WP-PG1 due in 2016, we will discuss the Belgian database on climate-related bilateral ODA in more detail.

With respect to climate-related multilateral ODA, the MDBs have recently developed their own joint methodology to estimate climate-related multilateral flows (see section 3.3). However, their data reports do not allow distinguishing between the type of support (concessional or non-concessional) and hence does not allow distinguishing between climate-related ODA and climate-

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<sup>7</sup> The list of ODA-eligible international organizations and the shares of the contributions that are ODA-eligible can be found on <http://www.oecd.org/dac/stats/annex2.htm>. Note that for climate-related financial flows multilateral financial flows are reported separately (see section 3.2 for a detailed explanation).

<sup>8</sup> OECD has established a list of specific rules concerning certain financial flows e.g. military aid, peacekeeping, civil policy work, social and cultural programs, assistance to refugees, nuclear energy, research and anti-terrorism. See <http://www.oecd.org/dac/stats/34086975.pdf> for more details.

<sup>9</sup> Note that in case concessional and non-concessional elements are combined in one package, the official, concessional elements can be reported as ODA in case they fulfill the concessionality requirements and other ODA conditions.

<sup>10</sup> We indicate "in principle" to indicate that there is quite some controversy at the international level with respect to the definition of climate finance, but also on the methodology used to quantify climate finance in a coherent and transparent manner.

related OOF. In addition, it is not possible to distinguish between official and private flows as the methodology of the MDBs only considers their outflows and not the origin of the funds.

The OECD-DAC has done some effort to attribute multilateral flows to specific donor countries and calculate climate-related ODA from multilateral funds (see section 3.2). Therefore the OECD-DAC distinguishes between two types of multilateral contributions. First, there are multilateral contributions that are specifically earmarked for climate (e.g. contributions to multilateral climate funds) and which can easily be attributed to a donor country in case they classify as ODA. Second, there are core contributions to multilateral institutions, which use part of their funds for projects targeting climate change. For a number of multilateral organizations, OECD calculated “imputed multilateral contributions” and attributed these “imputed multilateral contributions” to the donor countries. This is done by estimating, per multilateral organization, the share of climate-related support in their portfolio, attributing this back to the core ODA multilateral contributions by the donor country to this multilateral organization:

$$IMC_{ij} = \alpha_i * ODA_{ij}$$

$IMC_{ij}$  = “Imputed multilateral contribution” of donor country  $j$  to multilateral organization  $i$

$\alpha_i$  = Share of climate related support in the portfolio of multilateral organization  $i$

$ODA_{ij}$  = ODA core contribution of donor country  $j$  to multilateral organization  $i$

### 2.1.2 Other Official Flows (OOF)

Other Official Flows (OOF) are transactions by the official sector that do not meet the eligibility conditions for ODA. These transactions can be bilateral or multilateral. OOF include mainly transactions by official agencies whose objective is other than development-oriented or, if development-oriented, whose grant element is below 25%. In general, OOF include the following categories of financial flows (OECD, 2013):

- i. Grants to developing countries for representational or essentially commercial purposes;
- ii. Official bilateral transactions intended to promote development but having a grant element of less than 25%;
- iii. Official bilateral transactions, whatever their grant element, that are primarily export-facilitating in purpose. This category includes by definition export credits extended directly to an aid recipient by an official agency or institution (“official direct export credits”)<sup>11</sup>;
- iv. The net acquisition by governments and central monetary institutions of securities<sup>12</sup> issued by multilateral development banks at market terms;

<sup>11</sup> Export credits are loans by government-owned or controlled export-financing agencies to finance a specific purchase of goods or services provided by the creditor country. For example, the French national export credit agency offers the Senegalese government a loan that they can use to hire a French contractor to build an energy plant. In addition, this category also includes official loans to private exporters or private export agencies that are used to finance export credits extended by them to developing countries. However, note that private export credit transactions which are guaranteed by an official agency are not included in the category “other official flows”, but considered as a private flow at market terms as the funds themselves are provided by a private agency (OECD, 2013).

<sup>12</sup> Securities are negotiable financial instruments, where the term “negotiable” refers to the fact that the legal ownership of the instrument can be transferred from one owner to another (OECD, 2013). Securities include, for example, bonds. Bonds are fixed-interest instruments for which the issuer pledges to pay the loan principal to the holder at a fixed date as well and fixed rate of interest.



- v. Subsidies (grants) to the private sector to soften its credits to developing countries;
- vi. Funds in support of private investment (loans and grants by the official sector to a private company in the donor country to help finance a specified investment in a developing country);
- vii. Official sector direct or portfolio investment (equities and shares) which do not qualify as ODA;
- viii. Reorganization of non-ODA debt undertaken by the official sector at non-concessional terms, and forgiveness of military debt.

The composition of OOF includes both outflows from, and inflows to, donors (Devinit, 2013). Outflows incorporate grants, official export credits and other long-term finance, while inflows may comprise capital repayment on other long-term finance, official export credits received and the interest repayments. Note that guarantees are not included as OOF as they are no flows.

Until recently, reporting on OOF has been limited; most of the reporting and analyses have focused on ODA. However, since the financial crisis of 2008, which put government budgets under pressure, non-concessional financing has gained importance in the development landscape and in 2008, one third of all official flows were OOF (Klein et al., 2014). The majority of this support is provided by two types of agencies.

First, development finance institutions (and in particular the international financial institutions)<sup>13</sup> are currently by far the largest providers of OOF. In general, they provide non-concessional financing, such as loans close to market terms, mezzanine finance<sup>14</sup>, equity investment, trade finance and shares in investment funds. This form of financing is mostly provided to middle-income countries, while grants and highly concessional loans are mostly provided as ODA to the least developed or low-income countries. Note that these institutions are often also involved in “blended financing,” which combines a concessional and non-concessional component to soften the terms and conditions of the final financial package. There is detailed information on the OOF from MDBs. However, these multilateral flows are not attributed to specific donor countries.

Second, government-owned or controlled export credit agencies provide another important share of the OOF. These export agencies provide government loans and guarantees to companies that are internationally active. Those loans and guarantees are mainly commercially driven and have no specific objective to promote development, although this could be an important side-effect. For example, when those funds are used to construct local infrastructure, such as an energy plant, this could have an important positive development impact.

**Climate-related OOF:** In general, reporting on bilateral OOF is incomplete and there are inconsistencies between countries. As a result, information on climate related bilateral OOF is scarce and currently the OECD figures on climate related OOF (843 million USD per year in the period 2010-2012) are driven by the figures reported by the French “Agence Française de Développement” (684 million USD per year) and Germany’s KfW Development Bank (158 million USD per year) (OECD, 2014b).

<sup>13</sup> Development finance institutions are specialized development banks set up to support private sector development in developing countries. Both national and bilateral development institutions exist, such as the Netherlands Development Finance Company, and multilateral development institutions, such as the International Finance Corporation (part of World Bank) or the European Bank for Restructuring and Development.

<sup>14</sup> Mezzanine financing is a hybrid form of debt and equity financing. It is basically debt capital that gives the lender the rights to convert to an ownership or equity interest in the company if the loan is not paid back in time and in full.

With respect to climate-related multilateral OOF, the MDBs include OOF in their total figure for climate related development aid. The data available do not allow distinguishing between the type of support (concessional or non-concessional) and the source (public or private) nor is the support attributed to the specific donor countries (see section 3.3).

## 2.2 Private development finance

### 2.2.1 Private grants

This category includes grants provided by NGOs or philanthropic institutions for development assistance and relief. In addition, grants from private institutions can be included, provided there is no commercial motive (OECD, 2013).

Private grants by NGOs and philanthropic institutions are partially covered in the OECD-DAC database. The largest donor included is the Bill & Melinda Gates Foundation, which reports its Global Health and Global Development Programs and Program-Related Investments since 2009 in the form of loans and equities to OECD-DAC (OECD, 2014c). However, data reporting is voluntary and hence incomplete. Moreover, little is known on the modalities of these flows (e.g. recipients, purposes of the projects financed). An important concern with respect to private grants by NGOs and philanthropic institutions is that there is a significant risk of double-counting as these organizations are to large extent financed by official grants. To avoid double-counting, official grants should be deducted from the grants paid provided by NGOs or philanthropic institutions when considering public and private flows together.

**Climate-related private grants:** Up to date, there is no comprehensive and detailed information on climate-related private grants available. However, there is some fragmented information on US foundations which are requested to provide detailed information on the activities they support (Foundation Center, 2010). In 2007, a California Environmental Associates' report estimated that US foundations account for approximately 210 million USD of climate finance yearly (CEA, 2007)

In addition, there is no information on the potential impact that concessional business initiatives, such as "Corporate Social Responsibility"-programs offered by private companies can have on climate change (Stadelmann et al., 2011a).<sup>15</sup>

### 2.2.2 Private flows at market terms

Private flows play an important role for climate change mitigation and adaptation in the developing countries (Mabey, 2012; Buchner et al., 2013; UNFCCC, 2014). It is a wide category that includes all private long term (more than one year) capital transactions of natural persons or legal entities to developing countries. Examples are direct investments, other securities and claims (e.g. bonds, export credits) and private acquisition of multilateral securities (OECD, 2013). Up to date there is

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<sup>15</sup> Note that there is one activity driven by "Corporate Social Responsibility" for which there exist data, namely the purchases of voluntary carbon offsets – also known as Voluntary Emission Reductions. In 2013, various private actors purchased a total of 379 million USD Voluntary Emission Reductions (Peters-Stanly and Gonzalez, 2014). This budget has been used to support environmental projects in the developing countries.

no comprehensive mapping or database covering climate-related private flows to developing countries.<sup>16</sup>

**Climate related private flows at market terms:** However, although public resources may be small compared to private resources, it is also acknowledged that they can play an important role in catalyzing private flows (Whitley and Ellis, 2012). In this research paper we will focus exclusively on “mobilized climate finance” in accordance with the commitment at the 16th Conference of the Parties to the UNFCCC in Cancun (UNFCCC, 2010):

*“Developed country Parties commit, in the context of meaningful mitigation actions and transparency on implementation, to a goal of **mobilizing** jointly USD 100 billion per year by 2020 to address the needs of developing countries.”*

Since the term “mobilized climate finance” has not been defined by the UNFCCC, there is uncertainty which private financial flows should be considered as mobilized by developed countries for climate change mitigation and adaptation in developing countries. Therefore, several institutions have already tried to define mobilized private finance (Illman et al., 2014) and although there are some minor differences, it is generally defined as “private finance mobilized as a result of direct public policy interventions or financial instruments (e.g. grants, loans, guarantees) as well as indirect public policy interventions or non-financial instruments” (Buchner et al., 2011; Clapp et al., 2012; Venugopal, et al. 2012; Stadelmann and Michaelowa, 2013).<sup>17,18</sup> Definitions and examples of both type of interventions are:

- **Direct interventions or financial instruments**, such as grants, loans, equity investments and guarantees, directly attract or facilitate private investments. Brown et al. (2011) indicate that governments and financial institutions often measure the mobilization of private funds through the use of leverage ratios. Leverage is created by the fact that core contributions from official institutions to financial institutions are invested directly in private capital or in the capital markets to attract private finance, hereby creating a multiplier effect. As a result, a financial institution has the ability to leverage its own capital base against outstanding borrowings and guarantees and the leverage ratio is calculated as the ratio of outstanding borrowings and guarantees to the capital base (or “mobilized private finance over public interventions”). For example, if for every euro that an international fund spends on a particular investment, the private sector spends 5 euro, the leverage ratio is 1:5 for that fund. However, in practice leverage ratios are difficult to calculate and there is a substantive methodological discussion (see below).
- **Indirect interventions or non-financial instruments**, such as economic and regulatory policies, have an indirect private impact on investments by providing economic and

<sup>16</sup> There are some databases that include some (very) fragmented data. An example of such as database is the Bloomberg New Energy Finance database (<http://about.bnef.com/>). Another source of information is the Climate Bonds Initiative that includes information on the issuance of climate bonds (<http://www.climatebonds.net/>).

<sup>17</sup> Note that there are different definitions of private finance. Ockenden et al. (2012) defines it as “originates from non-public sources”; Venugopal et al. (2012) defines it as “originates from the private sector, which is not controlled by the state”; Buchner et al. (2012) defines it as “originates corporate actors, institutional investors, project developers, households, commercial financial institutions, venture capital, private equity and infrastructure funds”.

<sup>18</sup> Note that the term “mobilized” is sometimes used interchangeably with the term “leverage”. However, most often the term “leveraged” is used narrower and only used in the context of financial instruments, while “mobilizing” is a more general concept.

institutional stability. An example of a non-financial policy intervention is the creation of a legal framework that promotes low-carbon investments and establishes legally binding targets for low-carbon investments. However, it can also be more general policy interventions that create an attractive investment climate such as security of property rights, enforcement of contracts, etc.

The identification and quantification of mobilized private finance is the topic of a lively debate in the current literature. In the framework of the OECD-led research collaborative on Tracking Private Climate Finance (established in 2013), Illman et al. (2014) and Srivastava and Venugopal (2014) have identified three crucial factors that should be taken into account when analyzing and quantifying mobilized climate finance<sup>19</sup>:

- **Causality:** This factor refers to the question to which extent public intervention was crucial to trigger the private financial flow for an investment targeting climate change (Ockenden et al., 2012). The analysis of this factor requires insights on the counterfactual situation (where there was no public instrument or policy) and/or incremental projects (extra costs of a “green” project vs. a “brown” project).

In a simplified representation of the situation, where we make abstraction of the incremental project costs, one could think of this as follows: in case there was no public intervention and the private investment would have taken place anyhow, the private investment cannot be considered as a mobilized private flow. However, in case only part of the private investment would have materialized, the mobilized climate finance can be defined as the difference between the actual private investment (in the presence of the public intervention) and the counterfactual private investment (in the absence of the public intervention). However, actual situations are usually more complicated as counterfactual costs can vary over time (Stadelmann et al., 2011a).

Overall, the analysis of the causality is resource and time intensive and characterized by large uncertainties. The majority of the institutions that are currently tracking mobilized private flows therefore do not assess the causality or additionality of these flows and rarely include a rationale to demonstrate that the reported flows are effectively mobilized by the public instruments or policies (Clapp, et al., 2012; Venugopal, et al., 2012; Caruso and Ellis, 2013). In some cases, there are estimates of the additionality, such as for example for the UK’s Climate Public Private Partnership (CP3) program (Ockenden et al., 2012). However, it is unclear on which objective criteria these estimates are based.

- **Attribution:** This factor refers to the question to which partner the mobilized climate finance should be attributed in case there are different partners involved. There is a significant risk of double counting when there are multiple public partners involved. It will be essential to have full information from all public partners involved in the project (Stadelmann and Michaelowa, 2013). An alternative approach would be to attribute the mobilized climate finance to the lead public partner in the project (Caruso and Ellis, 2013; Stadelmann and Michaelowa, 2013). In addition, it will be important to take into account

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<sup>19</sup> In principle these concepts are applicable on both direct and indirect public policy interventions, but in practice they are mainly applied in the context of calculating leverage ratios that are the result of direct public policy interventions (financial instruments).

the presence of multiple public partners in a project for the calculation of the leverage ratio.

- **Timing:** This factor refers to the question at which point mobilized finance should be tracked and there are different approaches possible. For example, estimates can be based on ex-ante forecasting models, which are less resource and time intensive than ex-post verification models (Caruso and Ellis, 2013). Moreover, for a number of selected projects Caruso and Ellis (2013) report that the variation between these two types of models is minimal, but it is unclear to which extent this result can be generalized. However, when working with ex-ante models one should be careful not to overestimate the funding that is attributed to a specific year as commitments may be disbursed over several years (Buchner et al., 2013)

In combination with other problems, such as uncertainty regarding the definition of climate finance and the division of public and private flows which is often not clear-cut, these considerations explain why the development of a widely accepted methodology to measure mobilized private flows is extremely difficult and existing data on leverage ratios are far from comparable (Brown and Jacobs, 2011; Hosier et al. 2010; Stadelmann et al. 2011b; Stadelmann et al., 2013). In particular, the key challenge for the calculation of these leverage ratios is related to the causality and it is difficult to estimate to what extent public investments actually mobilize private investments, or whether these would have taken place anyhow. In addition, the estimation of leverage ratios requires detailed project-level data, which are currently only available for the Clean Development Mechanism, the Global Environmental Facility and the Clean Technology Fund.<sup>20</sup> There are no project-level data on a large scale available for bilateral finance, although some institutions, such as the UK Department of Energy and Climate Change, have calculated leverage ratios for specific investments, such as in the Climate Public-Private Partnership (CP3).

In general, climate finance can be mobilized by bilateral agencies, multilateral agencies and carbon markets (Stadelmann and Michaelowa, 2013). The public instruments that can be used to mobilize finance include, among others, grants, loans, equity and guarantees. In a recent paper (OECD, 2014d), OECD DAC indicated that they will examine in collaboration with development finance institutions whether they can include the following specific public instruments in their database:

- **Guarantee schemes:** Public guarantees mobilize private finance by transferring some of the risk to the public institution, which may encourage financial institutions to grant credit to partners that would otherwise not receive credit;
- **Syndicated loans:** A syndicated loan refers to a group of lenders (so-called syndicate) who provide funds to a single borrower and by spreading the risk across different lenders credit is provided to parties that would have not received credit;
- **Shares in collective investment vehicles:** Participation of public institutions, such as development finance institutions, may increase the creditworthiness of collective

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<sup>20</sup> Leverage ratios have been calculated for CTF projects and are calculated for 13 projects and ranged between 0.4 and 2.6 (Brown et al., 2011). For 101 randomly selected GEF projects, leverage ratios ranged between 0.7 and 2.4 (Stadelmann et al., 2013). In particular, the data on the GEF projects are interesting as they cover several different sectors (e.g. construction, energy) and type of support (e.g. investments, capacity building).

investment vehicles, where money of different investors is pooled and invested in pooled funds. This may attract private investors.

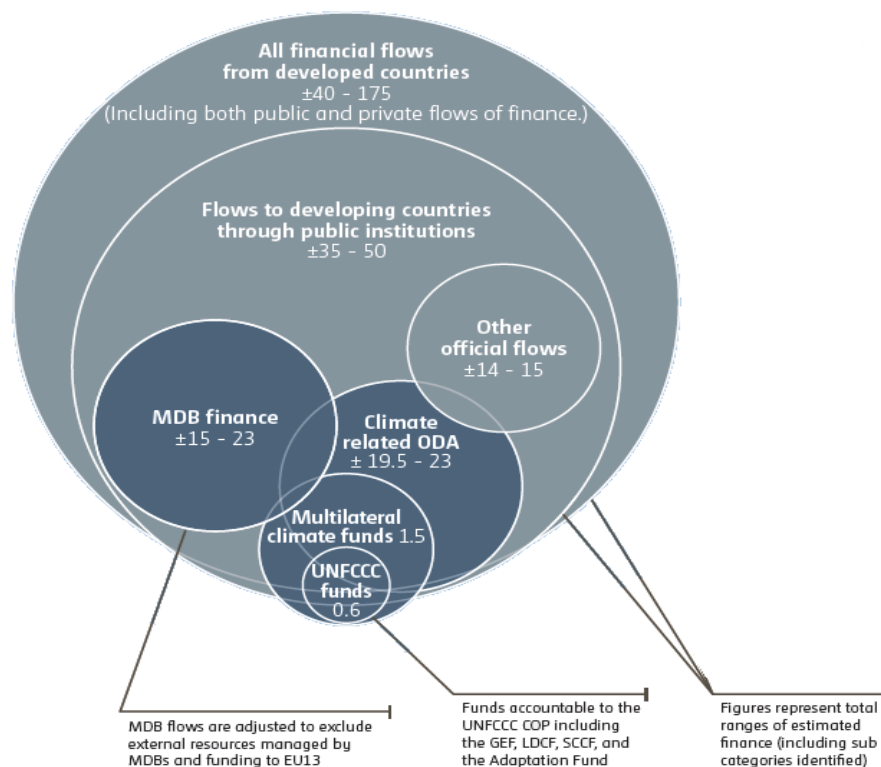
As indicated above, a wide range of instruments can be used by public institutions to mobilize investments and more insights are expected to come from the ongoing activities at the Research Collaborative on Tracking Private Climate Finance and work by other institutions (e.g. Climate Policy Initiative). In particular for Belgium, more insight on the role of mobilized private climate finance in Belgium is expected to be provided by the study “Stimulating actions by the private sector with respect to climate change in Belgium and abroad” commissioned by the Directorate-General for the Environment of the FPS Health, Food Chain Safety and Environment.

### 3 | Identification of climate-related development finance

Climate change and development are intrinsically linked as the impact of climate change will be particularly important in developing countries. As a result, development finance can have an important climate-related dimension. However, there is large uncertainty on the magnitude of the financial flows to climate financing.

The estimates by UNFCCC presented in the UNFCCC’s 2014 Biennial Assessment and Overview of Climate Finance Flows, show that global total climate finance (in both developed and developing countries and from both public and private sources) ranged between 340 and 650 billion USD per year in the period 2010-2012. Financial flows from developed to developing countries are estimated to range between 40 and 175 billion USD (Figure 3.1). In particular, with respect to private financial flows, which range between 5 and 125 billion USD, there is large uncertainty as the coverage of these funds is incomplete.

**Figure 3.1** Climate-related development finance according to UNFCCC (USD billion)



Source Adapted from UNFCCC (2014)



Moreover, figures on climate-related development finance strongly depend on the definitions and methodology used by the institution that collects and assesses the data. For example, OECD-DAC estimates appear to be more conservative and more in line with the lower bound estimates of the UNFCCC. In 2013, OECD-DAC estimates that total public climate-related financial flows from the developed OECD-DAC countries to developing countries equal approximately 37 billion USD. A substantial share of this is bilateral flows (23 billion USD). Bilateral climate-related ODA was estimated to total 22 billion USD, while bilateral climate-related OOF were estimated to reach only 1 billion USD, a figure that is substantially lower compared to the UNFCCC estimates. Multilateral climate-related finance amounted to around 14 billion USD, a figure which is also substantially lower than the UNFCCC estimates.

Hence there is a large difference in the magnitude of climate-related development finance between different international institutions. Therefore, it is useful to present an overview of the different institutions that play a role in estimating climate finance and the methodologies they use. In this section, we discuss the methodologies used at the UNFCCC, OECD-DAC and MDBs and provide an overview of their strengths and weaknesses.

### 3.1 UNFCCC level

Under the UNFCCC negotiations, developed countries have agreed to jointly direct 100 billion USD per year by 2020 to climate finance in developing countries. This funding can come from both bilateral and multilateral sources and public or private funding. Only recently, a standardized reporting system has been established. At the 18th Conference of the Parties (COP18) in Doha in 2012, it was agreed that developed countries should use a Common Tabular Format for reporting on financial support, technology transfer and capacity-building support in their Biennial Reports (UNFCCC, Decision 19/CP.18; UNFCCC, Decision 2/CP.17).

**Countries covered:** Annex II Parties are required by decisions 4/CP.5 and 2/CP.17 to report on their climate related financial flows to developing countries in their National Communications and Biennial Reports for which they need to the standard Common Tabular Format, while for Annex I Parties reporting is voluntary.<sup>21</sup>

**Type of financial flows included:** In the biennial reports, Annex II countries report detailed information on climate-related official flows through multilateral and bilateral channels. The bilateral channel includes bilateral climate-related ODA and OOF. The multilateral channel includes information on a country's contributions to climate-related funds (e.g. Global Environmental Facility, Special Climate Change Fund), multilateral international financial institutions (e.g. World Bank, European Bank for Restructuring and Development) and other multilateral international institutions (e.g. United Nations). A distinction is made between pledges, commitments and contributions.<sup>22</sup> In addition, the countries should report, to the extent that it is possible, on private financial flows and policies and measures that promote scaling up of private investments in mitigation and adaptation activities in developing countries. However, overall, reporting on private financial flows is found to be very limited and - if provided - incomplete.

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<sup>21</sup> Annex II countries are the OECD members of Annex I, excluding the Economies in Transition (EIT) Parties.

<sup>22</sup> A pledge is a non-binding announcement of an intended contribution or allocation by a donor. A commitment is a contractual obligation regarding an intended contribution of a donor to an appealing organization or recipient. A contribution is a physical contribution of a donor to an appealing institutions or recipient.



**Type of instruments:** A wide variety of instruments is included in the UNFCCC figures, including mainly grants and (concessional and non-concessional) loans. However, also other forms of finance like debt relief, equity contributions and capital contributions are included. The type of instrument that is used varies across purposes (mitigation vs. adaptation) and region of the recipient country (Asia vs. Sub-Saharan Africa). In general, a wide range of instruments is used for mitigation, while adaptation is mainly financed by grants and concessional loans (UNFCCC, 2014).

**Definitions and eligibility criteria:** The UNFCCC does not have a formal definition of climate finance. Each reporting country decides for itself how they define ‘climate-related flows’ and simply have to report on this. As a result, different countries use different operational definitions but with common elements. In addition, there are no formal eligibility criteria to classify climate finance as climate change adaptation, climate change mitigation or cross-cutting. Reporting countries do have to indicate what “new and additional” finance they have provided and clarify how they have determined that these resources are “new and additional”<sup>23</sup> (UNFCCC, 2014).

This classification and reporting by UNFCCC has some important weaknesses (UNFCCC, 2014). The most important weakness relates to the lack of consistency between reporting countries. Reporting countries decide for themselves on how they define climate change and how they classify financial flows in different categories (adaptation, mitigation or cross-cutting). This “ad hoc” approach is likely to lead to inconsistencies between reporting countries and increases the uncertainty that is associated with the reported data.

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<sup>23</sup> This information is important with respect to the fulfillment of the commitments made at the Conference of the Parties (COP15) held in December 2009 in Copenhagen. One of the commitments made at the COP15 was that developed countries pledged to provide new and additional resources approaching USD 30 billion for the period 2010 - 2012 and with balanced allocation between mitigation and adaptation. This collective commitment is known as ‘fast-start finance’.

**Table 3.1 Main strengths and weaknesses of the UNFCCC system**

	<b>Strengths</b>	<b>Weaknesses</b>
<b>A</b>	<p>There are some efforts to include <b>private financial flows</b> in the reporting. However, data collection is very incomplete and as a result estimates of private flows cover a very wide range (between 5 and 125 billion USD in the period 2010-2012).</p>	<p>Only <b>biannual</b> reporting and <b>no reporting by developed countries that are not included in the Annex II list</b>.</p>
		<p>Data on the <b>OOF and private financial flows are incomplete and not collected in a transparent and comprehensive manner</b>. As a result, there may be important inconsistencies between reporting countries.</p>
		<p>The <b>reporting is on the project level</b>, meaning that differences in objectives of components or even sub-components of projects are not taken into account. This is likely to lead to overreporting of financial flows.</p>
<b>Methodology</b>	<p>There are <b>three categories</b> for the classification of climate finance: mitigation, adaptation and a cross-cutting. The presence of this cross-cutting category <b>reduces the risk of double counting</b>.</p>	<p><b>Data could be subjective and inconsistent between reporting countries</b> as the countries are responsible themselves for reporting and classification of projects.</p>
	<p>The database includes <b>detailed information on the status of the financial flow</b> (committed, pledged or provided).</p>	<p>Recently, some efforts have been made to standardize the reporting practices by introducing a Common Tabular Format in the Biennial Reports, which requires reporting countries to include specific details (e.g. type of instrument, channel). However, several aspects remain undefined (e.g. each reporting countries decides what they define as climate finance, no objective eligibility criteria defined for the classification of the financial flow (adaption, mitigation or cross-cutting). The <b>lack of harmonization of definitions</b> is likely to create inconsistencies between reporting countries and is a key weakness of the UNFCCC reporting system.</p>

### 3.2 OECD-CRS system using policy markers

The most advanced methodology to measure climate-related development finance has been developed by the OECD-DAC, which is also the leading authority to collect data on official development aid. The DAC Creditor Reporting System (CRS) is a statistical open-access database that includes information on external development finance. Since 1998, this database includes information on climate-related development finance. In order to identify climate-related development flows, the OECD-DAC has established a system using “policy markers”.

**Countries covered:** Since 2013, the OECD-DAC reports on both bilateral and multilateral climate-related development finance. With respect to bilateral flows, the OECD-DAC members<sup>24</sup> are obliged since 2007 to report annually on their bilateral mitigation-related ODA flows. In 2010, reporting on bilateral adaptation-related ODA flows also became mandatory; and since 2011 some members have begun to report on bilateral OOF flows. With respect to multilateral flows, OECD-DAC collaborates since 2013 with seven multinational development banks<sup>25</sup> and the Global Environmental Facility and publishes project-level data on their climate finance.

**Type of financial flows included:** Both climate-related bilateral and multilateral financial flows are included in the CRS database.

Information on bilateral flows includes both bilateral climate-related ODA and OOF based on commitments. While data on climate-related ODA are exhaustive, only partial data are available on climate-related OOF (and OOF in general) and data coverage depends on the reporting by the OECD-DAC member. For example, in 2013 OECD–DAC reported that the figures on climate-related OOF were mainly driven by the reporting of the French “Agence Française de Développement” (OECD, 2014).

Information on the multilateral flows includes information on climate-related flows from the multilateral development banks, including African Development Bank, Asian Development Bank (only Asian Development Fund to date), European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, International Finance Corporation and World Bank; and the Global Environment Facility. These institutions present aggregate figures on climate-related flows.

In addition, some efforts have been made to attribute these multilateral flows to the specific donor countries. Currently, three types of multilateral contributions are attributed to the donor countries (OECD, 2014):

- Contributions to multilateral climate funds, such as the Least Developed Countries Fund and Special Climate Change Fund, are included as multilateral contributions and attributed in full to the donor country;

<sup>24</sup> The OECD-DAC members include Australia, Austria, Belgium, Canada, Czech Republic, Denmark, EU, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom and United States.

<sup>25</sup> African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, International Finance Cooperation and World Bank.

- Contributions channeled through multilateral organizations and clearly earmarked as climate-related contributions are also attributed in full to the donor country;
- Core contributions to multilateral agencies that only partially fund projects that are climate related are attributed as “imputed multilateral contributions” to the donor country. This is done by estimating, per international organization, the climate-related share within their portfolio and attributing this back to the donor country based on the share of the donor country in their core multilateral ODA disbursements. The agencies for which core contributions are taken into account for the calculation of the “imputed multilateral contributions” are the African Development Fund (36% of its outflows are targeting climate change), Asian Development Fund (30%), Inter-American Development Bank Special Fund (7,5%), International Development Association (13%), Global Environment Facility (55%) and its climate funds (100%), the Climate Investment Funds (100%), the UNFCCC (100%), the Adaption Fund (100%) and the Montreal Protocol (100%). Note that the “imputed multilateral contributions” only apply to these selected funds and to ODA disbursements.<sup>26</sup>

**Type of instruments:** The database contains mainly information on grants and loans (concessional and non-concessional).

**Definitions and eligibility criteria:** The five policy markers to identify climate-related flows that are currently used by OECD-DAC are the four Rio Markers<sup>27</sup>, which include biodiversity, desertification, climate change mitigation and climate change adaptation, and an environment marker. For each marker, a scoring system with three values is used. A financial flow gets a score of “2” if the marker is the principal objective of the program; a score of “1” if the marker is a significant, but not the principal objective of the program; and a score of “0” if the marker is not an objective of the program. Note that the scores have no numerical value as such and only serve to distinguish between the different categories and tag policy objectives.

Table 3.2 discusses definitions and eligibility criteria for activities related to climate change mitigation and climate change adaptation, the two Rio Markers which are related to climate finance, in more detail.

The use of the “policy marker system” of OECD-DAC has important benefits as it is comprehensible and in principle comparable between countries, and it has proven its efficiency as a tag for policy objectives. However, many actors currently use the methodology as a measurement system, which revealed some of its weaknesses. Table 3.3 presents an overview of the main strengths and weaknesses of the OECD-CRS system.

<sup>26</sup> Note that the sum of the “imputed multilateral contributions” of the DAC donor countries does not correspond with the sum of the climate-related multilateral flows reported by multilateral institutions because of three reasons. First, the imputed multilateral contributions only apply for the DAC donor countries, while in the figures reported by the multilateral institutions also non-OECD and non-DAC donor countries are included. Second, for the calculation of the “imputed multilateral contributions” only selected funds are taken into account, while for the reporting by the multilateral institutions to the full range of activities of the multilateral institution is taken into consideration. Third, the imputed multilateral contributions only relate to ODA, while in the figures reported by the multilateral institutions also non-concessional finance is included.

<sup>27</sup> The Rio Conventions were established in 1992 on Climate Change, Biological Diversity and Desertification. Developed countries committed to assist developing countries in the implementation of these Conventions.

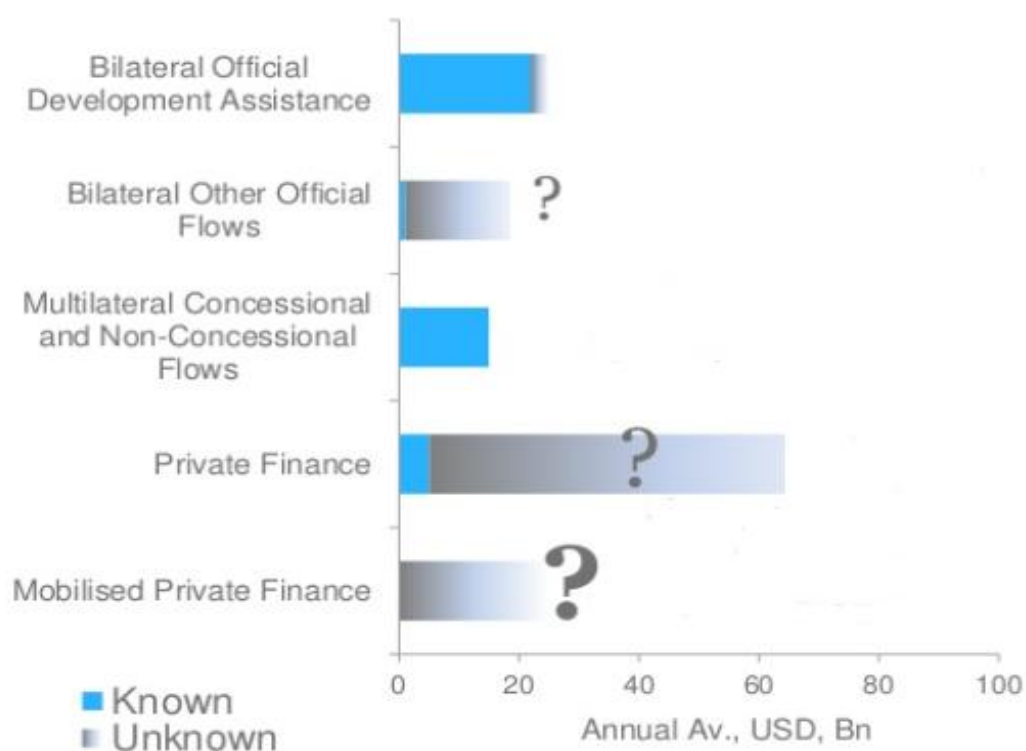
**Table 3.2 Definition and eligibility criteria for climate finance based on the OECD-DAC methodology**

	<b>Definition</b>	<b>Eligibility criteria</b>
<b>Mitigation</b>	Climate change mitigation is defined as an activity that “contributes to the objective of stabilization of greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG sequestration”.	<p>The activities that are eligible to be classified with this marker are activities that contribute to</p> <ul style="list-style-type: none"> <li>a) the mitigation of climate change by limiting anthropogenic emissions of GHGs, including gases regulated by the Montreal Protocol; or</li> <li>b) the protection and/or enhancement of GHG sinks and reservoirs; or</li> <li>c) the integration of climate change concerns with the recipient countries’ development objectives through institution building, capacity development, strengthening the regulatory and policy framework, or research; or</li> <li>d) developing countries’ efforts to meet their obligations under the Convention.</li> </ul> <p>An activity will be marked with score “2 – principal objective” if its main objectivity is one of these four criteria.</p>
<b>Adaption</b>	Climate change adaptation is defined as an activity that “intends to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adoptive capacity and resilience”.	<p>The activities that are eligible to be classified with this marker are activities for which</p> <ul style="list-style-type: none"> <li>a) the climate change adaptation objective is explicitly indicated in the activity documentation; and</li> <li>b) the activity contains specific measures targeting the definition.</li> </ul> <p>Adaptation includes a wide range of activities from information and knowledge generation, to capacity development, planning and the implementation of climate change adaptation actions.</p>

Source OECD-DAC (2011)

With respect to the data coverage, it is important to acknowledge that only part of the climate-related financial flows is included in the CRS database. Moreover, only the coverage of ODA is (close to) complete, while OOF and private finance are largely underreported. Moreover, there are important inconsistencies between countries. For example, in the period 2010-12, climate-related OOF reached an average of 843 million USD per year, but this figure was largely driven by the activities of France’s AFD (684 million USD per year) and Germany’s KfW Development Bank (158 million USD per year) (OECD, 2014b). Figure 3.1 represents an overview of the data gaps and their illustrative magnitudes estimated by OECD.

**Figure 3.2 Data gaps and illustrative magnitudes of climate-related finance to developing countries**



Source OECD (2014a)

An important weakness of the OECD methodology is the fact that the existing guidelines leave too much space for subjective judgment, leading to inconsistencies between donor countries (and even within donor countries in case different individuals, departments or agencies are involved in reporting and classifying the data).

Another important weakness is that the methodology has been developed to tag climate-related flows (qualitative assessment) and is not designed for quantitative assessment. This is particularly important with respect to the projects that have a marker “1 - significant, but not principal impact”. It is unclear which share of the financial flow can be attributed to the marker and there are different approaches among the donor countries. Some countries include only the components that are directly targeting climate-related issues. Other countries attribute to projects with the marker “1 - significant, but not principal impact” a fixed percentage. In general, this percentage ranges between 40% and 100%. For example, for Germany this is 50%, while for Sweden this is 100%. Finally, other countries, such as Belgium, have developed their own weighting system and the percentage that is used varies between sectors and sub-sectors. On the basis of this given percentage, the financial flow is divided into climate (mitigation and adaptation), biodiversity and desertification, so that the sum of the three does not exceed 100% (Varma et al., 2011).

Finally, there is the potential risk that the same financial flow is reported multiple times in case the markers are analyzed together. In some cases, reporting countries tag the total project finance to multiple markers simultaneously, with the effect that one cannot consider the sum of the financial flows to each marker as in this case the total reported finance could be higher than 100%. This implies that when analyzing different markers at the same time one should always take into account the overlap. This may complicate the analysis and make the database less transparent and user-friendly.

**Table 3.3 Main strengths and weaknesses of the OECD-CRS system**

	Strengths	Weaknesses
Coverage	Annual Reporting is <b>based on the calendar year and mandatory</b> for OECD-DAC members (Milieu, 2012).	<p>No reporting by developed countries that are not OECD or DAC members (Milieu, 2012).</p> <hr/> <p>Official flows: <b>Only for ODA information on development finance is relatively complete. For OOF only limited information</b> is available and coverage is strongly depending on the reporting country, which complicates cross-country comparability (OECD, 2014).</p> <p>Private flows: <b>Information on private financial flows (concessional and non-concessional) is even less complete</b> than OOF and not collected in transparent and comprehensive manner (OECD, 2014).</p> <hr/> <p>The database contains mainly information on grants and loans, <b>guarantees (which are in principle no financial flows) are not included in the database.</b></p> <hr/> <p>The <b>reporting is on the project level</b>, meaning that differences in objectives of components or even sub-components of projects are not taken into account. This is likely to lead to overreporting of financial flows.</p>

**Table 3.1 Main strengths and weaknesses of the OECD-CRS system (continued)**

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Methodology</b>	<p><b>Comprehensive methodology</b> that is purpose-based and identifies those activities that intend to address climate change. Very well suited to tag policy objectives and make a qualitative assessment.</p>	<p><b>The OECD methodology based on the Riomarkers is mainly used to make a quality assessment and is in general not suited to make quantitative assessment of the contribution of the project to the policy objective.</b> This is particularly important with respect to the projects which have a marker “1 - significant, but not principal impact”. It is unclear which share of the financial flow can be attributed to the marker and there is no consistent approach across countries. For example, Germany considers 50% of the project spend as climate finance in case of marker “1 – significant, but not principal impact”, whereas Sweden uses 100%.</p>
	<p>In principle, one could use the <b>principal and significant categories for a policy marker as an approximate lower and upper threshold of climate related finance</b> to this marker in case one is able to deal with the overlap between the different policy markers (Varma et al., 2013)</p>	<p>Potential <b>risk of multiple reporting of the same financial flow</b> in case the markers are analyzed together as in some cases the project costs are linked to two markers. In case one wants to analyze total climate finance, one should take this potential overlap into account in the activity level database. This makes the calculation more complicate, less transparent and less-user friendly.</p> <p><b>Data could be subjective and inconsistent between reporting countries</b> as the countries are themselves responsible for applying the markers.</p> <p><b>Only committed support</b> is captured in the data as the data do not take in account projects that are cancelled (Varma et al., 2011).</p> <p><b>‘Enabling measures’ are not included in the database.</b> ‘Enabling measures’ (e.g. creating awareness, certification, support to research and technology development) do not directly contribute to mitigation or adaptation but can contribute indirectly.</p>



### 3.3 Methodology used by multilateral development banks

In 2012, a group of MDBs have developed a joint MDB approach for climate finance reporting in order to ensure that figures on climate finance are collected in a consistent and transparent manner. The involved MDBs are the Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank and the International Financial Corporation and World Bank from the World Bank Group. The methodology they have developed is based on the following principles (Group of MDBs, 2014):

- The classification is based on **ex-ante** project implementation. As a result, inclusion is not a substitute for project-specific theoretical and/or quantitative evidence of GHG emissions. These effects should be demonstrated through project-specific data.
- It follows a **conservative approach** in order to incentivize good activities and reduce overreporting of climate finance by allowing a reasonable level of data granularity and dissecting a project in its main components. As result, an activity can be a project, but also a component of a project. In addition, adaption activities that do not explicitly meet all criteria are not included in the reporting.
- It does not allow **double recording** of the same financial flow. There are two different approaches among the MDBs to deal with the problem of double recording in case an activity contributes to both climate mitigation and adaptation. First, some MDBs will determine what proportion of budget will be counted as mitigation and what proportion will be counted as adaption. Second, some MDBs will create a separate category where they record the financial flows that contribute both to mitigation and adaptation.
- The joint MDB methodology separately defines **detailed eligibility criteria** for mitigation and adaptation.

**Countries covered:** Since this concerns only the multilateral flows from the MDBs there is no information on the contributions of specific countries.

**Type of financial flows included:** Only multilateral financial flows are included in the figures. This includes all MDB's own resources as well as a range of external resources managed by the MDBs. These external resources refer to trust-funded operations, including several climate change facilities.<sup>28</sup> The MDBs collect information on commitments at the time of Board approval or financial agreement signature. However, note that no corrections are made ex-post in case the project's scope changes.

**Type of instruments:** In the classification of the support, a distinction is made between policy-based instruments and investments and technical assistance:

- Policy-based instruments refer to financing instruments in the form of loans or grants provided to the national budget. Often these instruments are accompanied with specific economic or sector work to support national policy or institutional reforms.

<sup>28</sup> Note that this complicates the comparison between the OECD-DAC data and the data from the MDBs as for the OECD-DAC some of the contributions to trust-funded operations, such as the climate funds, are already included in the figures reported by the donor country.

- Investments and technical assistance relate to all financing instruments used by MDB clients to support specific investments as well as advisory services and capacity building.

All types of instruments used by MDBs (debt, equity, guarantees, technical assistance and grants) are included.

**Definitions and eligibility criteria:** The joint MDB methodology defines separately detailed eligibility criteria for mitigation and adaptation.

With respect to mitigation, an activity is labelled as a climate change mitigation activity if it enhances “efforts to reduce or limit GHG emissions or enhance GHG sequestration” (group of MBDs, 2014). Since there is no agreement between the MDBs on the GHG analysis, the judgment which mitigation activities are assumed to lead to emission reductions is based on past experience and/or technical analysis. This is an area where the MDBs are working to harmonize their GHG analysis and come to a more consistent approach. Eligibility criteria for mitigation activities are solely based on the type of activities and the MDBs have defined a positive list of eligible activities. This list, which was used to report on MDB climate finance in 2013, is presented in Annex 1.

With respect to adaptation, an exact definition is not provided by the MDBs. However, there are detailed eligibility criteria for adaptation activities, which are purpose, context and activity based. First, a project or activity must fulfill three design criteria to be reported as climate finance (Group of MDBs, 2014):

- Include a statement that clearly sets out the **context of climate vulnerability** (climate data, exposure and sensitivity) of the project, considering both the impacts from climate change as well as climate variability related risks and uncertainties. These findings should be based on a robust detailed analysis, which should include material from existing analyses or reports (e.g. academic journals, UNFCCC policy documents) or vulnerability assessment analyses carried out as part of the project preparation;
- Include an **explicit statement of intent to address context- and location-specific climate vulnerability** as part of the project. This is important for making the distinction between a project contributing to climate change adaptation and a standard “good development” project;
- Include a clear and direct **link between the climate vulnerability context (e.g. socio-economic geographical location) and the specific project activities**, reflecting only the direct contributions to climate resilience.

In addition, project activities should reflect one of the following adaptation categories (Group of MDBs, 2014):

- Addressing **current drivers of vulnerability** specifically in the poorest countries or communities exposed to climate risk: e.g. investments in poverty reduction, health programs;
- Building **resilience to current and future climate risks**: e.g. supporting specific agro-environmental measures, early warning systems;
- Incorporating **climate risks into investments especially for infrastructure with a long lifespan**: e.g. in energy generation and supply, water storage infrastructure;

- Incorporating **management of climate risk into development plans, institutions and policies**: e.g. health system policies, agriculture.

Finally, the reporting on climate adaption follows a conservative approach and activities that not explicitly meet all criteria are not included in the reporting.

Table 3.4 presents an overview of the main strengths and weaknesses of the joint MDB methodology.

**Table 3.4 Main strengths and weaknesses of the joint MDB methodology**

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Coverage</b>	<p>Reporting is <b>annual</b> based on the fiscal year.</p> <hr/> <p>The joint MDB methodology is <b>not restricted to selective donor and recipient countries</b>. For example, with respect to the donor countries the MDB methodology also allows to include financial flows originated from non-OECD countries.</p> <hr/> <p>The joint MDB methodology includes <b>all financial instruments used by MDBs</b> (debt, equity, guarantees, technical assistance and grants).</p> <hr/> <p>The <b>level of reporting is disaggregated</b> and a project is broken down into components and sub-components. Climate finance is reported at this lower level as the MDB methodology measures the climate-related components' share in the total project cost.</p>	<p><b>Only includes multilateral flows based on information of MDBs' own resources and external resources.</b> There is no information on bilateral official flows and private financial flows. Moreover the database does not include any information with respect to the donor or recipient countries.</p>

**Table 3.4 Main strengths and weaknesses of the joint MDB methodology (continued)**

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Methodology</b>	Reporting is done by a central unit in each MDB and classification is centralized and done by bank staff. This <b>centralized approach should reduce inconsistencies</b> in reporting and classification of financial flows from different MDBs.	<i>Only committed support</i> is captured in the data and the data are not adjusted in case the objective of the project changes and the climate-related share of the project budget increases or decreases.
	For mitigation, the joint MDBs' methodology is activity-based, meaning that classification is based on a typology of the qualifying activities. This allows for a quantitative assessment.	<b>'Enabling measures' are not included in the database.</b> 'Enabling measures' (e.g. creating awareness, certification, support to research and technology development) do not directly contribute to mitigation or adaptation but can contribute indirectly.
	The MDB methodology aims to reduce the <b>risk of multiple reporting of the same financial flow</b> in two ways. First, some MDBs will determine what proportion of budget will be counted as mitigation and what proportion will be counted as adaptation. Second, some MDBs will create a separate category where they record the financial flows that contribute both to mitigation and adaptation.	



**- APPENDICES -**





# appendix 1 List of Mitigation activities used by MDBs on their climate finance reporting in 2013

## **1. Demand-side, brownfield energy efficiency**

- 1.1. Commercial and residential sectors (buildings)
  - 1.1.1. Energy-efficiency improvement in lighting, appliances and equipment
  - 1.1.2. Substitution of existing heating/cooling systems for buildings by cogeneration plants that generate electricity in addition to providing heating/cooling
  - 1.1.3. Retrofit of existing buildings: Architectural or building changes that enable the reduction of energy consumption
  - 1.1.4. Waste heat recovery improvements
- 1.2. Public services
  - 1.2.1. Energy-efficiency improvement in utilities and public services through the installation of more efficient lighting or equipment
  - 1.2.2. Rehabilitation of district heating systems
  - 1.2.3. Utility heat loss reduction and/or increased waste heat recovery
  - 1.2.4. Improvement in utility-scale energy efficiency through efficient energy use and loss reduction.
- 1.3. Agriculture
  - 1.3.1. Reduction in energy use in traction (e.g. efficient tillage), irrigation and other agricultural processes
- 1.4. Industry
  - 1.4.1. Industrial energy-efficiency improvements through the installation of more efficient equipment, changes in processes, reduction of heat losses and/or increased waste heat recovery
  - 1.4.2. Installation of cogeneration plants
  - 1.4.3. More efficient facility - replacement of an older facility (old facility retired)

## **2. Demand-side, greenfield energy efficiency**

- 2.1. Construction of new buildings
  - 2.1.1. Use of highly efficient architectural designs or building techniques that enable the reduction of energy consumption for heating and air conditioning, exceeding available standards and complying with high energy efficiency certification or rating schemes

## **3. Supply-side, brownfield energy efficiency**

- 3.1. Transmission and distribution systems
  - 3.1.1. Retrofit of transmission lines or substations to reduce energy use and/or technical losses, excluding capacity expansion
  - 3.1.2. Retrofit of distribution systems to reduce energy use and/or technical losses, excluding capacity expansion
  - 3.1.3. Improving existing systems to facilitate the integration of renewable energy sources
- 3.2. Power plants
  - 3.2.1. Renewable energy power plant retrofits
  - 3.2.2. Energy-efficiency improvement in existing thermal power plant
  - 3.2.3. Thermal power plant retrofit or replacement to fuel; switch from a more GHG-intensive fuel to a different, less GHG-intensive fuel type
- 3.2.4. Waste heat recovery improvements

## **4. Renewable Energy**

- 4.1. Electricity generation, greenfield projects
  - 4.1.1. Wind power
  - 4.1.2. Geothermal power
  - 4.1.3. Solar power (concentrated solar power, photovoltaic power)
  - 4.1.4. Biomass or biogas power that does not decrease biomass and soil carbon pools
  - 4.1.5. Ocean power (wave, tidal, ocean currents, salt gradient, etc.)
  - 4.1.6. Hydropower plants only if net emission reductions can be demonstrated
- 4.2. Transmission systems, greenfield
  - 4.2.1. New transmission systems (lines, substations) or new systems (e.g. new information and communication technology, storage facility, etc.) to facilitate the integration of renewable energy sources into the grid
- 4.3. Heat production or other RE applications, greenfield or brownfield projects
  - 4.3.1. Solar water heating and other thermal applications of solar power in all sectors
  - 4.3.2. Thermal applications of geothermal power in all sectors
  - 4.3.3. Thermal applications of sustainably-produced bioenergy in all sectors, including efficient, improved biomass stoves
  - 4.3.4. Wind-driven pumping systems or similar

## **5. Transport**

- 5.1. Vehicle energy efficiency fleet retrofit
  - 5.1.1. Existing vehicles, rail or boat fleet retrofit or replacement (including the use of lower-carbon fuels, electric or hydrogen technologies, etc.)
- 5.2. Urban transport modal change
  - 5.2.1. Urban mass transit
  - 5.2.2. Non-motorized transport (bicycles and pedestrian mobility)
- 5.3. Urban development
  - 5.3.1. Integration of transport and urban development planning (dense development, multiple land use, walking communities, transit connectivity, etc.), leading to a reduction in the use of passenger cars
  - 5.3.2. Transport demand management measures to reduce GHG emissions (e.g. speed limits, high occupancy vehicle lanes, congestion charging/road pricing, parking management, restriction or auctioning of license plates, car-free city areas, low-emission zones)
- 5.4. Inter-urban transport and freight transport
  - 5.4.1. Improvement of general transport logistics to increase energy efficiency of infrastructure and transport, e.g. reduction of empty running
  - 5.4.2. Railway transport ensuring a modal shift of freight and/or passenger transport from road to rail (improvement of existing lines or construction of new lines)
  - 5.4.3. Waterways transport ensuring a modal shift of freight and/or passenger transport from road to waterways (improvement of existing infrastructure or construction of new infrastructure)

## **6. Agriculture, forestry and land use**

- 6.1. Afforestation and reforestation
  - 6.1.1. Afforestation (plantations) on non-forested land
  - 6.1.2. Reforestation on previously forested land
- 6.2. Reducing emissions from the deforestation or degradation of ecosystems
  - 6.2.1. Biosphere conservation projects (including payments for ecosystem services)
- 6.3. Sustainable forest management
  - 6.3.1. Forest management activities that increase carbon stocks or reduce the impact of forestry activities

#### 6.4. Agriculture

6.4.1. Agriculture projects that do not deplete and/or improve existing carbon pools (reduction in fertilizer use, rangeland management, collection and use of bagasse, rice husks, or other agricultural waste, low tillage techniques that increase carbon contents of soil, rehabilitation of degraded lands, etc.)

#### 6.5. Livestock

6.5.1. Livestock projects that reduce methane or other GHG emissions (manure management with biodigestors, etc.)

#### 6.6. Biofuels

6.6.1. Production of biofuels (including biodiesel and bioethanol)

### 7. Waste and wastewater

7.1. Solid waste management that reduces methane emissions (e.g. incineration of waste, landfill gas capture, and landfill gas combustion)

7.2. Treatment of wastewater if not a compliance requirement (e.g. performance standard or safeguard) as part of a larger project including the reduction of methane emissions

7.3. Waste recycling projects that recover or reuse materials and waste as inputs into new products or as a resource

### 8. Non-energy GHG reductions

#### 8.1. Industrial processes

8.1.1. Reduction of GHG emissions resulting from industrial process improvements and cleaner production (e.g. cement, chemicals)

#### 8.2. Air conditioning and cooling

8.2.1. Retrofit of existing industrial, commercial and residential infrastructure to switch to cooling agent with lower global warming potential

#### 8.3. Fugitive emissions and carbon capture

8.3.1. Carbon capture and storage projects (including enhanced oil recovery)

8.3.2. Reduction of gas flaring or methane fugitive emissions in the oil and gas industry

8.3.3. Coal mine methane capture

### 9. Cross-sector activities and others

#### 9.1. Policy and regulation

9.1.1. National mitigation policy/planning/institutions

9.1.2. Energy sector policies and regulations (energy efficiency standards or certification schemes; energy efficiency procurement schemes; renewable energy policies)

9.1.3. Systems for monitoring the emission of greenhouse gases

9.1.4. Efficient pricing of fuels and electricity (subsidy rationalization, efficient end-user tariffs, and efficient regulations on electricity generation, transmission, or distribution),

9.1.5. Education, training, capacity building and awareness raising on climate change mitigation/sustainable energy/sustainable transport; mitigation research

#### 9.2. Energy audits

9.2.1. Energy audits for energy end-users, including industries, buildings, and transport systems

#### 9.3. Supply chain

9.3.1. Improvements in energy efficiency and GHG reductions in existing product supply chains

#### 9.4. Financing instruments

9.4.1. Carbon markets and finance (purchase, sale, trading, financing, guarantee and other technical assistance). Includes all activities related to compliance-grade carbon assets and mechanisms, such as Clean Development Mechanism (CDM), Joint Implementation (JI), Assigned Amount Units (AAUs), as well as well-established voluntary carbon standards like the Verified Carbon Standard (VCS) or the Gold Standard.

- 9.4.2. Renewable energy and energy efficiency financing through financial intermediaries or similar (e.g. earmarked lines of credit; lines for microfinance institutions, cooperatives, etc.)
- 9.5. Low-carbon technologies
  - 9.5.1. Research and development of renewable energy or energy efficiency technologies
  - 9.5.2. Manufacture of renewable energy and energy efficiency technologies and products
- 9.6. Activities with greenhouse gas accounting
  - 9.6.1. Any other activity not included in this list for which the results of ex-ante greenhouse gas accounting (undertaken according to commonly agreed methodologies) show emission reductions that are higher than a commonly agreed threshold

Source: Group of MDBs (2014)

# References

Brown, J. et al. (2011). Improving the Effectiveness of Climate Finance: A Survey of Leveraging Methodologies. Joint publications of the Overseas Development Institute, Climate Policy Initiative, Environmental Defense Fund and Brookings.

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

Buchner, B., Brown, J. and J. Corfee-Morlot (2011). Monitoring and Tracking Long-Term Finance to Support Climate Action. OECD Publication, Paris.

Buchner, B. et al. (2013). The Global Landscape of Climate Finance 2013. Climate Policy Initiative, Venice.

Caruso, R. and J. Ellis (2013). Comparing definitions and methods to estimate mobilized climate finance, OECD Publication, Paris.

CEA (2007); Design to Win. Philanthropy's Role in the Fight against Global Warming. California Environmental Associates, August 2007, San Francisco.

Clapp, C., Ellis, J., Benn, J and J. Corfee-Morlot (2012). Tracking Climate Finance: What and How? OECD Publication, Paris.

Devinit (2013). Global Financial Resources Flows. In Devinit (2013), Investments to End Poverty. Development Initiatives, Bristol.

Foundation Centre (2010). International Grant making Update, A Snapshot of U.S. Foundation Trends. December 2010.

Group of Multilateral Development Banks (MDBs) (2014). Joint Report on MDB Climate Finance. A report by a group of Multilateral Development Banks (MDBs) comprising the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank (IDB), and the International Finance Corporation (IFC) and World Bank (WB) from the World Bank Group (WBG).

Hosier et al. (2010). Beyond the Sum of Its Parts: Combining Financial Instruments for Impact and Efficiency. World Bank Publication, World Bank, Washington D.C.

Illman, J., Halonen, M., Whitley, S. and N.C. Trujillo (2014). Practical Methods for Assessing Private Climate Finance Flows. Norden, Copenhagen.

Klein, A., Sangaré, C. and G.M. Semeraro (2014). The growing development potential of other official flows. In OECD, Development Co-Operation Report 2014: Mobilizing Resources for Sustainable Development. OECD publication, Paris.

Mabey, N. (2012). KfW Entwicklungsbank: Low carbon sector transformation in developing countries. KfW. Wuppertal Institute for Climate, Environment and Energy, Frankfurt.

Milieu (2012). A recipe for transparent climate finance in the EU. Report prepared by Milieu Ltd. and commissioned by the European Union.

Ockenden, S., Warrander, G., Eales, R. and D. Streatfeild (2012). UK Working Paper: A project level approach to forecast and monitor private climate finance mobilized. Climate Change Expert Group (CCXG) Global Forum, Paris.

- OECD (2008). Is it ODA? OECD Factsheet November 2008, Paris.
- OECD (2011). Creditor Reporting System, data downloaded '4th February 2015.
- OECD (2013). Converged statistical reporting directives for the creditor reporting system (CRS) and the annual DAC questionnaire. OECD Publication, Paris.
- OECD (2014a). Climate-related development finance in 2013: Improving the statistical picture. OECD publication, Paris.
- OECD (2014b). OECD DAC Statistics – Climate Related Aid. OECD publication, Paris.
- OECD (2014c). Update on multilateral agencies', non-DAC countries' and private foundations' statistical reporting to the OECD-DAC in 2013. DAC Working Party on Development Finance Statistics, OECD Publications, Paris.
- OECD (2014d). Estimating Mobilized Private Climate Finance: Policy Perspectives. OECD Publication, Paris.
- Peters-Stanley, M. and G. Gonzalez (2014). Sharing the Stage: State of the Voluntary Carbon Markets 2014. Report by Forest Trends' Ecosystem Marketplace, Washington.
- Srivastava, A. and S. Venugopal (2014). Evaluating Methods to Estimate Private finance Mobilized from Public Interventions. Discussion paper, World Resources Institute, Washington DC,
- Stadelmann M., Timmons Roberts J. and A. Michaelowa (2011a). Accounting of Private Climate Finance. Types of Finance, Data Gaps and the 100 Billion Dollar Question. Working Paper, August 2011. Climate Strategies.
- Stadelmann M., Castro P. and A. Michaelowa (2011b) Mobilizing Private Finance for Low Carbon Development: Tackling Barriers to Investments in Developing Countries and Accounting of Private Climate Finance Flows. Climate Strategies, Cambridge.
- Stadelmann, M and A. Michaelowa (2013). Contribution of the private sector to Climate Change Long-Term-Finance: An assessment of private climate finance mobilized by Switzerland. Report Commissioned by the Federal Office for the Environment (FOEN), Zurich.
- Stadelmann, M., Michaelowa, A. and J. Timmons Roberts (2013). Difficulties in accounting for private finance in international climate policy. Climate Policy 13(6), 718-737.
- UNFCCC (2010). Decision 1/CP.16. UNFCCC.
- UNFCCC (2014). UNFCCC Standing Committee on Finance: 2014 Biennial Assessment and Overview of Climate Finance Flows Report. United Nations Framework Convention on Climate Change, Bonn.
- Varma, A. et al. (2011). Monitoring, Reporting and Verifying systems for climate finance in EU and its Member States. Report prepared for European Commission – DG Climate Action by Ricardo-AEA, London.
- Varma, A. et al. (2013). Climate related standards and measures for assessing investments in infrastructure projects, Report prepared for European Commission – DG Climate Action by AEA, London.
- Venugopal, S., et al. (2012). Public Financing Instruments to Leverage Private Capital for Climate-Relevant Investment: Focus on Multilateral Agencies – Working Paper and Approach and Methodology. World Resources Institute, Washington.
- Whitley, S. and K. Ellis (2012). Designing public sector interventions to mobilize private participation in low carbon development: 20 questions toolkit, Overseas Development Institute, London.