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The Global Landscape of Climate Finance 2014

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CPI Report

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Our work helps nations grow while addressing increasingly scarce resources and climate risk. This is a complex challenge in which policy plays a crucial role.

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Executive Summary

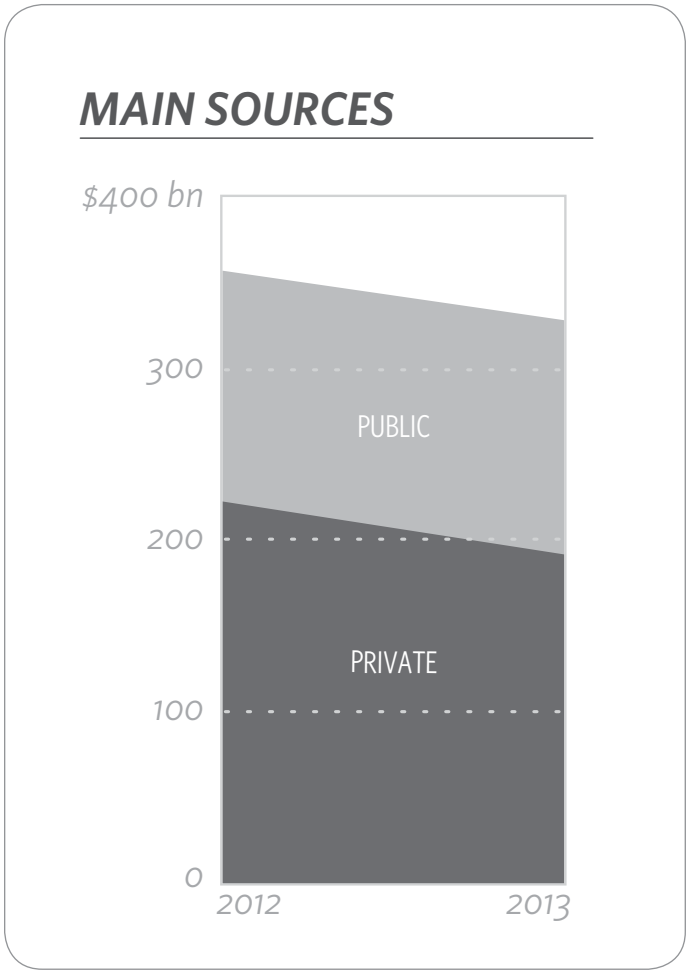
In December 2015, countries will gather in Paris to finalize a new global agreement to tackle climate change. Decisions about how to unlock finance in support of developing countries' low-carbon and climate-resilient development will be a central part of the talks. But key questions about how to finance the larger, global transition, will remain largely unresolved. These include, how much climate finance is needed around the world to deliver low-carbon energy systems and climate-resilience? How much investment is already flowing? Who are the key actors? And what is the optimal balance between public and private resources?

The Global Landscape of Climate Finance 2014 supports serious debate on these key questions by drawing together climate finance data from numerous sources to present policy makers with the most comprehensive information available about the scale, key actors, instruments, recipients, and uses of finance supporting climate change mitigation and adaptation outcomes.

Global climate finance flows in 2013 topped USD 331 billion – well below 2012 levels. The cumulative gap between finance needed and finance delivered is growing, putting globally agreed temperature goals at risk, and increasing the likelihood of costly climate impacts.

In 2013, annual global climate finance flows totaled approximately USD 331 billion, falling USD 28 billion below 2012 levels. Public actors and intermediaries contributed USD 137 billion (USD 134-140 billion) largely unchanged from last year. Private investment totaled USD 193 billion, falling by USD 31 billion or 14% from 2012, see Figure ES1. The actual decrease in total flows may be even larger as, for the first time, *Landscape 2014* captures public finance flowing to large hydro and research and development (USD 4 billion and USD 3 billion respectively).

Figure ES1: Development of public and private climate finance



Climate finance flows were split almost equally between developed (OECD) and developing (non-OECD) countries, USD 164 billion and USD 165 billion respectively. The amount we tracked flowing from developed to developing countries fell by USD 8 billion from 2012, to USD 34 billion, with multilateral DFI contributions falling by USD 5 billion and private investment contracting by USD 2 billion.

Almost three-quarters of total flows were invested in their country of origin. Private actors had an especially strong domestic investment focus with USD 174 billion or 90% of their investments remaining in the country of origin. This demonstrates that investment environments that are more familiar and perceived to be less risky are key to investment decisions, highlighting the importance of domestic policy frameworks in unlocking scaled up climate finance flows.

The good news is that the overall decrease is mainly due to the falling cost of some renewable energy technologies, particularly solar PV. These cost savings mean that in some cases more renewable energy is actually being deployed for less investment (see Figure ES4). In 2013, it cost USD 40 billion less to achieve the same level of solar deployment as in the previous year. Despite some successes, however, the situation remains grave. The International Energy Agency estimates that an additional USD 1.1 trillion in low-carbon investments is needed every year on average between 2011 and 2050, in the energy sector alone, to keep global temperature rise below two degrees Celsius. In cumulative terms, the world is falling further and further behind its low-carbon and climate-resilient investment goals.

Sources and Intermediaries

In 2013, public actors made up of government ministries, bilateral aid agencies, export credit agencies, and multilateral, bilateral and national development financial institutions (DFIs), committed USD 137 billion to pay for low-cost and commercial rate loans, viability gap funding, equity investments, policy development and technical support for low-carbon and climate-resilient development. This amount is largely unchanged from 2012 levels although the decrease in private investment flows meant the public share of global flows rose from 38% in 2012 to 42% in 2013.

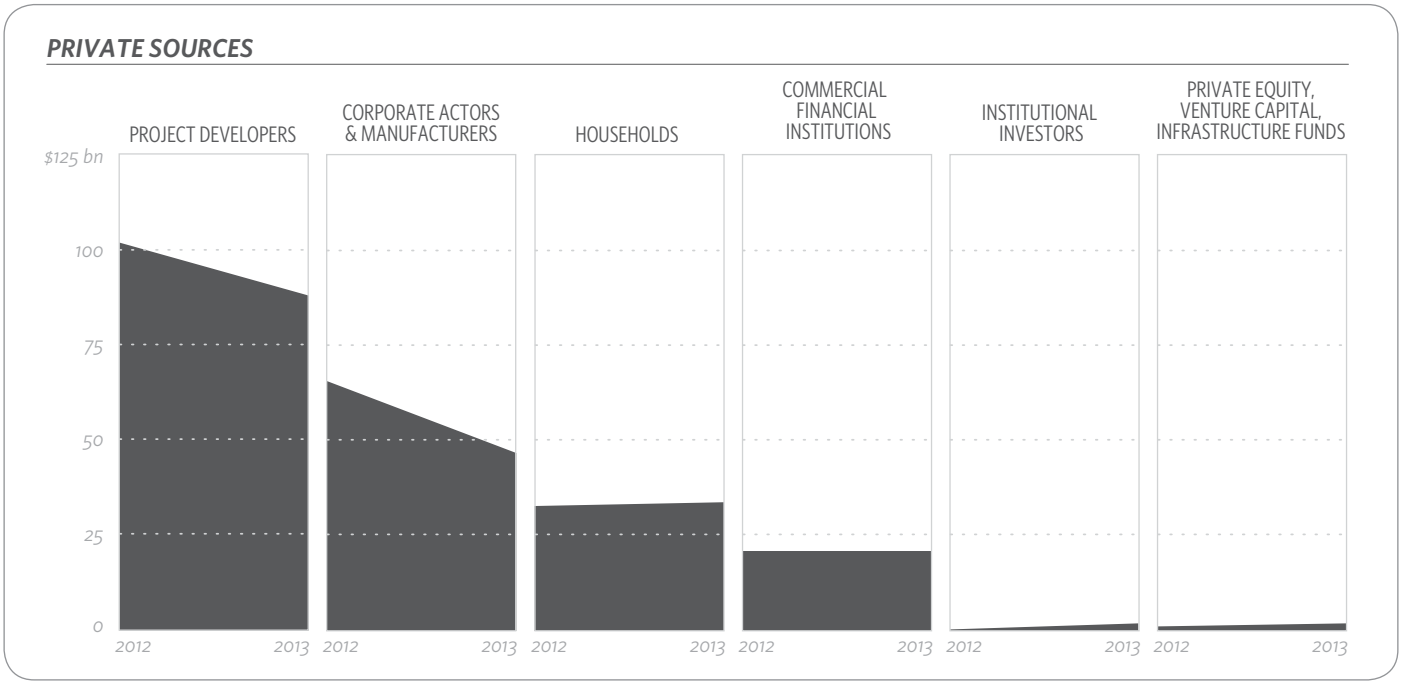
Public actors and intermediaries committed USD 38 billion in 2013, or 42% of total climate finance flows.

DFIs raised, managed and distributed the majority of public resources, contributing USD 126 billion, or 38% of overall flows. Without the inclusion of large hydro and R&D in this year's study accounts, DFI finance would have dropped by USD 2 billion from 2012 levels. National DFIs contributed around 55% of DFI flows, while multilateral DFIs and bilateral DFIs contributed approximately 34% and 11% respectively.

National and multilateral climate funds contributed USD 0.6 billion more than in 2012, reaching USD 2.2 billion. Growing commitments from the Clean Technology Fund and the Least Developed Countries Funds were the main driver.

Beyond DFIs and climate funds, we tracked a further USD 9 billion (USD 6-12 billion) committed by governments and their agencies, most of which flowed from developed to developing countries.

Figure ES2: Private sources of climate finance



It is important to note that this report does not estimate the value of public budgets dedicated to domestic climate action (which are distinct from resources channeled through national DFIs). Inconsistencies between budget systems and cycles, and differences in how climate action and associated resources are tracked and reported make it difficult to aggregate information meaningfully. We estimate the value of public budgets not captured in our report may reach at least USD 60 billion.

Private actors remain the largest source of global climate finance, and invested USD193 billion, or 58% of total flows in 2013.

In 2013, private actors invested USD 193 billion in renewable energies – the only sector for which we have data on private finance – USD 31 billion below 2012 levels. Most of this decrease stems from rapidly falling solar PV investment costs and reduced deployment of wind power (see Figure ES5 under 'Uses' below).

As illustrated in Figure ES2, project developers, including utilities and independent power producers, as well as corporate actors and manufacturers were the most important sources of climate finance investment in renewable energies in 2013, investing USD 88 billion and USD 47 billion, in both cases a sharp drop below 2012 levels. Households and commercial financial institutions' investments remained constant. Contrary to the general downward trend, Figure ES2 also highlights that institutional investors' direct investments in projects, and investments by private equity, venture capital and infrastructure funds, grew from 2012 levels, though from a low level.

In addition to the private investment flows we do capture, significant data gaps mean that we cannot reliably track private investment in forestry and land use (at least USD 10 billion), energy efficiency (ranging from USD 100-330 billion), transport, and adaptation.

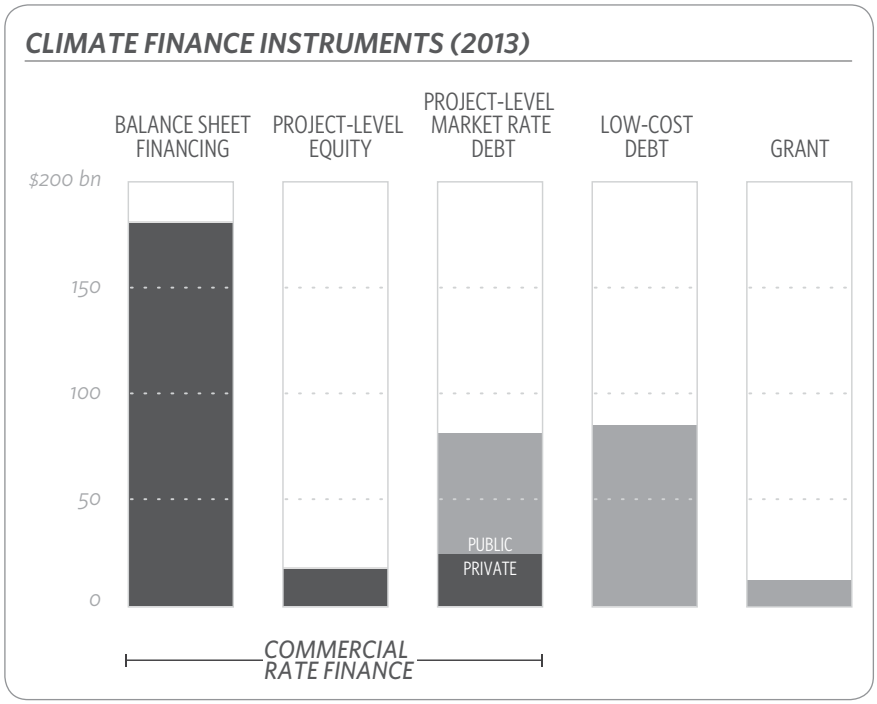
Instruments

Almost three-quarters of climate finance flows were invested with the expectation of earning commercial returns.

In 2013, USD 245 billion or 74% of total flows, spread across three instruments, was invested with the expectation of earning commercial returns.

Figure ES3 illustrates that **balance sheet financing remained the most important instrument in 2013. However, it dropped by USD 40 billion from 2012, consistent with the general decrease in private finance** (as the almost exclusive source of balance sheet financing). Among other commercial term finance, the level of market-rate debt (for which DFIs were the largest provider) remained steady, while project-level equity increased by almost 50% from 2012 levels.

Figure ES3: Instruments of climate finance



Among concessional instruments favored by the public sector, grants remained largely constant while low-cost debt, including concessional loans increased slightly, mainly due to the inclusion of large hydro.

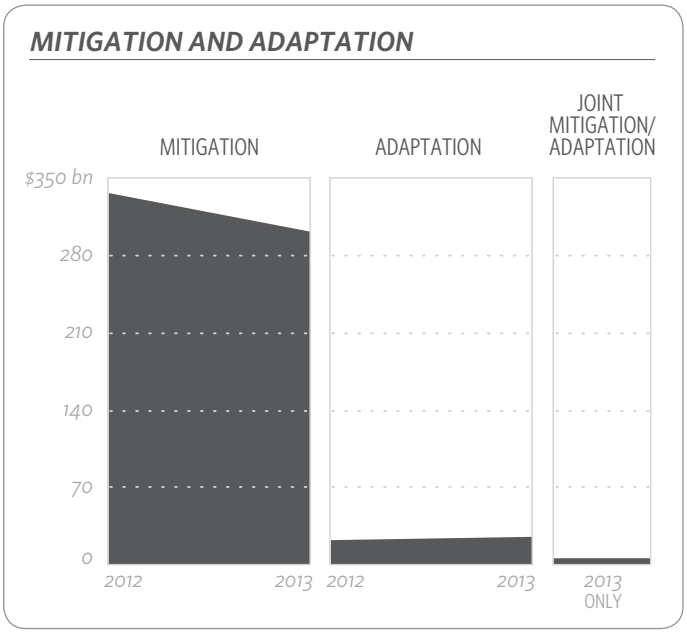
Recipients

Private actors were the initial recipients of USD 29 billion of public finance.

For the first time, *Landscape 2014* captures information about the initial recipients of flows – initial recipients are the first to receive money from the source or intermediary of climate finance we track. Understanding the composition of this set of actors helps us to better highlight the links between the public and private sectors across the lifecycle of flows, enabling us to see, for instance, to what extent public actors are meeting their goals of promoting private sector activities.

More than half (58%), or USD 191 billion of total climate finance flows was invested in private entities including households. USD 46 billion (14%) went to public entities while USD 32 billion (10%) flowed to a mix of public and private entities (including public private partnerships). Public entities invested USD 29 billion or 21% of their resources in private entities, while we were unable to identify finance flowing from private to public entities. We were unable to track USD 61 billion of finance (19%) to any recipient due to a lack of data from some DFIs, highlighting an important gap in our understanding of recipients.

Figure ES4: Mitigation and adaptation finance



Final Uses

Compared to last year, mitigation finance has decreased. Finance for adaptation has grown.

Although total mitigation investments decreased by USD 24 billion in 2013 (mostly due to the fall in private investment), mitigation accounted for 91% of total climate finance flows (See Figure ES4).

Of all mitigation finance, 78% went toward renewable energy while public investments in energy efficiency (10%) and sustainable transport (6%) made up most of the remainder. The heavy bias toward renewable energy partly reflects the private sector data limitations of the *Landscape 2014* (see section 2 for a further discussion of our methodology).

Changes in the level of investment in solar and wind energy explain the large drop in private investment in mitigation. Figure ES5 illustrates that in 2013, new finance for solar power dropped despite an increase in new solar installed capacity. In other words, unit costs of solar decreased. Over the same period, wind power investments fell also in terms of deployment while unit costs remained largely unchanged.

In 2013, USD 25 billion (7% of total flows) of exclusively public resources went to adaptation, up USD 3 billion from 2012, see Figure ES4. Water supply and management received the largest share of adaptation finance (58%), followed by climate-resilient infrastructure and coastal protection (14%), disaster risk management (9%) and agriculture/ forestry activities (8%). Adaptation finance was mainly provided through low-cost debt including concessional loans (52%), grants (16%), and market-rate debt (30%). Private investments are not captured due to scant and unreliable data. Information about private investment in adaptation remains one of the most important gaps in the climate finance landscape.

USD 4 billion or around 1% was used for activities with joint mitigation and adaptation objectives.

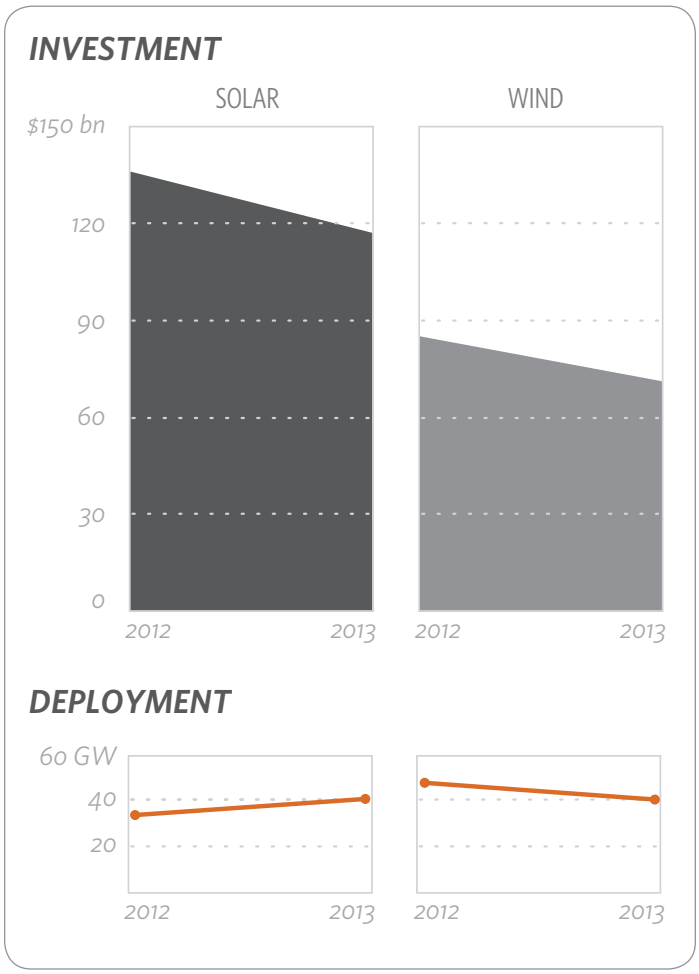
Continuing Knowledge Gaps and Tracking Improvements

Major data gaps continue to challenge our understanding about climate finance and limit the ability of policy makers to address investment gaps. The lack of common definitions for climate finance and activity boundaries (especially for adaptation), and methodological differences in how climate finance is tracked and reported present major challenges. Serious data limitations concerning private investments in adaptation, forestry, and energy efficiency, mean that all flows we capture in these sectors originate from public sources. It does not mean private investments are not being made, but our understanding of who the actors are, and where they are investing is limited as a result.

Some actors have begun to address these data gaps. On the private side of the landscape, a far broader range of estimates for investments in energy efficiency is now available, but data limitations still prevent us from tracking investments to a project level. Co-ordinated by the Organization of Economic Cooperation and Development (OECD), the Research Collaborative on Private Finance is working to develop methodologies and approaches to track and calculate climate-related private investments, including those mobilized by public interventions.

On the public side, Multilateral Development Banks (MDBs) now report project-level climate finance data to the OECD, and through their Joint Report on Climate Finance (now in its third year) they interact with bilateral and national DFIs (i.e., the International Development Finance Club) with the aim of harmonizing approaches to tracking and reporting climate finance. Under the auspices of the United Nations Convention on Climate Change (UNFCCC), the Standing Committee of Finance will publish its first Biennial Assessment and Overview of Climate Finance Flows in late 2014. Beyond these developments, focused work is beginning to capture information about public budgets in developed and developing countries, including several that build on the Global Landscape methodology.

Figure ES5. Decrease of solar and wind power finance



Despite improvements, it remains difficult to assess how the total flows captured by the Landscape compare to the estimated needs at the sector, country, and international levels, or how effective investments are on the ground. CPI remains committed to improving the understanding of today's climate finance landscape to support global efforts to address climate change and its impacts, effectively and efficiently.

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1. Introduction

Over the last years, CPI's *Landscape of Climate Finance* reports have played a growing role informing policy makers about the global state of climate finance. This year, for the first time, the Intergovernmental Panel on Climate Change (IPCC) considered climate finance and investment in its 5th Assessment Report (Gupta et al. 2014), relying heavily on *Landscape 2013* analysis.

In this fourth edition of the *Global Landscape of Climate Finance,* we have updated our methodology and expanded our analysis to around 12,000 projects or investments in order to present the best available estimates of climate finance flowing within and between countries around the world. We aim to identify where investment has increased or fallen, and where improved data collection is narrowing tracking gaps. Where possible we aim to describe trends that have emerged since *Landscape 2013* concerning key actors, and to identify entry points for climate finance. Finally, we consider further improvements that would help policy makers to build a truly comprehensive picture going forward, to strengthen countries' ability to achieve their climate financing needs and goals.

Chapter 2 describes our methodology for tracking climate finance, outlines this year's innovations and explains the extent to which estimates are comparable over the years.

Chapter 3 begins with a brief overview of the volume of finance available and presents the 'climate finance spaghetti' diagram which illustrates the lifecycle of flows we capture from sources through to uses. We consider how far away the world is from delivering estimated climate financing needs.

Section 3.1 identifies the sources of finance, and considers which public and private actors are playing the most important roles in terms of raising and managing climate finance, and delivering investments.

Section 3.2 tracks the financial instruments used to deliver finance by both public and private actors, and whether volumes delivered have grown or shrunk from the previous year.

Section 3.3 follows finance through to the type of actors that receive finance flows.

Section 3.4 calculates the spread of finance dedicated to mitigating and adapting to climate change and identifies the most important actors and activities. We also consider uses for which we miss data, and the implications of these gaps.

Section 3.5 analyzes the geographical origins and destinations of climate finance, to shed light on the interplay between domestic and international flows as well as the scale of flows from developed to developing countries.

Chapter 4 summarizes emerging trends and identifies open issues that need to be addressed to close the financing gap.

2. Methodology

Landscape 2014 aims to capture the most recent information about global, annual climate finance flows supporting emission reductions and climate resilience based on empirical data collected from a wide range of sources. As well as a survey distributed to Development Finance Institutions (DFIs) to collect project-level information about their investments, CPI combines project-level and aggregate data from a variety of sources (see Table 1). Our aim is to present the most comprehensive and meaningful overview of climate finance possible.

Aggregating data from different sources presents some challenges. To avoid double counting, we exclude some financial data from select sources and secondary market transactions.1 Nonetheless, challenges remain, including the issue that multilateral DFIs and development agencies have different methodologies for classifying investments in climate change adaptation, meaning that the underlying data on which we rely may not always be fully comparable.

We track investments and commitments rather than revenues and disbursements. We concentrate on new financial commitments that target climate change, and focus on project-level primary financing data. Building on the methodology in *Landscape 2012* and *2013*, we capture flows into actual projects on the ground, rather than the ownership or claims of actors.

As further explained in Falconer and Stadelmann (2014), we include total investment costs plus public framework expenditures but exclude public revenue support:

1. We consider **total rather than incremental investment costs**, in order to track the current progress of total primary climate mitigation and adaptation investments, as opposed to investment that is in addition to a hypothetical higher carbon alternative. All finance in the landscape is captured on a gross rather than net basis.
2. We also track **public framework expenditures** to account for the fact that many project-level investments would not be possible without the public expenditures that are not accounted for at the project level (e.g. costs associated with the development of national climate strategies and regulations regulations). Tracking public framework expenditures is warranted as they constitute costs in addition to investment costs (e.g. grants) and do not pay back investment costs (e.g. as revenue support mechanisms do).
3. We **do not track policy-induced revenues** such as those generated by feed-in tariffs and carbon credits. These revenue support mechanisms pay back investment costs, so including them would constitute double counting.

1 For instance we exclude climate fund financing from the DFI and government calculations and we exclude DFI financing from our private sector data source (BNEF 2014). We track only primary investments into new projects, while excluding secondary transactions and investments into manufacturing or funds.

Table 1: Source of data

FLOW	SOURCE OF FINANCE	DATA GRANULARITY
PRIVATE FINANCE	BNEF (2014),	Project-level
	FS-UNEP and BNEF (2014)	Aggregated
	Mauthner and Weiss (2014)	Aggregated
DEVELOPMENT FINANCE INSTITUTIONS*	IDFC (2014a, 2014b)	Aggregated
	Direct reporting to CPI	Project-level / aggregated
	BNEF (2014)	Project-level
CLIMATE FUNDS	ODI and HBF (2014)	Project-level
GOVERNMENTS AND AGENCIES	OECD (2014a, 2014b),	Project-level
	BNEF (2014),	Project-level
	US government (2014)	Aggregated

* see Annex B for details

We track finance that flows to distinct *projects* (including programs and policies in case of public finance) as well as finance that remains on balance sheets.

We have classified resources provided directly by governments, DFIs and climate funds as public finance. On the other hand, we have classified investment originating from corporate entities as private finance—even when these are partly or fully government-owned. The resulting estimates of public and private finance should not be used to calculate public-private leverage ratios, as private finance flows both independently of, and in response to public policies.

As with previous reports, the figures identified in the *Landscape 2014* should not be confused with amounts that may count towards the USD 100 billion developed countries committed to mobilize in the Copenhagen Accord to assist developing countries. Data gaps and the lack of international agreement on which type and proportion of public and private sector contributions to

climate finance should, or should not, count toward the USD 100 billion prevent our findings from being directly compared with this figure. Instead, our figures represent overall finance flows and should be compared with estimates of total investment that are consistent with the goal of limiting global temperature rise to below 2 degree Celsius. Our figures should also be considered in the context of a lack of common understanding of what constitutes climate finance and significant data gaps.

2.1 Innovations in 2014

This year's Landscape offers a more accurate comparison with the previous year, identifies for the first time who receives climate finance, and highlights tracking gaps in more detail

Landscape 2014 improves information about global climate finance flows in several ways.

1. **Comparison over the years**: due to the largely unchanged methodology, we can for the first time make in-depth comparisons to last year's landscape, revealing changing trends not just in terms of overall numbers, but also for sources and intermediaries, instruments, uses and geographies (see 2.1).
2. **Improved granularity for DFIs**: *Landscape 2014* does not cover more DFIs but provides more detail about their investments. For the first time this year, we gained access to the project-level data of five multilateral DFIs that together, represent 25% of all DFI finance (see Annex B for a list of relevant DFIs). This has further improved our understanding of the interaction between instruments, sectoral and technological uses as well as the destinations of funds. Access to project-level data allowed us to identify and exclude USD 0.2 billion in commitments that we already track under climate funds or that are beyond our scope (for example, directed to fossil fuels).
3. **Tracking to recipients**: for the first time, we have captured whether the first recipients of finance are public, private, or a mix of the two.
4. **An increased share of total projects and countries, particularly on the private side**: extending our analysis to 12,000 projects or investments in 79 countries (up from 19 last year) means this year's Landscape considers more private finance data at project level than ever before.
5. **An expanded scope of activities**: In terms of types of activities, for the first time we have captured public finance for large hydro power (capturing around USD 4 billion) provided that net emission reductions can be demonstrated, as well as public investments in research and development (around USD 3 billion). In both cases, due to data limitations, we have only included DFI data.
6. **Acknowledging overlap between mitigation and adaptation**: For the first time in 2014, we track flows with both mitigation and adaptation objectives, where these are reported separately. This improves accuracy from last year's landscape when we allocated finance to either mitigation or adaptation.
7. **Increased clarity on the Landscape's data gaps**: an extensive review of the literature has helped us to narrow down both where we are missing information, and its potential volume, see section 3.2.

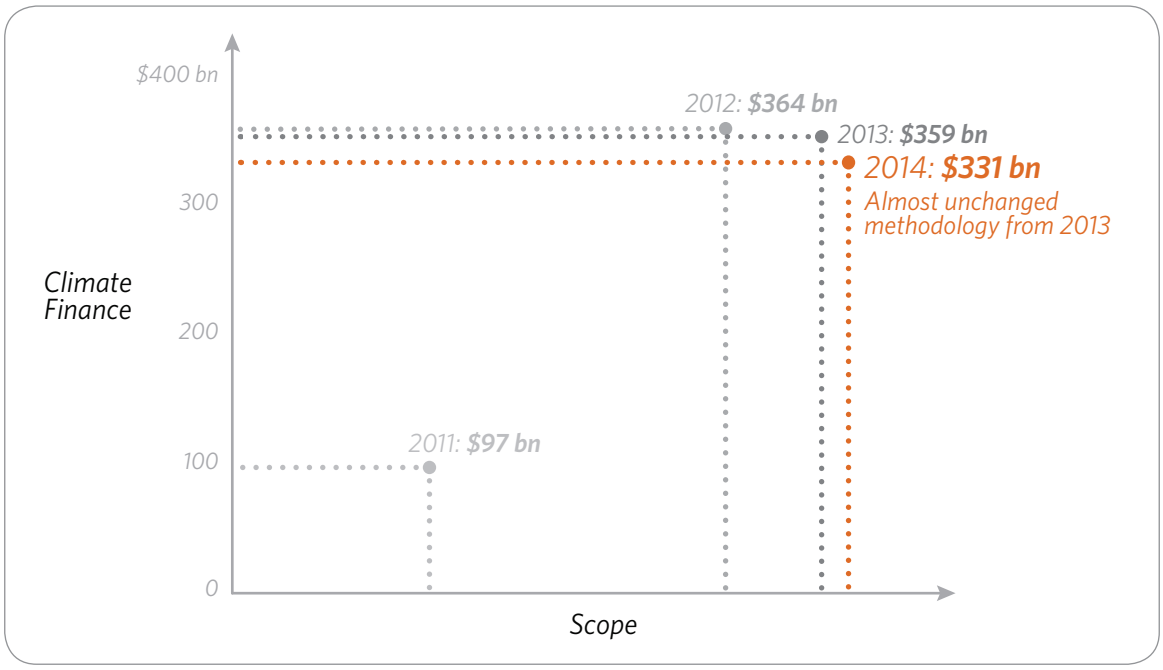
See the Annex for more detailed information on the methodology and data sources.

2.2 Comparisons over the years

The scope of *Landscape 2014* has been adjusted only marginally compared to *Landscape 2013* (see Figure 1). First, we reduced the scope of our DFI survey and excluded nine of the smallest DFIs that accounted for USD 0.9 billion last year. Using BNEF data, we track only USD 0.1 billon for these same DFIs this year. Second, we increased the scope of activities captured, to DFI finance for large hydro projects and R&D, as discussed above.

As the methodology of *Landscape 2014* has remained largely unchanged compared with the two last editions (Buchner et al. 2012, 2013), we are able to show trends for the flows we track.

Figure 1: How have Landscape estimates and scope changed over time?



3. The Current Landscape of Climate Finance

Landscape 2014 finds that in 2013,2 annual global climate finance flows reached USD 331 billion (range of USD 328-334 billion).[3]

This is a fall from last year's USD 359 billion. The actual decrease of climate finance may be even larger, as we have for the first time included public finance for large hydro projects (USD 4 billion) and public R&D (USD 3 billion) in this year's estimates.[4]

The key driver behind the overall decrease is a significant drop in private investment. The main reason for the decline was falling solar PV costs. Notably, while investments in solar were USD 19 billion less than last year, the annual installed capacity increased by 5 GW, meaning that more value was being achieved for less investment. There was also lower deployment of some low-carbon technologies (mainly wind power).

Landscape 2014 suggests that in global terms, for a further successive year, climate finance levels have fallen far short of even the most conservative estimates of investment needs. The IEA (2014b) estimates that from 2011 to 2050, an additional USD 1.1 trillion of investments in the energy sector alone is needed each year on average, to keep global temperature rise below 2 degree Celsius.[5] In other words, **the cumulative gap between the level of finance needed and finance actually delivered is growing.**

However a key element of achieving the target to limit climate change to below 2 degree Celsius is that climate finance investment must not only grow, but displace investment in fossil fuels. The reality is rather the opposite. In 2014 the IEA reported that investments in oil, gas and coal extraction, transportation, oil refining and fossil fuel power plants have more than doubled in real terms since 2000, and reached USD 950 billion in 2013 (IEA 2014a). In fact, there is growing concern that a 3-4 degree Celsius temperature rise is a more likely scenario – together with anticipated climate impacts, including serious damage to infrastructures, ecosystems, and livelihoods.

When comparing levels of climate finance available globally with estimated needs and investment rates in traditional fossil fuel activities, policy makers must consider that important data gaps prevent us from accurately capturing the value of all low-carbon and climate-resilient investments (see Box 1)

The following sections consider the key elements of the current climate finance landscape (see Figure 3) in detail: from sources and intermediaries, through instrument to recipients and uses of climate finance.

2 More than 90% of finance tracked is referring to commitments in 2013; less than 10% of finance is using data from 2012 (solar water heaters and government commitments beyond DFIs and funds). For simplicity, we refer to 2013 commitments throughout this report.

3 We have point estimates for roughly 97% of finance, including all finance from the private sector, DFIs and climate funds. The range stems from commitments of developed country governments for activities in developing countries (USD 5-11 billion), see section 3.1.1. for details.

4 We may underestimate the actual decrease also because of inflation and exchange rates.

5 Nelson et al. (2014) estimate, based on different IEA figures, that USD 11 trillion of incremental investments are needed from 2015 to 2030 (USD 0.7 trillion a year) in order to make the energy sector compatible with a 2 degrees stabilization path.

Box 1: Gaps in our tracking

As flagged in previous reports and also in Chapter 2 above, some significant data gaps continue to impede our analysis of climate finance flows. *Landscape 2014*, includes comprehensive data for public and private investments in renewable energy, as well as finance from DFIs, climate funds and internationally operating government agencies for all types for mitigation and adaptation activities (see Figure 22). However, due to data limitations, we are unable to track private finance in energy efficiency, transport, and in the forestry and agricultural sector, as well as for adaptation. This significantly impacts some of our findings, for example, by skewing the sectoral spread of climate finance toward renewable energy, and by completely missing private investment in adaptation activities. Other pieces we do not track for lack of data are domestic public budgets and philanthropic investments, unless these are captured by BNEF (2014).

Figure 2 is derived from *Landscape 2014* (traceable climate finance flows in 2013), IEA (2014a, 2014c) for energy efficiency, Parker et al. (2012) for forestry, and Ampri et al. (2014), Government of Nepal (2011), Government of Thailand (2011), Government of the People's Republic of Bangladesh (2012), Government of Samoa (2012), Juergens et al. 2012, Liverani et al. (2013), and Morel et al (2014) for domestic public budgets.

Figure 2: Tracked and not tracked parts of the climate finance landscape in 2013

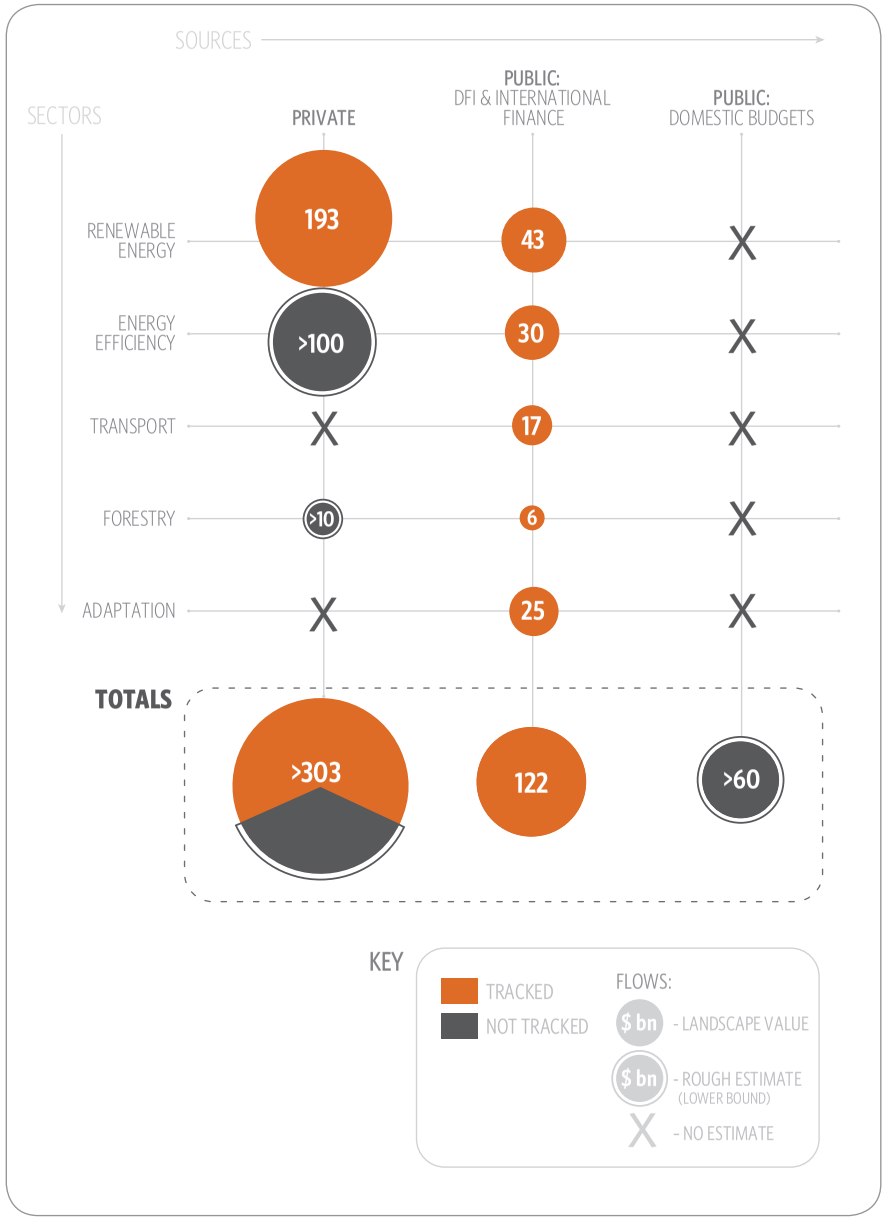
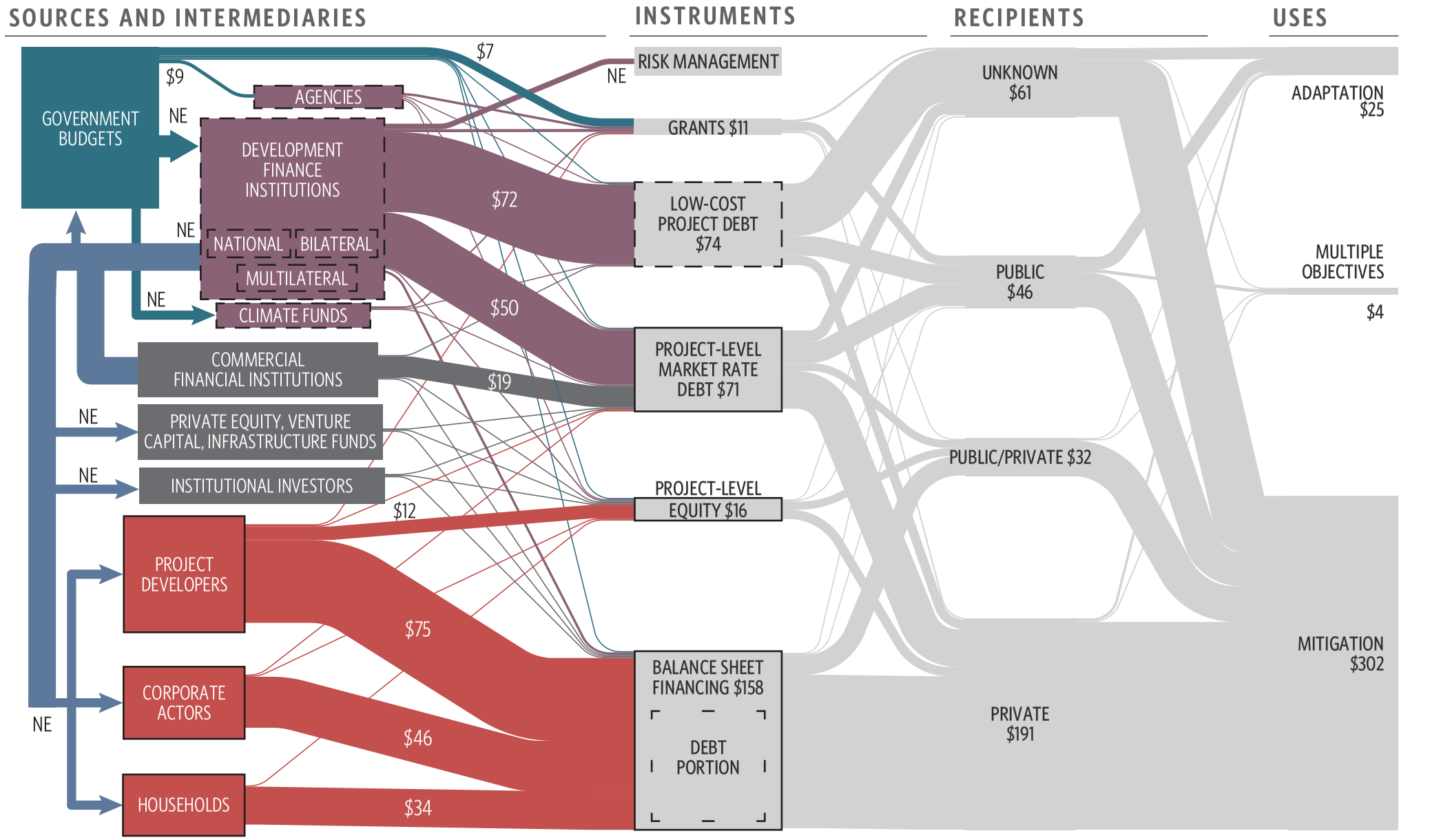


Figure 3: Landscape of Climate Finance 2014

LANDSCAPE OF CLIMATE FINANCE 2014 USD 331 BN TOTAL

CLIMATE POLICY INITIATIVE

Landscape of Climate Finance 2014 illustrates climate finance flows along their life cycle for the latest year available, mostly 2013



3.1 Sources and intermediaries

In 2013, privately owned actors continue to dominate as the most significant sources and intermediaries of climate finance (see Figure 4). Even so, private investments fell in 2013 from 62% to 58% of total flows.

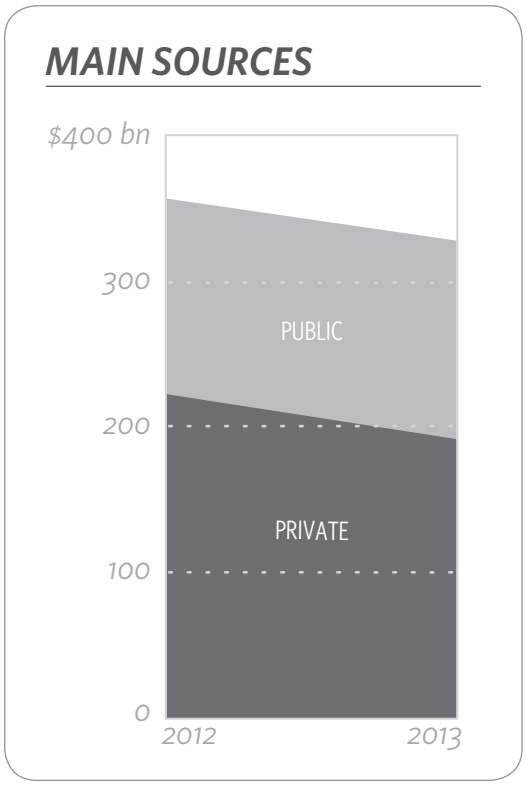
3.1.1 PUBLIC FINANCE

Publicly actors contributed between USD 134 and 140 billion (USD 137 billion), or around 42% of overall global climate finance flows in 2013, more or less maintaining last year's absolute levels[6] despite economic and geopolitical uncertainty. The USD 137 billion of public finance are much smaller than annual fossil fuel subsidies, which reached USD 544 billion in 2012 in emerging and developing economies alone (IEA 2013b).

DFIs remain the cornerstone of public efforts to finance low-carbon and climate-resilient development. In 2013, DFIs committed USD 126 billion or 38% of total climate finance flows – remaining largely stable with 2012 levels. Most DFIs have close ties to governments which act as shareholders as well as funders and provide investment mandates. National DFIs, such as the Chinese Development Bank, contributed USD 69 billion or 55% of DFI flows, mostly as low-cost debt. Multilateral DFIs, including MDBs committed USD 43 billion[7] of their own resources (34% of all DFI flows).[8] They also administer finance from multilateral climate funds, which we track separately under climate funds' contributions. Finally, bilateral DFIs, such as the Japan International Cooperation Agency contributed USD 14 billion (11% of all DFI flows).

DFIs play an important role mobilizing private investment. For example, the Overesas Private Investment Cooperation, KfW Deutsche Investitions- und Entwicklungsgesellschaft (DEG) and KfW Development Bank estimate that their investments mobilized around USD 5 billion of private investments in 2013 (Opitz and Morton 2014). However, DFIs also have the potential to compete with and crowd out private sector lending or investment, meaning their investment mandates and strategies need to be carefully tailored to suit particular markets and contexts.

Figure 4: Main sources and intermediaries (USD billion)



Note: Public finance is only increasing because of the extended scope of Landscape 2014 compared to last year. Using last year's scope, we see a small decrease of public finance

Multilateral and national climate funds approved around USD 2.2 billion of funding for climate activities, up USD 0.6 billion or almost 40% from last year. The increase stems mainly from increased contributions by the Clean Technology Fund, focusing on mitigation in emerging economies, and the Least Developed Countries Fund, supporting adaptation in the poorest countries.

As well as finance originating from DFIs and climate funds, we tracked another USD 6-12 billion of direct public contributions from government agencies and ministries in 2013, USD 3 billion lower than last year.[9] This includes USD 1 billion of direct government investments in renewable energy (excluding revenue support, as through feed-in tariffs). The major share of USD 5-11 billion represents developed country government commitments to finance activities in developing countries. The lower bound of the 5-11 billion

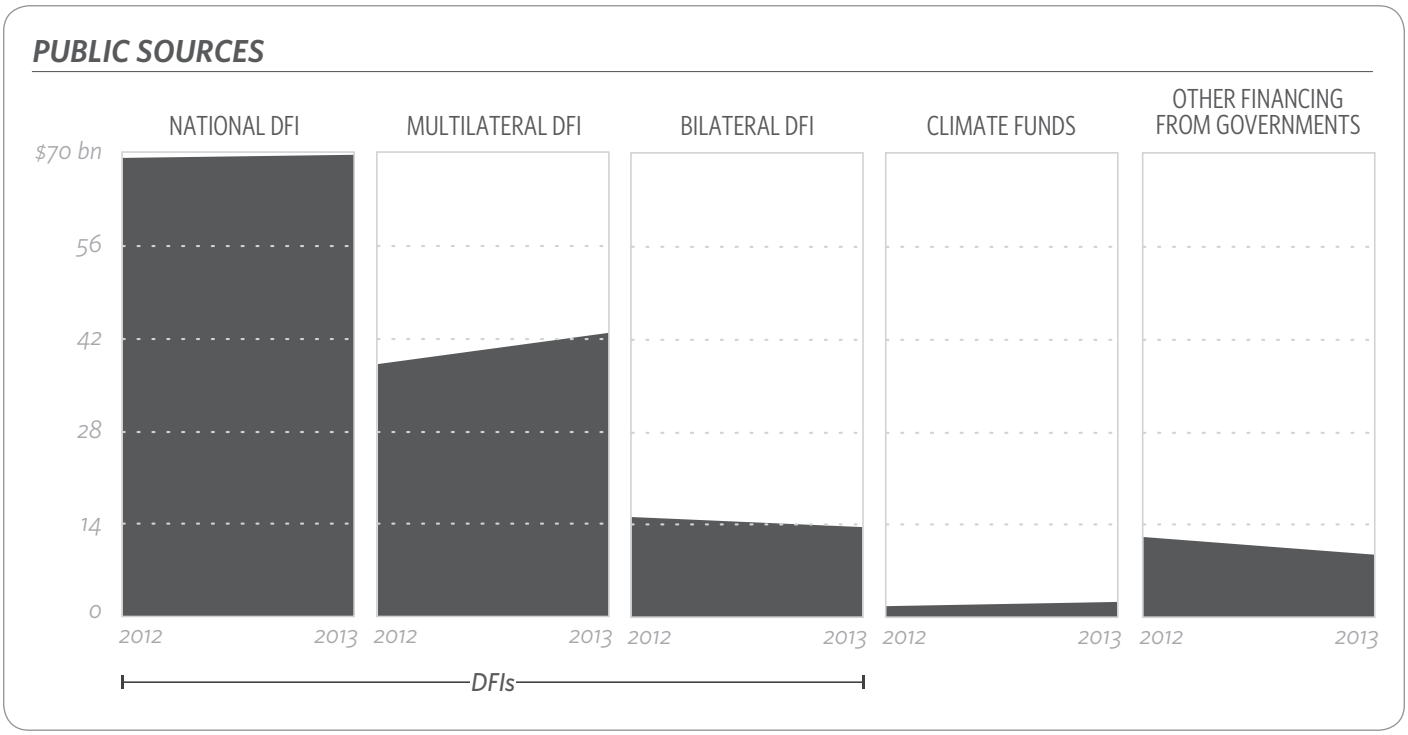
6 USD 2 billion higher in the overall number but USD 4 billion less if we deduct USD 5 billion of large hydro and USD 3 billion of R&D we did not track last year.

7 Our number is not the same as the one in the MDB joint report (AfDB et al. 2014), as we include EIB financing for 'old' EU member states and further multilateral DFIs (see Annex B).

8 This is USD 5 billion more than what we tracked last year, which is due to our expanded scope: we track USD 3 billion of R&D investments this year and also include commitments from CAF under multilateral DFIs.

9 This number includes USD 0.7 billion from export credit agencies but excludes domestic budgets for activities beyond renewable energies, for which we have no consistent data source.

Figure 5: Public sources and intermediaries (USD billion)



Note: The increase in multilateral DFI finance is mainly due to expanding the scope of Landscape 2014 to research and development, and classifying CAF as multilateral DFI (national DFI last year). Finance of national DFIs would slighlty decrease if we deduct investments in large hydro, a technology we track for the first time this year.

includes official development assistance (ODA) marked as having 'climate change mitigation' or 'adaptation' as its principal objective. We add ODA activities with a 'significant' climate change objective to the upper bound of the number.[10] The USD 5-11 billion, almost unchanged from last year, is mainly channeled through bilateral development agencies and UN organizations.

As flagged in Section 3.2, **limited data about domestic public budgets for climate change means we do not capture these in the Landscape**. We only have robust estimates for a very small number of countries (Bangladesh, Cambodia, France, Germany, Indonesia, Morocco, Nepal, Samoa, Thailand and the United States).[11] Notwithstanding different budget years, cycles and tracking methodologies, and assuming the EU meets its climate budget target,[12] we estimate that **domestic climate budgets could reach at least USD 60 billion a year.**[13]

In addition to domestic budgets, we also have difficulty tracking the level of climate finance that governments contribute as shareholder of companies. Our more superficial assessment this year[14] identified **at least USD 22 billion in investments by companies (e.g. utilities) that are partly or fully publicly-owned.** Our in-depth assessment one year ago (Buchner et al. 2013) identified at least USD 37 billion of such indirect government ownership of renewable energy investments.

10 For the United States, we use a US government (2014) document as source, as the US is not reporting climate change markers for all of its ODA.

11 Sources: Ampri et al. (2014) Government of Nepal (2011), Government of Thailand (2011), Government of the People's Republic of Bangladesh (2012), Government of Samoa (2012), Juergens et al. 2012, Liverani et al. (2013), Morel et al. (2014), UNDP (2012), US Government (2013). Some of these climate budgets may not capture all R&D investments in clean technologies. An IEA (2013a) database contains USD 7 billion of R&D investments in Renewable Energy and Energy Efficiency in 2012.

12 The European Commission (2013) plans to spend 20% or up to USD 180 billion of its budget in the period 2014-2020 for climate-related activities

13 The USD 60 billion are based on the sources in footnote 19 and 20, which do not include major countries like Brazil, China, India, Japan, Mexico, all Scandinavian countries and the UK so it would be surprising if the actual number were not considerably higher.

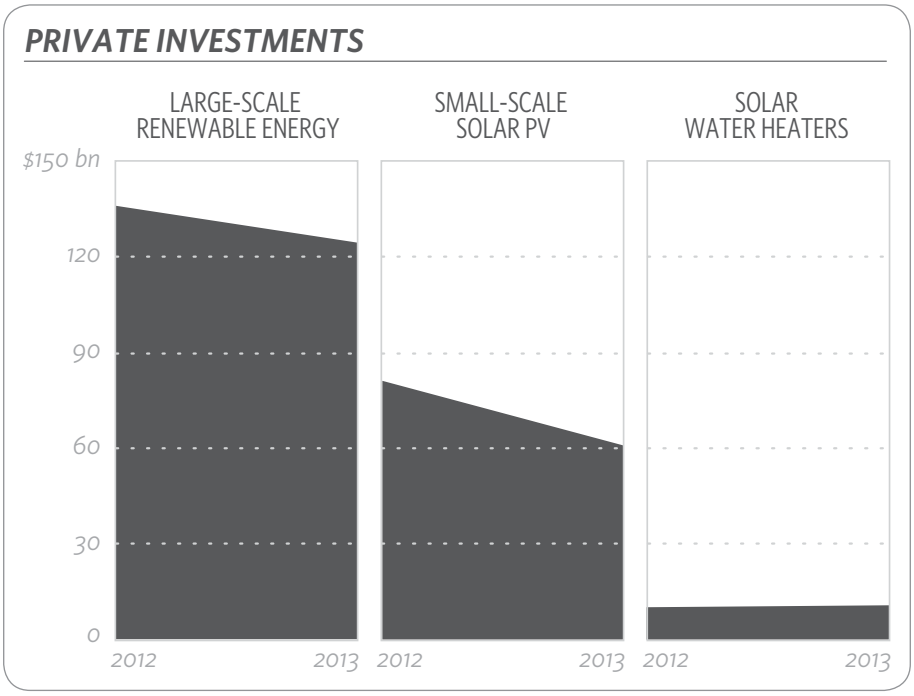
14 This does not change our public finance numbers compared to last year, as were classifying such government-owned enterprises as private in all editions of the Landscape.

3.1.2 PRIVATE FINANCE

Private finance decreased by USD 31 billion, mainly due to falling solar PV costs and lower deployments of wind

Private actors again contributed the majority of climate finance in 2013 with investments of USD 193 billion, down for a second year running, from USD 224 billion in 2012.[15] This is due to three main factors. First, investments in small-scale renewable energy decreased by USD 20 billion (see Figure 6), mainly due to a decrease in small-scale solar PV costs but also due to a drop in deployment from 19 to 17 GW, in installed capacity of small-scale solar PV. Second, large-scale renewable energy finance fell by USD 12 billion, largely as a result of lower deployment of wind power (41 GW of new capacity in 2013 down from 48 GW) resulting from a decline of the US market, competition with low-cost gas and reductions in policy support (REN 21, 2014). Third, the drop in average investment cost of large-scale solar PV meant that 7 GW more large-scale solar power capacity was installed in 2013, while corresponding investment remained constant with 2012 levels.

Figure 6: Private Finance Investments from 2012 to 2013 (USD billion)



Because technology costs are falling, some renewable energy investments are now even taking place without any direct public financial support, particularly in Latin America (FS-UNEP, 2014).

As Figure 7 illustrates, project developers[16] **represented the most important investor class, and invested USD 88 billion** in 2013 (or 46% of all climate finance). Corporate actors, including manufacturers and corporate end-users, invested USD 47 billion, or 24%, of total private finance while household[17] investments which grew marginally from USD 33 to 34 billion, and made up a growing proportion (from 15% to 18%). The household investments we tracked are limited to solar PV and solar water heaters, and do not include other likely low-carbon investments, such as insulation and energy efficient devices.

Commercial financial institutions invested USD 21 billion in 2013 (11% of private investments). Private equity, venture capital, and infrastructure funds together intermediated USD 1.6 billion (up from USD 1.2 billion) or around 1% of global private climate finance.

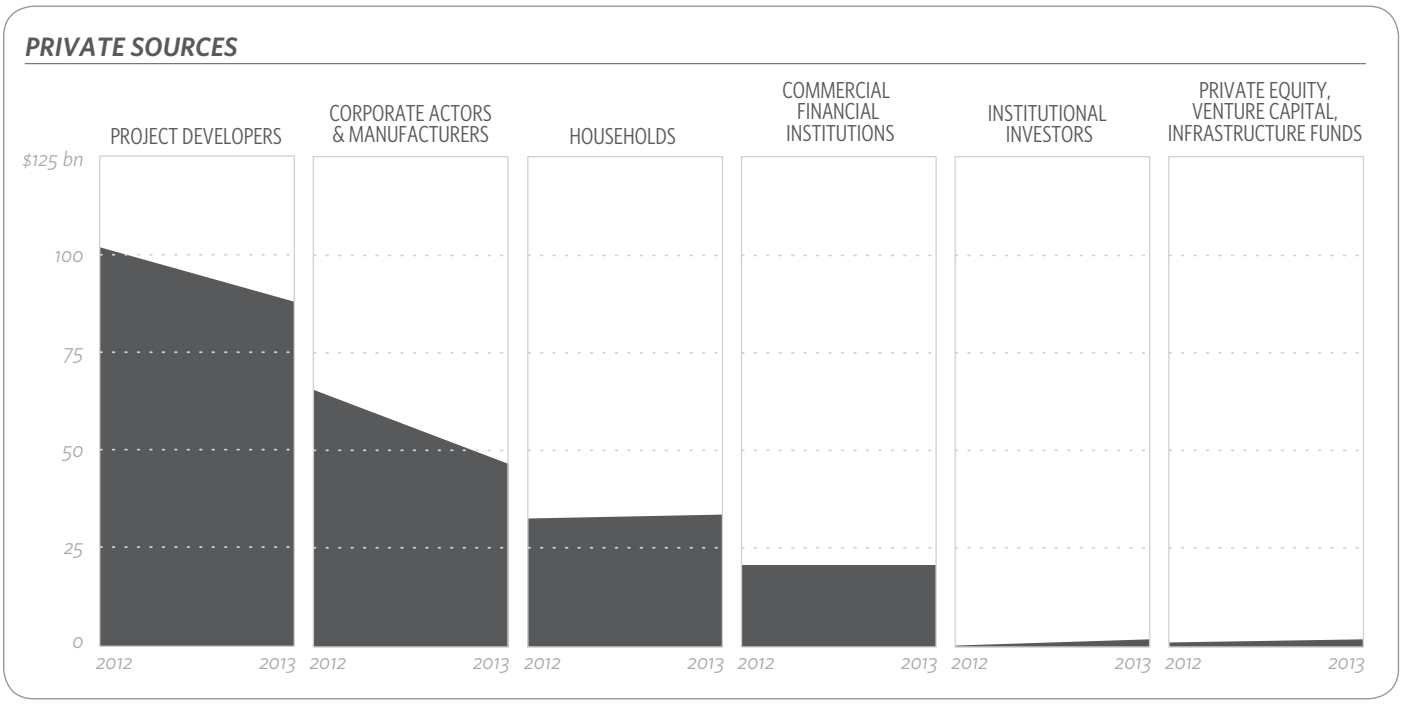
Institutional investors' direct investment in renewable energy plants represented less than 1% of private climate finance or USD 1.5 billion, up from USD 0.4 billion in 2012. This is still miniscule compared to the scale of their assets ~USD 71 trillion (see Nelson and Pierpont, 2013). However, as we only track primary investments into single projects, we exclude activities that are more typical for institutional investors, such as re-financing, or equity and debt investments into project developers, manufacturing companies and aggregation vehicles

15 We should note that because of a lack of reliable, project-level data for private climate-relevant investment beyond the renewable energy sector, the entire USD 191 billion of private climate finance we capture targeted renewable energy generation projects.

16 Defined as established national/regional energy utilities, independent power producers, and other project developers specializing in renewable energy, including state-owned enterprises

17 This includes family-level economic entities, high net worth individuals, and their intermediaries.

Figure 7: 2013 Private climate finance broken down by investor classes



like funds.[18] The growing size of the green bond market (see Box 2) gives an indication of the mainstreaming of climate finance into institutional investors' decision making.

3.2 Instruments

Sources and intermediaries provide climate finance to projects via a range of financial instruments. We track three major categories of instruments: (i) grants; (ii) low-cost debt including concessional loans; and (iii) capital instruments at commercial terms, including project-level market rate debt, project-level equity, and balance sheet financing. This breakdown allows decisionmakers to see how much of total investment is provided at concessional rates and how much is commercial.

Due to data limitations, confidentiality issues and potential double-counting, *Landscape 2014* does not capture guarantees, insurances, refinancing activities, policy-induced revenues and power purchase agreements. This does not diminish the important role these play in reducing investment risks and securing revenues (Buchner et al. 2013, Frisari et al. 2012, Micale et al. 2012).

In calculating the following estimates, we highlight that we include USD 30 billion of DFI commitments reported by the International Development Finance Club (IDFC 2014) but for which we have no information about the instruments. In this case we assume the same instrument split as last year for the same group of DFIs.[19]

3.2.1 GRANTS AND LOW-COST FINANCE

Grants made up USD 9-14 billion, or USD 11 billion (3% of total climate finance), roughly the same as the year before. Grants include cash transfers or the provision of in-kind support for which recipients incur no legal debt (OECD, 2007). They play an important role in building capacity (see e.g. Buchner et al. 2013) and reducing capital costs of mitigation and adaptation projects (see e.g. Falconer and Frisari, 2012).

USD 74 billion was committed in the form of low-cost debt, making up 23% of total climate finance flows.20 We define low-cost debt as loans provided at terms preferable to those prevailing on the market including, for example, longer loan tenors, grace periods, or lower interest rates. It therefore includes concessional loans. 98% of all low-cost debt originated from DFIs.

18 We do not count investment in renewable energy manufacturing companies and project developers due to the risk of double counting.

19 3% grants, 69%low-cost debt, 27% market-level debt, and 1% project-level-equity. See Annex B for which DFIs we track using IDFC (2014) data.

20 This is USD 5 billion above last year but deducting low-cost debt for large hydro (which we did not track last year) the number has remained broadly stable.

Box 2: Green Bonds

USD 11 billion in Green Bonds were issued in 2013 (Boulle et al. 2014). Issuance in 2014 is already three times larger. Some expect to see between USD 40-45 billion by the end of 2014 and USD 100 billion in 2015 (see climatebonds.net).

In terms of measuring and tracking annual climate finance flows, bonds issued with a green label can be categorized as:

- **Directly financing new climate projects** (project bonds, municipal revenue bonds). If issued and captured in BNEF (2014), these bonds are included in *Landscape 2014*.
- **Directly re-financing climate projects** (project bonds, asset-backed securities). Re-financing – the replacement of existing with new financing – is not included in *Landscape 2014* due to the risk of double counting with other sources.
- **Indirectly financing or re-financing climate projects** through claims on green use of finance from bonds that are backed by the overall balance sheet of the issuer (sovereign bonds, corporate bonds, general obligation municipal bonds and financial institution bonds). 99% of the value of green bonds issued in 2013 was indirect financing. These bonds are not captured in *Landscape 2014* as there is not sufficient data to link specific flows to projects, additional to the risk of double counting.

3.2.2 COMMERCIAL FINANCE

While balance sheet financing dropped by USD 40 billion, project-level equity increased by more than one-third.

In 2013, USD 245 billion (74% of total flows) was invested with the expectation of earning commercial returns, USD 34 billion below last year. This decrease was mainly due to lower private sector investments as previously discussed in detail in section 3.1.2. We tracked the following breakdowns:[21]

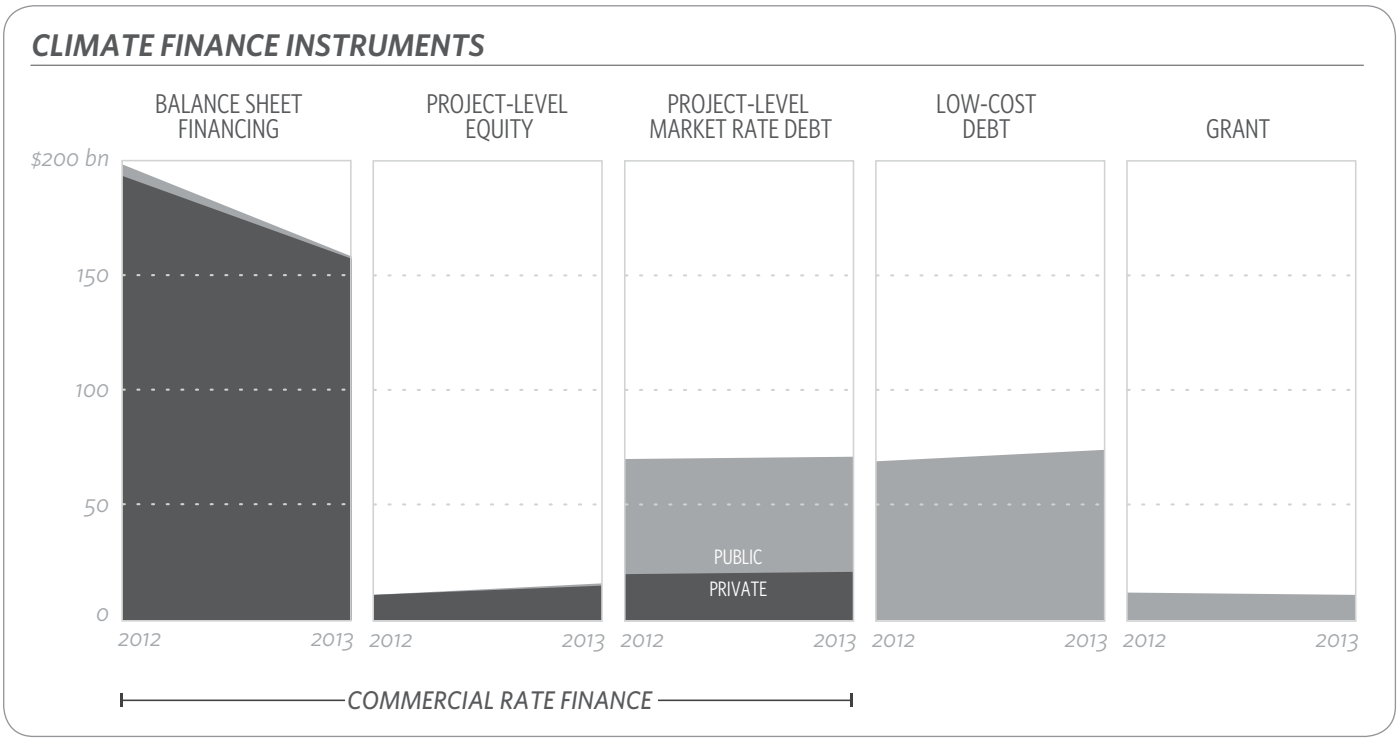
1. USD 158 billion of balance sheet financing (or sponsor-level financing), 48% of total climate finance). This is USD 40 billion below last year, mainly due to the decrease of private investment in renewable energy, the principal focus of balance sheet financing.
2. USD 71 billion of project-level market rate debt (22% of total climate finance), 90% of which targeted mitigation. This includes 0.3 billion of project bonds tracked by BNEF (2014). We exclude non-project bonds and bonds for re-financing to avoid double counting (see Box 2).
3. Project-level equity worth USD 16 billion (5% of total climate finance), went almost exclusively to mitigation activities.

3.2.3 HOW ARE PUBLIC AND PRIVATE ACTORS DELIVERING CLIMATE FINANCE?

In the case of public finance, the majority or 62% was deployed as concessional finance which is often used to cover the gap between the costs of mitigation or adaptation activities and high-carbon alternatives. USD 74 billion or 54% of public finance was contributed in the form of low-cost debt, with USD 11 billion or 8% taking the form of grants. Compared to other public actors, DFIs focused a higher share of their concessional finance (57%) on low-cost debt and a lower share (2%) on grants.

21 The share of the different capital instruments categories may not reflect the full reality, as it is mainly based on the data sources we can access. The share of 'project-level equity and debt' may actually be higher because of two reasons: (1) when we track debt from financial institutions' lending activities, we do not count the equity portion that goes against a specific project-level loan, and (2) in the case of uncertainty, the default assumption within the BNEF (2014) database is to consider a renewable energy asset as financed on a balance sheet.

Figure 8: Climate Finance Instruments (in USD billion)



In case of USD 0.2 million, the instrument is not known.

Public actors provided more than 95% (USD 50 billion) of their commercial rate finance as loans. They provided only USD 1 billion as equity and USD 1 billion as balance sheet financing. With commercial rate finance, public investors do not cover incremental costs but rather, share part of the project risks which may trigger private investments.

In the case of private finance, the vast majority of investments came from balance sheet financing – USD 157 billion or about 81% of private finance flows. Project-level market rate debt represented USD 21 billion or 11% while project-level equity was about USD 15 billion or 8% of private finance. Approximately USD 1.3 billion of this was tax or preferred equity.

3.3 Recipients of finance

This is the first edition of the Landscape series that tracks recipients of climate finance.

At least USD 29 billion or 21% of public finance flowed to private recipients in 2013

We focus our inquiry on the 'first recipient of finance', that is, the actor which receives money from the source or intermediary of climate finance we track. The first recipient is not necessarily the final beneficiary of climate finance in terms of either development or adaptation benefits. For example, in the case of a public grant the recipient may be a government institution that uses the finance to pay for weather data training courses targeting private sector entities. Or in case of DFI finance, the first recipient may be a public financial intermediary that then loans the finance on to private households or businesses.

Figure 9: First recipients of finance

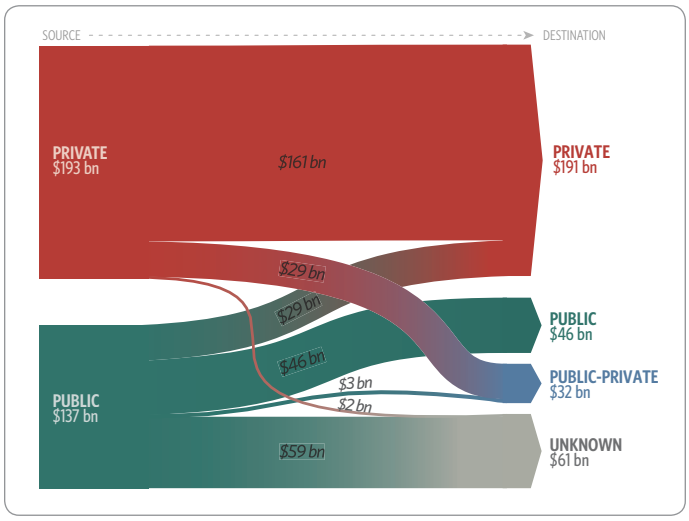
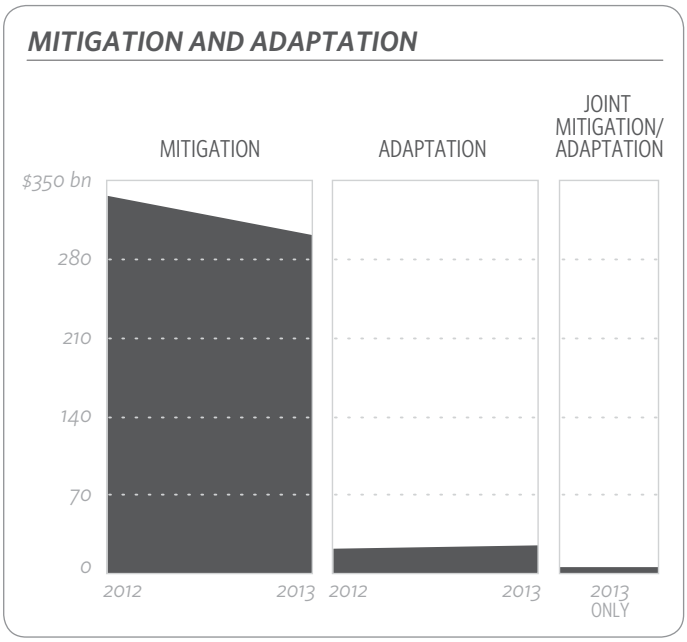


Figure 10: breakdown of finance sources into mitigation and adaptation uses (USD billion)



In 2013, at least USD 191 billion or 58% of total climate finance flows was received by private actors, mainly companies, but also Non-Government Organizations (NGOs). The share of private versus public recipients was 62% for mitigation but less than 10% for adaptation. Climate financing originating from private sources and intermediaries flowed to other private recipients for 84% of private investments. Unsurprisingly, public sources also provided USD 29 billion to private recipients, representing 22% of total public finance.

USD 46 billion or 14% of total flows was received by public recipients, such as national or regional governments, municipalities or public universities. In the case of adaptation financing, public recipients received at least 48% of the total.

USD 32 billion or 10% went to public-private recipients, including public-private partnerships and entities with public and private shareholders. Public-private recipients were almost exclusively active within the mitigation sector.

For USD 61 billion of public finance (19% of total climate finance), we do not know whether the recipient of climate finance is public or private. This is mainly due to the fact that many bilateral and national DFIs are not tracking or reporting recipients of climate finance.

We track USD 30 billion of investments in energy efficiency but there may be another USD 100-330 billion, for which we miss reliable project-level data

3.4 Uses (Mitigation and Adaptation)

Public and private actors invest finance to support various uses or outcomes in mitigation or adaptation. For the first time, *Landscape 2014* also tracks flows that have both mitigation and adaptation benefits (see Figure 10).

3.4.1 MITIGATION FINANCE

As in previous Landscape reports, the vast majority of climate finance, USD 302 billion or 91% of total flows, went to support mitigation. This is, however, a decrease of USD 35 billion compared to last year, notwithstanding the fact that we capture large hydro for the first time.

Investments in renewable energy generation alone attracted USD 236 billion or 71% of the total climate finance flows we were able to track.[22] Renewable energy finance mainly went to solar energy, including photovoltaics (PV), concentrated solar power (CSP) and solar water heaters (USD 117 billion in total, 19 billion below last year), and onshore and offshore wind energy (USD 71 billion in total, USD 14 billion below last year), see Figure 11.

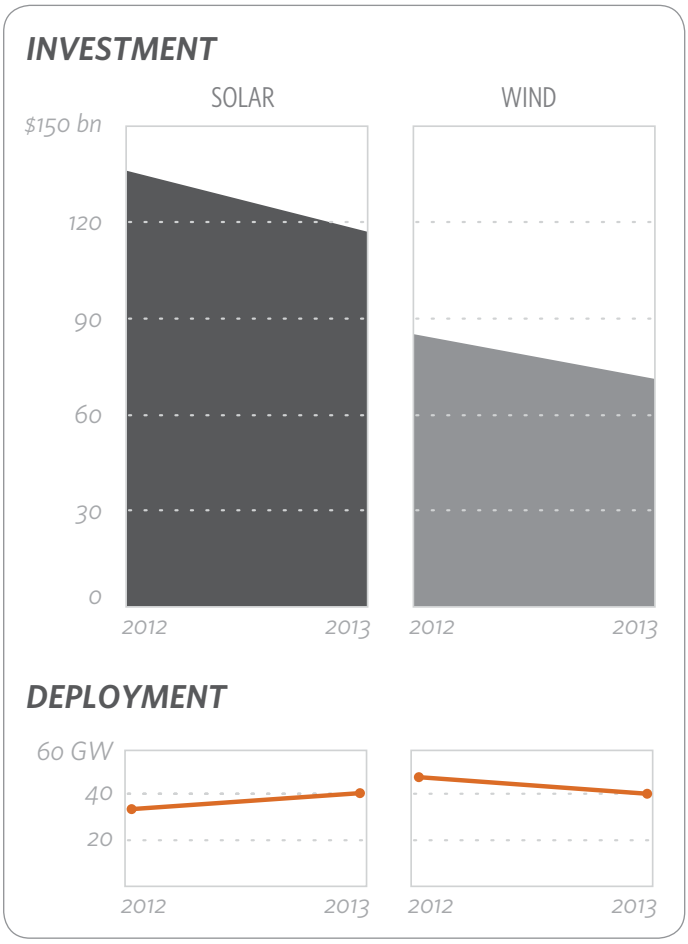
As noted above the decrease in solar was mostly driven by investment cost reductions (a 27% drop over all plants from 2012 to 2013), while actual new installed capacity increased from 34 to 40 GW. In case of wind, the decrease in installed capacity from 48 to 41 GW was the main reason for the fall in finance.

If investment costs of solar power had stayed at the 2012 level in 2013, the 2013 solar deployment would have resulted in an increase in total climate finance of USD 12 billion rather than a decrease of USD 28 billion.[23]

22 Because we cannot reliably track private investment beyond the renewable energy sector, we find that the entire USD 191 billion of private climate finance we capture targeted renewable energy generation projects.

23 If investment costs per MW of solar (both large and small-scale) had remained the same as last year, it would have cost USD 40 billion more to achieve the same level of deployment (own analysis based on data from

Figure 11: Development of renewable energy finance (USD billion)



Note: Investment figures are based on Landscape 2014 (different sources, see methodology); deployment figures are based on BNEF (2014) and do not include solar water heater deployment. We find a similar decrease in solar and wind finance when just using BNEF (2014)

Energy efficiency in industry and buildings captured the same share of overall climate finance as last year (9%) but was USD 2 billion less in total, at USD 30 billion in 2013. It is important to note that this number only captures public investments in energy efficiency, as we have no reliable project-level source for private investments.[24] We estimate that the energy efficiency data gap in *Landscape 2014* ranges between USD 100-330 billion. The most comprehensive estimates, based on models, calculate energy efficiency investment at either USD 130 billion when only counting incremental investment compared to business-as-usual technologies (IEA 2014a) or USD 310-365 billion when accounting for the full and not just incremental investment costs (IEA 2014c, HSBC 2014).

Another USD 46 billion went to a broad range of mitigation measures, including among others[25] sustainable transport modes resulting from modal shift (USD 17 billion), reducing process emissions in industry and fugitive emissions (USD 7 billion) and agriculture, forestry, land use, and livestock management (USD 6 billion). Again, for each of these sectors, we capture only public investments given the lack of robust data sources for private investment in these uses.

Noting that 71% of all issued climate bonds have been issued for sustainable transport (see Boulle et al., 2014), we acknowledge that investments in low-carbon transport systems could be substantial, particularly for railways. We also note that there are estimates of investment in activities to reduce emissions from deforestation and degradation (REDD), and afforestation, Parker et al. (2012) of at least USD 10 billion in market-based payments and USD 25 billion from domestic budgets going toward biodiversity and forest protection each year, that we do not capture in *Landscape 2014* due to a lack of reliable, project-level data.

The public sector also strongly focused its support on mitigation measures. USD 109 billion or 79% flowed to mitigation, 18% to adaptation and 3% to interventions with both mitigation and adaptation objectives. Mitigation investment remained quite steady[26] in part because policymakers also value the many development benefits of mitigation activities, such as energy diversification, reduced reliance on fossil fuel imports, better air quality and the creation of local industries.

3.4.2 ADAPTATION FINANCE

Around USD 25 billion (or 7% of all climate finance) was invested in adaptation focused activities. Activities are classified as climate change adaptation if they "intend to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience" (OECD 2011, p.4).

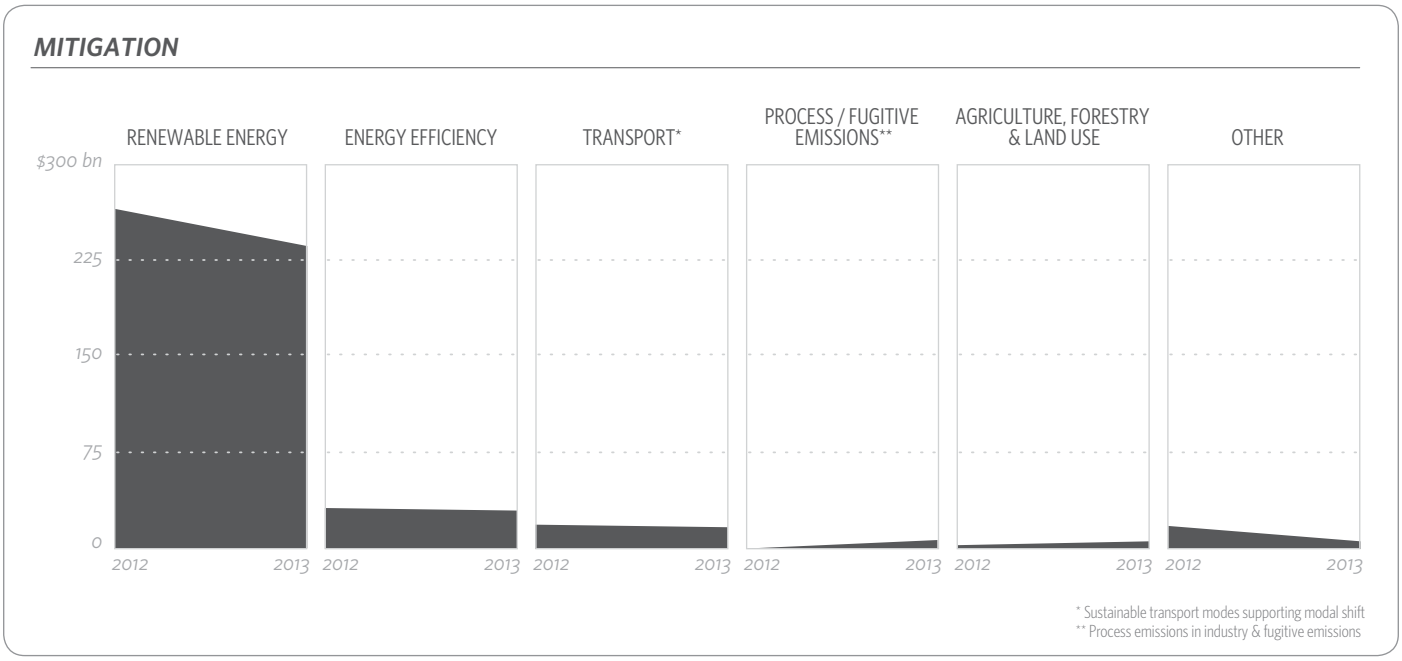
BNEF (2014) and UNEP-FS (2014) on finance and installed capacity of solar power).

24 There are three main challenges for tracking energy efficiency investment: first, it is difficult to assess a baseline for energy efficiency, second, energy efficiency investments are integrated into larger transactions (e.g. new buildings) and are difficult to disaggregate, and third, these investments are decentralized and often taking place at household or small enterprise level.

25 Waste and waste water, and capacity-building (if not included in the sectors above).

26 The increase of USD 2 billion since last year becomes a slight decrease when reflecting the additional USD 4 billion of large hydro captured

Figure 12: Uses of mitigation finance (USD billion)



For the boundaries of each sector, see Annex

However, reporting institutions continue to apply different criteria to their definitions.[27] There are also different ways of classifying adaptation activities when they are part of larger development programs. As organizations use different approaches and methodologies to determine and account what qualifies as an adaptation project, **more work is needed to achieve greater consistency across data sources.**

All of the USD 25 billion in adaptation finance originated from public sources. There is no reliable data source for project-level private adaptation interventions. We also miss data on domestic public budgets, beyond the few studies cited in section 3.1. These data gaps are not surprising given difficulties tracking adaptation finance. Activities improving climate-resilience are rarely stand-alone but mostly integrated in mainstream development interventions, for example, in the transport, agricultural or water sectors. Due to this integration with development policy and business activities, financial investments in climate- resilience are difficult to classify and rarely reported as adaptation. For understanding private investments in adaptation, the activities of DFIs may form a starting point for future research: MDBs invested USD 0.06 billion in private sector adaptation projects in 2013 (AfDB et al. 2014), and we can assume that these DFI activities have mobilized some private investments.

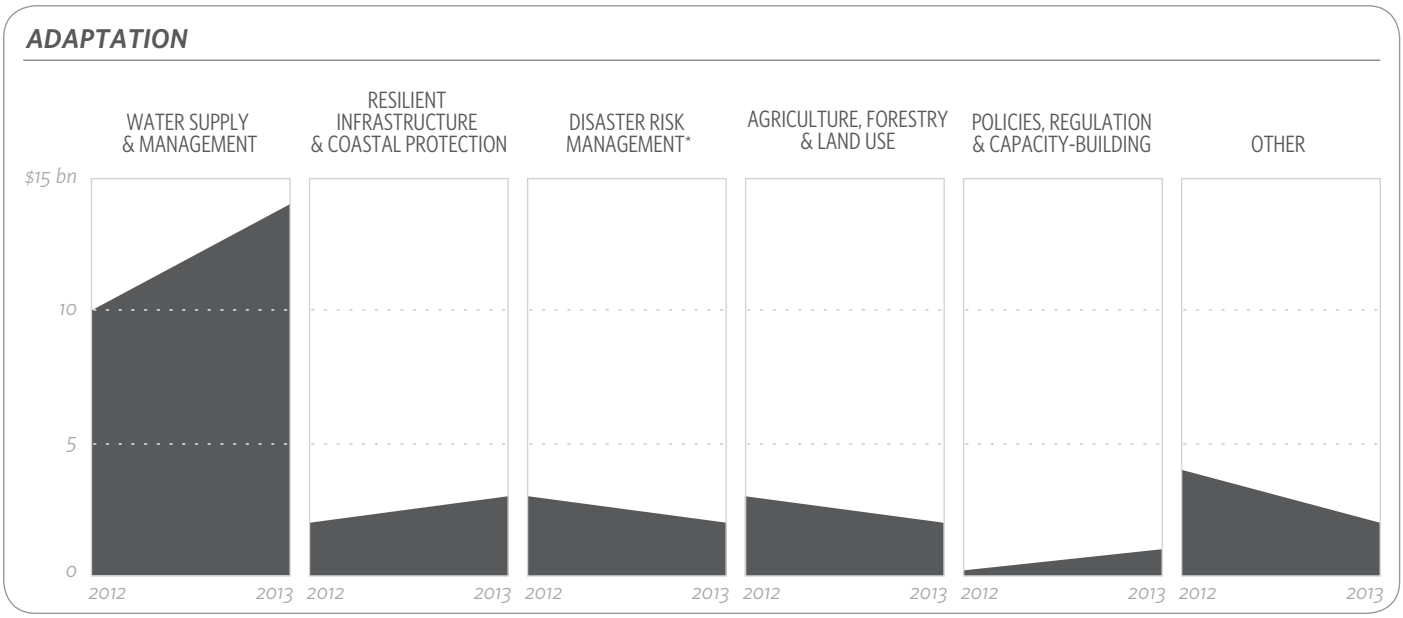
Public finance for adaptation increased by almost 25% but we are still unable to track private investments in adaptation.

DFIs contributed USD 22 billion or 88% of adaptation finance, while government bodies beyond DFIs provided 9% and climate funds 2%. DFIs' contributions increased by USD 5 billion from last year. 89% of adaptation finance tracked was invested in developing countries.

The majority of adaptation support, USD 14 billion (58%), went to activities related to water supply and management, followed by USD 3 billion (14%) for other climate-resilient infrastructure and coastal projection, and USD 2 billion (8-9%) each for disaster risk reduction and agriculture, forestry, land use and natural resource management. However we note that **difficulties comparing very different accounting approaches for adaptation may distort this apparent sectoral distribution**.

27 For example, MDBs require both an adaptation intent, the set-out of the climate vulnerability context of the project, and the articulation of a clear link between the context of climate vulnerability and the project (AfDB et al. 2014).

Figure 13: Uses of adaptation finance



For the boundaries of each sector, see Annex
* Only disaster risk management activities classified as adaptation

3.4.3 FINANCE WITH MULTIPLE OBJECTIVES

USD 4 billion, or more than 1% of climate finance targeted both mitigation and adaptation objectives. 100% originated from public sources, and was almost equally split between DFIs and other government actors. If we allocate this finance 50-50 to mitigation and adaptation, according to the methodology of *Landscape 2013*, then we see a more pronounced increase of adaptation finance: from USD 22 to 27 billion, or almost 25% more than in the year before, mainly due to increased commitments of DFIs.

3.5 Geographies

In this section we analyze the geographical origin of finance, that is, the residence-country of sources and intermediaries,[28] as well as the geographical destination of flows. As in Landscape 2012 and *Landscape 2013*, we classify OECD member countries as developed countries and non-OECD countries as developing countries (see Annex F for an explanation of differences between this classification and the UNFCCC Annex I/ non-Annex I classification).

Figure 15 illustrates the amount of climate finance invested in developed countries (USD 166 billion) and developing countries (USD 165 billion) in 2013. **The almost 50-50 split of climate finance investments between developed and developing countries is similar to last year, but in absolute terms, investments in both regions fell.** 99% of the finance we tracked to developed countries went to mitigation. We tracked a higher share of finance flowing to adaptation in developing countries (13%, or USD 22 billion).[29]

We estimate that USD 31-37 billion (34 billion), or 10% of climate finance captured, flowed from developed to developing countries. This is, in absolute terms, a decrease from the USD 39-46 billion identified in *Landscape 2013*.[30] As with previous years, the developed-to-developing country flows we captured are predominantly public resources (94%, compared to 80-90% last year), in part because of the data gaps we have described. Using different assumptions and alternative data, we estimate that flows from developed to developing countries may be higher than our findings (see Figure 16), but would still be below last year's alternative estimate.

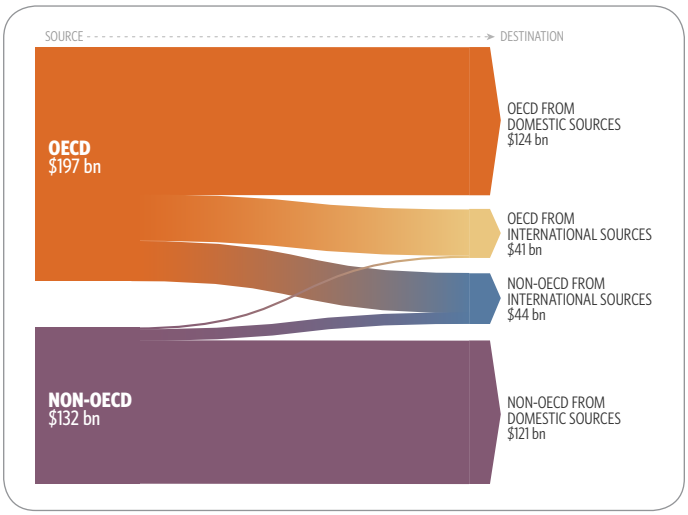
Developing countries are not just recipients of international flows. We tracked USD 2 billion of climate finance flowing from developing to developed countries and USD 10 billion of flows between different developing countries.

28 In case of climate funds, we allocate the finance according to the location of historical contributors (see Annex B), and in case There are other options to assign the country of origin (see Jachnik et al. forthcoming for an overview of options).

29 Given the lack of data on domestic budgets, the higher adaptation share in developing countries may only apply to data we track and not the full climate finance landscape.

30 Change in exchange rates cannot explain the decrease, and if we take into account inflation, the decrease would be even more prominent.

Figure 14: Geographical flows



Note: USD 1 billion has a trans-regional destination.

The majority of finance flows remained within the country of origin. With USD 244 billion or 74% of total climate finance originating and being invested in the same country, the strong domestic preference of climate finance remains pronounced. In 2013, USD 132 billion or was invested in the same developed countries in which it originated. The same is true for USD 93 billion in developing countries.

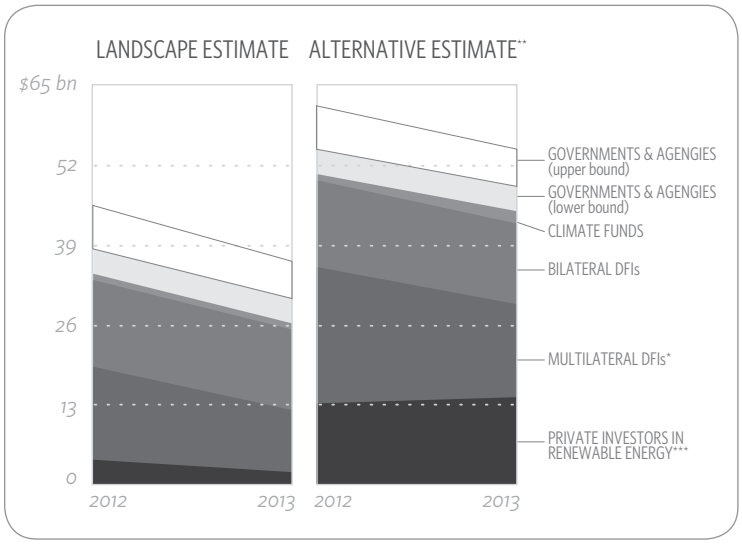
Investors favored domestic investment environments with which they were more familiar and which they perceived to be less risky. Private actors had an especially strong domestic investment focus with USD 174 billion or 90% their investments remaining in the country of origin.[31] The domestic focus of investment is certainly more pronounced for mitigation (78% of finance remained in-country) than for adaptation (44% of finance remained in-country).

Due to changes in private investments, East Asia and the Pacific (including China) displaced Western Europe as the largest destination of climate flows. East Asia and Pacific invested USD 98 billion, down from USD 105 billion last year. Investment in Western Europe (OECD countries) dropped to USD 90 billion, down from USD 115 billion last year.

North America (USD 32 billion, up from 31 billion last year) and Japan (USD 30 billion, up from USD 16 billion) have been the only destinations with an increase in climate finance. The main reason for

31 This strong domestic focus refers to *direct* investment only; there may be additional indirect international investment via local subsidiaries or other companies, which we do not track.

Figure 15: Flows from developed to developing countries in USD billion



* To derive our alternative estimate, we assume all MDB finance flowing to developing (non-OECD) countries has an OECD origin. In *Landscape 2013* and *Landscape 2014* final estimates, we split the origin according to shareholding of MDBs, arriving at lower developed to developing country totals.

** Amounts shown for DFIs are below those reported by DFIs through the MDB Joint Report (AfDB et al. 2013, 2014). This is mainly because we exclude finance to OECD countries in addition to guarantee commitments, trans-regional flows, and investments in fossil fuels.

*** We add Foreign Direct Investments for Renewable Energy in 2013 (fDi Intelligence, 2014), assuming the same split between developed and developing countries for RE as for all FDI. Importantly we do not capture FDI flows in *Landscape 2014*, because most FDI is not primary investments into renewable energy projects, and is this inconsistent with our methodology. Most FDI flows to manufacturing or companies that invest in RE projects. Counting these amounts would, very likely result in double counting finance already tracked as project-level finance.

the remarkable rise of climate finance in Japan is an increase in private small-scale solar PV investments, driven by a generous solar feed-in tariff (REN 21, 2014).

Other developing country regions, including Latin America (USD 23 billion, or 7% of all climate finance), South Asia, (4%), Sub-Saharan Africa (4%) and Middle East / North Africa (1%) received the same proportions of climate finance as last year. In other words, they all experienced a decrease in their climate finance investments in absolute terms.

As 75%-90%[32] of all flows of climate finance stayed within the same region, **it follows that the regions that contributed most climate finance also enjoyed the highest levels of investment.**[33]

32 75% of all flows, or 90% of flows for which the geographical region is known.

33 Western Europe contributed 31%, East Asia and the Pacific (including China) more than 20%, OECD Asia, including Japan 12% and OECD America 11%.

4. Conclusions

Efforts to scale up climate finance investment in the transition to a low-carbon and climate-resilient global economy have reached a critical juncture. The IEA estimates that we need additional investment of USD 1.1 trillion every year from 2011-2050 in the energy sector alone, to achieve the below two degree Celsius temperature goal. In this context, a fall of USD 28 billion to only 331 billion in global climate finance is alarming, especially given that **climate finance has now decreased for two consecutive years**. Last year's fall was mainly due to a significant fall in private investments in renewable energy, which dropped in every region apart from Japan and North America – a trend that cannot continue if temperature goals are to be achieved.

Landscape 2014 provides clear lessons for policy makers about where to focus policy and public resources to help drive increased action, including from private actors:

1. **Less finance can be a positive sign.** Around 80% of the sharp fall in private investment came from falling costs for some renewable technologies (particularly solar PV) where efficiencies are increasing and unit costs are coming down. If investment costs of solar power had remained the same in 2013 as in 2012, the 2013 solar deployment would have resulted in an increase of USD 12 billion in global climate finance flows rather than a decrease of USD 28 billion. Policymakers should not only focus their efforts on mobilizing finance but also on decreasing technology costs.
2. **Public resources remain key drivers of the climate finance system, bridging viability gaps and covering risks that private actors are unable or unwilling to bear.** Despite well documented data gaps, it remains significant that almost all of the developed to developing country finance we capture came from public actors.
3. **Domestic policy frameworks are critical drivers of investment particularly for private investors.** Three-quarters of investment originates and is spent in the same country. Private actors spent 90% of their investments in the country of origin. Getting domestic policy frameworks right is of paramount importance for policymakers.

Landscape 2014 also provides a more comprehensive picture of climate finance, an important basis to strengthen countries' ability to achieve their climate financing needs and goals.

1. **Information about key actors in the landscape has again improved, supporting policy makers in their assessment of climate finance gaps and opportunities.** In 2013, MDBs started to report project-level climate finance data to the OECD and are interacting for their Joint Report with the International Development Finance Club with the aim of harmonizing approaches. CPI, with the Ministry of Finance in Indonesia, made one of the first attempts to capture in-depth all public climate finance flows in a developing country. Finally, the UNFCCC Standing Committee on Finance will soon publish its first biennial assessment and overview of climate finance flows.
2. **Filling remaining major gaps in our knowledge of climate-resilient and low-carbon versus high-carbon investment is crucial to measure progress and to identify opportunities for scale up.** We lack crucial information about domestic public climate budgets, private investments in adaptation, forestry and transport. Estimates for private investments in energy efficiency do not allow us to track investments to a project level. To advance this knowledge, better and more consistently applied methodological approaches across these sectors are required as is more transparency at the project level. The OECD-coordinated Research Collaborative on Private Finance may be able to fill some of the gaps in tracking and calculating investments.

   Finally, to put climate finance estimates into perspective, we need comparable estimates of trends in traditional high-carbon "brown", or business-as-usual, finance. This will enable us to track whether there is real progress towards a low-carbon, climate-resilient future and identify opportunities to shift financial resources towards more sustainable uses.
3. **Our understanding of how to use finance effectively,** and of whether it adequately addresses the global investment needed to address climate change, **is improving**. However, this knowledge is scattered across projects, technologies and regions. We still lack a systematic understanding of how effectiveness can be ascribed to different parts of the climate finance landscape.

CPI remains committed to improving the understanding and transparency of today's climate finance landscape.

5. Index of Acronyms

ADB	Asian Development Bank
AF	Adaptation Fund
AFD	Agence Française de Développement
AfDB	African Development Bank
BANCOLDEX	Banco de Comercio Exterior de Colombia
BANOBRAS	Banco Nacional de Obras y Servicios Públicos
BCCRF	Bangladesh Climate Change Resilience Fund
BCCT	Bangladesh Climate Change Trust Fund
BCIE	Banco Centroamericano de Integración Económica – Central American Bank for Economic Integration
BE	Banco del Estado de Chile
BNDES	Banco Nacional de Desenvolvimento Econômico e Social – Brazilian Development Bank
BNEF	Bloomberg New Energy Finance
BSTDB	Black Sea Trade and Development Bank of Greece
CABEI	Central American Bank for Economic Integration
CAF	Corporación Andina de Fomento
CBFF	Congo Basin Forest Fund
CDB	China Development Bank
CDG	Caisse de Dépôt et de Gestion – Moroccan Deposit and Management Fund
CF	Climate Finance
CIF	Climate Investment Funds
CPI	Climate Policy Initiative
CRS	Creditor Reporting System
CSP	Concentrated Solar Power
CTF	Clean Technology Fund
DAC	Development Assistance Committee
DEG	KfW Deutsche Investitions- und Entwicklungsgesellschaft
DFI	Development Finance Institution
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EKF	Eksport Kredit Fonden
Exim	Indonesia Exim Bank
FCPF-RD	Forest Carbon Partnership - Readiness Fund
FDI	Foreign Direct Investment
FINNFUND	Finnish Fund for Industrial Cooperation
FIP	Forest Investment Program
FMO	Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden
FS	Frankfurt School
FY	Fiscal Year
GCCA	Global Climate Change Alliance
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas Emissions
GIZ	Gesellschaft für internationale Zusammenarbeit
GLCF	Global Landscape of Climate Finance
GRIF	Guyana REDD+ Investment Fund
GW	Gigawatt
HBF	Heinrich Böll Foundation
HBOR	Hrvatska banka za obnovu i razvitak – Croatian Bank for Reconstruction and Development
ICCTF	Indonesia Climate Change Trust Fund
IDB	Inter-American Development Bank

IDFC	International Development Finance Club
IEA	International Energy Agency
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
JICA	Japan International Cooperation Agency
KEXIM	Korean Export-Import Bank
KfW	Kreditanstalt für Wiederaufbau
KoFC	Korea Finance Corporation
LDCF	Least Developed Countries Fund
MDB	Multilateral Development Bank
MDG	Millennium Development Goal
MDG	Millennium Development Goal
MW	Megawatt
NADB	North American Development Bank
NAFIN	Nacional Financiera – Mexican Development Bank
NIB	Nordic Investment Bank
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organization for Economic Co-operation and Development
OPIC	Overseas Private Investment Corporation
PDR	People's Democratic Republic
PPCR	Pilot Program for Climate Resilience
PV	Photovoltaic
RE	Renewable Energy
REDD	Reducing Emissions from Deforestation and Forest Degradation
SCCF	Special Climate Change Fund
SIDBI	Small Industries Development Bank of India
SREP	Scaling Up Renewable Energy Program
TSKB	Türk Sınai Kalkınma Bankası – Industrial Development Bank of Turkey
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VEB	Vnesheconombank, Russian Bank for Development and Foreign Economic Affairs
WB	World Bank
WBG	World Bank Group

6. References

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Annex A - Detailed Methodology

Landscape 2014 aims to capture the most recent global, annual climate finance flows supporting emission reductions, climate resilience, and enabling environment projects based on empirical data from a wide range of sources.34 To do this, we build on past reports' definitions and methodologies and adopt the same two-dimensional framework. First, we categorize flows alongside their life cycle (sources and intermediaries, instruments, disbursement channels, and final sectoral uses / geographic destination of finance). Second, we categorize flows depending on whether they originate from public or private sources.

Finance is seen as public if governments or DFIs directly provide the resources. We are not assigning finance from partly or fully government-owned companies (apart from DFIs) to public finance (see also Jachnik et al. 2014, forthcoming). The resulting numbers for public and private finance should not be used to calculate public-private leverage ratios, as private finance is also flowing on its own and due to public policies.

As with previous reports, the figures identified in the *Landscape 2014* should not be confused with amounts that count towards the USD 100 billion developed countries committed to mobilize in the Copenhagen Accord, but instead should be compared with estimates of global financing needs that are consistent with the goal of keeping the global temperature rise to no more than 2° Celsius.

In the absence of an internationally-acknowledged definition of what qualifies as climate finance, we limit finance flows to **'climate-specific finance,' referring specifically to capital flows targeting low-carbon and climate-resilient development with direct or indirect greenhouse gas mitigation or adaptation objectives/ outcomes**.[35]

As further explained in Falconer and Stadelmann (2014), **we include total investment costs plus public framework expenditures** but exclude public revenue support. This means:

- We look at **total and not incremental investment costs** because we want to track the progress of current total climate mitigation and adaptation investment, not investment above a hypothetical higher carbon alternative. All finance in the landscape is captured on a gross rather than net basis.[36]
- We also track **public framework expenditures** to account for the fact that many project-level interventions would not be possible without the public coverage of costs that are not seen at the project level (e.g. development of national climate strategies, and specific regulations). Tracking public framework expenditures is warranted as they constitute costs that go beyond investment costs (e.g. grants) and they do not pay back investment costs (e.g. as revenue support mechanisms do).
- We **do not track policy-induced revenues** such as those generated by feed-in tariffs and carbon credits. These revenue support mechanisms pay back investment costs, so including them would constitute double counting.

We also exclude potential guarantee payments that may be made over projects' lifetimes as such risk management instruments are only exercised in particular circumstances.

Landscape 2014, as *Landscape 2013*, concentrates on new money coming into the system that is targeting climate change. We therefore **focus on project-level primary financing data** and exclude secondary market transactions, which rather represent money changing hands.[37] Building on the methodology in Landscape 2012 and 2013, we capture flows **among actors and to projects.**

34 The *Landscape 2014* uses a mix of 2012 and 2013 data. Government budget's data from the OECD's Creditor Reporting System Aid Activities database and data for Solar Water Heaters (Mauthner and Weiss, 2014) refer to 2012. Other figures represent 2013data, or the fiscal year 2013 (e.g., July 2012-June 2013). For the sake of simplicity, we refer from now on to 2013.

35 Climate-specific finance excludes a broader set of capital from developed to developing countries that may influence, directly or indirectly, emissions and/or vulnerability to climate change in developing countries, and which is typically referred to as 'climate-relevant' finance (see Corfee-Morlot et al., 2009, Buchner et al., 2011, and Clapp et al. 2012). Our boundaries for mitigation and adaptation are based on those used by the OECD-DAC CRS (OECD, 2011), the Joint MDBs' tracking (IDB et al. 2012, AfDB et al. 2013, AfDB et al. 2014) as well as IDFC (Hoehne et al., 2012, IDFC, 2014The sectoral breakdown is an own classification (see Annex E), based on the -IDFC (2013); AfDB et al. (2013) " and WBG (2014d)

36 Gross flows represent total face value of financial flows (including grants, low cost and market rate debt, equity and balance sheet finance). Net flows on the other hand deduct money that has to be repaid by recipient countries (e.g. repayments of loan principal, repatriation of capital).

37 This approach includes e.g. low-cost project debt or project green bonds, and excludes e.g. refinancing.

Private Climate Finance Flows

Private finance is typically harder to track than public resources. To obtain a deep understanding of these flows, *Landscape 2014* has an even deeper granularity of the geographic scope and project coverage as *Landscape 2013*. This year, we individually analyze project-level data from 2800 large-scale renewable projects based in 79 countries (retrieved from the Bloomberg New Energy Finance database) for a cumulative installed capacity of 65GW. This is an increase from last year when we considered 2,016 projects in 19 countries. Additional private finance data for small-scale household and other corporate investment was gathered from Mauthner and Weiss (2014) and Frankfurt School-UNEP (FS-UNEP, 2014).[38] Lastly, we have not captured private finance targeting adaptation investment due to lack of (project level) data.

Public Climate Finance Flows

With regard to public flows, *Landscape 2014* covers a smaller number of Development Finance Institutions (DFIs) than *Landscape 2013*, as we have not tracked the finance of 10 of the smallest DFIs that provided less than USD 0.9 billion in the previous report. However, we still tracked USD 0.1 billion in flows from these 10 DFIs through another data source. We tracked most DFI finance through a CPI-designed quantitative survey.[39] We finally also relied on data collected through the International Development Finance Club's (IDFC) initiative on climate finance flows of national, regional and bilateral DFIs in 2013 (IDFC 2014a, IDFC 2014b).

Landscape 2014 uses almost the same sources as *Landscape 2013* for tracking public flows beyond DFIs. That is:

- Data from the OECD's Creditor Reporting System (OECD 2014a; 2014b) to track Official Development Assistance (ODA) that is not provided by surveyed DFIs;
- US government (2014) document to fill the data gap on grant-based international climate finance that is not contained in the OECD CRS database
- The Climate Funds Update (ODI and HBF 2014) website and official documents for data on climate funds;
- The Bloomberg New Energy Finance (BNEF 2013) database to track direct government investments in renewable energy.

We avoid double-counting between these data sources by excluding for example:

- Financial resources that DFIs received from third parties from the reporting under the DFIs survey;
- Financial resources reported by those DFIs included in the DFIs survey from the datasets used from the OECD CRS, IDFC reporting or BNEF database;
- Financial contributions to funds reported by US government or DFIs from their related datasets

Landscape 2014 tracks recipients using:

- Information provided by donors in the OECD CRS database, in DFIs surveys, in datasets on climate funds, or follow-up correspondence with CPI;
- Assumptions made by CPI for reporting under the BNEF database, namely that the recipient is private or public if the project is fully financed by the private sector or public sector respectively and that the recipient is public-private otherwise.

However, for some datasets gathered as mentioned above, information on recipients remained missing. The related share of climate finance was reported as "unknown recipient" in this year's Landscape.

***Landscape 2014* classifies flows as mitigation finance, adaptation finance or as flows with both mitigation and adaptation objectives.** This is minor change to last year when we allocated all finance to either mitigation or adaptation. In the case of ODA commitments with both mitigation and adaptation as an objective, the finance was attributed to the use marked as 'principal' objective.[40]

38 Due to data limitations, Foreign Direct Investment (FDI) data was not used since it is reported at the company, not project-level.

39 The data retrieved via the surveys we conducted between June and August 2014, and the IDFC initiative, were adjusted to exclude climate finance commitments towards the set of activities out of the Landscape 2014's scope (e.g., "other environmental" activities or lower carbon energy generation project). When we lacked primary data, we allocated financing to the various breakdowns presented in the report according to weights computed on available data, and/or assumptions based on publicly available information or secondary data sources. In some cases, when the information at our disposal was not satisfactory, we refrained from making any assumptions.

40 In cases where both mitigation and adaptation were marked as principal objective (or both were marked as 'significant', and not 'principal' objective), the reported commitment was allocated to "flows with both

In *Landscape 2014,* a review of reports and specific information provided by DFIs has also improved our understanding of energy efficiency finance, particularly in terms of the level of private investment in this sector. Nonetheless, data and information on these flows is not tracked consistently, which ultimately restricts a clear view of global energy efficiency-dedicated climate finance.

mitigation and adaptation objectives".

Annex B - Details on Development Finance Institutions

	BILATERAL DFIS	SOURCE OF DATA
AFD	Agence Française de Développement - Proparco	Self-reporting via CPI survey
DEG	KfW Deutsche Investitions- und Entwicklungsgesellschaft	Self-reporting via IDFC survey
FINNFUND	Finnish Fund for Industrial Cooperation Ltd	OECD CRS (2014c)
FMO	Netherlands Development Finance Company	BNEF (2014)
JICA	Japan International Cooperation Agency	Self-reporting via CPI survey
KFW	KfW Entwicklungsbank	Self-reporting via CPI survey
	North American Development Bank	BNEF (2014)
OPIC	Overseas Private Investment Corporation	Self-reporting via CPI survey

	MULTILATERAL DFIS	SOURCE OF DATA
AFDB	African Development Bank	Self-reporting via project-level data
ADB	Asian Development Bank	Self-reporting via project-level data
EBRD	European Bank for Reconstruction and Development	Self-reporting via CPI survey
EIB	European Investment Bank	Self-reporting via project-level data
IDB	Inter-American Development Bank	Self-reporting via project-level data
IFC	International Finance Corporation	Self-reporting via project-level data[1]
WB	World Bank (IDA and IBRD)	Self-reporting via CPI survey
CAF	Development Bank of Latin America	Self-reporting via IDFC survey
	Eastern and Southern African Trade and Development Bank	BNEF (2014)
	Eurasian Development Bank	BNEF (2014)
NIB	Nordic Investment Bank	BNEF (2014)
	North American Development Bank	BNEF (2014)

1 Figures in the report include IFC investments activities only, not technical assistance. Data is from FY2013; estimates for FY2014 can be found here: http://www.worldbank.org/en/news/feature/2014/09/09/world-bank-group-climate-lending-grows-11-billion-fy14 .

NATIONAL DFIS		SOURCE OF DATA
BNDES	Brazilian Development Bank	Self-reporting via CPI survey
KFW	KfW Mittelstandsbank; KfW Privatkundenbank; KfW Kommunalbank; KfW Ipex-Bank	Self-reporting via IDFC survey
CDB	China Development Bank	Data and elaborations based on IDFC (2014a, 2014b)
BANCOLDEX	Banco de Comercio Exterior de Colombia S.A.	
BCIE/CABEI	Central American Bank for Economic Integration	
BE	Banco del Estado de Chile	
BSTDB	Black Sea Trade and Development Bank of Greece	
CDG	Caisse de Dépôt et de Gestion, Morocco	
EXIM	Indonesia Exim Bank	
HBOR	Croatian Bank for Reconstruction and Development	
KOFC	Korea Finance Corporation	
NAFIN	Nacional Financiera	
SIDBI	Small Industries Development Bank of India	
TSKB	Industrial Development Bank of Turkey	
VEB	Vnesheconombank, Russia	
BANOBRAS	Banco Nacional de Obras y Servicios Públicos SNC	BNEF (2014)
	Banco de Desarrollo de El Salvador	
	Banco de la Republica Oriental del Uruguay	
	Bank for Investment and Development of Vietnam	
	Development Bank of Japan	
	Development Bank of Southern Africa	
	Development Bank of the Philippines	
	Green Investment Bank Ltd	
	Indian Renewable Energy Development Agency	
	Industrial Development Corp of South Africa	
	Korea Development Bank/The	
	Superintendencia do Desenvolvimento do Nordeste	

Annex C - Climate finance: breakdown into final uses

USDM	PRIVATE	PUBLIC	TOTAL	%
ADAPTATION	**NE**	**25**	**25**	**7%**
Agriculture, including livestock and fishing, forestry, land use management, natural resource management	NE	2	2	**0%**
Disaster risk management	NE	2	2	**1%**
Resilient infrastructure incl. coastal areas protection	NE	3	3	**1%**
Water supply and management	NE	14	14	**4%**
Cross-sector activities and others	NE	3	3	**1%**
MITIGATION	**191**	**111**	**302**	**91%**
Agriculture, forestry, land use and livestock management	NE	6	6	**2%**
Energy efficiency	NE	30	30	**9%**
Process emissions in industry and fugitive emissions	NE	7	7	**2%**
Renewable energy	191	45	236	**71%**
• Wind	66	5	71	**22%**
• Solar	114	3	117	**35%**
• Small hydro (<=50MW)	2	0	2	**1%**
• Large hydro (>50MW)	NE	4	4	**1%**
• Biomass and biogas power	8	3	10	**3%**
• Other technologies/ unclassified	0.3	30	31	**9%**
Transport modes resulting from modal shift	NE	17	17	**5%**
Cross-sector activities and others	NE	6	6	**2%**
MULTIPLE OBJECTIVES	**0**	**5**	**5**	**1%**
GRAND TOTAL	**191**	**141**	**331**	**100%**

Annex D - Overview of climate funds

CLIMATE FUND	APPROVALS (USD MILLION)			'12-'13 % CHANGE	SOURCE FOR FUNDS' APPROVALS	SOURCE FOR COUNTRIES' CONTRIBUTIONS TO FUNDS
	2011	2012	2013			
Adaptation Fund (AF)	86	69	21	-70%	ODI/HBF, 2014	ODI/HBF, 2014
Clean Technology Fund (CTF)	531	413	878	113%	ODI/HBF,2014	CIF, 2014a
Congo Basin Forest Fund (CBFF)	57	21	-	-100%	CBFF, 2014	Not tracked
Forest Carbon Partnership - Readiness Fund (FCPF-RF)	21	7	16	128%	ODI/HBF, 2014	Not tracked
Forest Investment Program (FIP)	51	18	91	408%	ODI/HBF, 2014	CIF, 2014b,
GEF Trust Fund (GEF 5)	170	238	290	22%	ODI/HBF, 2014	GEF, 2013
Global Climate Change Alliance (GCCA)	77	48	69	44%	ODI/HBF, 2014	GCCCA, 2014
Global Energy Efficiency and Renewable Energy Fund (GEEREF)	17	13	7	-46%	EIB project level data	Not tracked
Least Developed Countries Fund (LDCF)	32	167	283	69%	ODI/HBF, 2014	WBG, 2014a ,
MDG Achievement Fund	15	4	-	-100%	UNDP, 2014	Not tracked
Multilateral Fund of the Montreal Protocol	NE	118	143	21%	UNEP 2013a, 2013b; 2013c	UNEP 2013d
Pilot Program for Climate Resilience (PPCR)	155	192	209	9%	ODI/HBF, 2014	CIF, 2014b,
Scaling Up Renewable Energy Program (SREP)	193	28	20	-29%	ODI/HBF, 2014	CIF, 2014b,
Special Climate Change Fund (SCCF)	18	41	14	-66%	ODI/HBF, 2014	WBG, 2014b
UN-REDD	35	12	4	-67%	ODI/HBF, 2014	UNREDD, 2014
Amazon Fund	27	89	89	0%	ODI/HBF, 2014	Amazon Fund, 2014
Guyana REDD Investment Fund (GRIF)	-	12	21	73%	GRIF, 2014	WBG. 2014c
Bangladesh Climate Change Resilience Fund (BCCRF)	NE	54	50	-8%	BCCRF, 2014	BCCRF, 2014
Indonesia Climate Change Trust Fund (ICCTF)	-	-	3	100%	ODI/HBF, 2014	ICCTF, 2012
Bangladesh Climate Change Trust Fund (BCCT)	NE	66	33	-51%	BCCT, 2014	BCCT, 2014
Grand Total	**1,485**	**1,610**	**2,241**	**39%**		

Sources: 2011, 2012 figures: Buchner et al. (2012). 2013 figures: as indicated above. Notes: Data for 'funding approval' was used as commitments of climate funds in Landscape 2014. The main aim of the Multilateral Fund of the Montreal Protocol is reducing the emissions of ozone depleting substances. The Bangladesh Climate Change Trust Fund estimate is based on 'block budgetary allocation' of 4 trillion Taka in FY 2012/2013, 66% of which is allocated to the implementation of projects/ programmes (BBCT, 2014); Exchange rate of 0.012 USD/taka from Oanda.com. Co-funding, often provided by multilateral organizations, is not included in the above estimates of climate fund money. NE = not estimated.

Annex E - Coverage of sectors and activities in *Landscape 2014*

Our boundaries for classifying mitigation and adaptation activities are based on those used by the OECD-DAC CRS (OECD, 2011), the Joint MDBs' tracking (IDB et al. 2012, AfDB et al. 2012, AfDB et al. 2014) as well as IDFC (Hoehne et al., 2012, IDFC, 2014). This also applies for the breakdown by sectors, which is still under discussion.

Definition of mitigation and adaptation

An activity classifies as climate change mitigation if it:

- Contributes to reducing or avoiding greenhouse gas (GHG) emissions, including gases regulated by the Montreal Protocol; or
- Enhances GHGs sequestration through the enhancement of sinks and reservoirs.

An activity classifies as climate change adaptation if it:

- Aims to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience.

Sectoral breakdown for mitigation-relevant activities with examples

Noting that a sectoral breakdown is still under discussion internationally, we based the classification used for *Landscape 2014* on Ecofys-IDFC (2013); AfDB et al. (2014) and WBG (2014d). We tried to apply this classification consistently when compiling this report, but cannot guarantee that data pre-classified by other parties is fully in line with this classification.

As compared to last year we expanded the scope of activities: In terms of types of activities, we have for the first time captured public finance for large hydro power,[41] if net emission reductions can be demonstrated, and public investments in research and development.[42]

RENEWABLE ENERGY GENERATION
Electricity or heat production from: • Biomass and biogas power (only if demonstrated GHG emission reductions compared with a technically and economically viable alternative); • Solar including PV and CSP, solar water heater; • Geothermal; • Hydropower (only if demonstrated GHG emission reductions compared with a technically and economically viable alternative)* • Wind; • Other technologies e.g., biofuels including bioethanol, ocean (wave, tidal, ocean currents, salt gradient, etc.). The category excludes renewable energy Research & Development and manufacturing, i.e. the production of equipment for renewable energy generation. The former because it might not ultimately result in emission reductions, while the latter because of double counting issues and difficulties in attributing it to a specific source of funding.

41 We did not include large hydro in previous years because of uncertainty in terms of net emission reductions but the IPCC's Special Report on Renewable Energy's review of lifecycle emissions of hydro power shows that the certainty for net emission reductions are high (Kumar et al. 2011, Sathaye et al. 2011)

42 We exclude private investments in Research and Development (R&D), as counting private R&D would result in double counting as private actors try to recover their R&D investments when selling products.

ENERGY EFFICIENCY
Demand-side energy efficiency in buildings and industry, with demonstrated GHG emission reductions compared with a technically and economically viable alternative: Industry: • Industrial energy-efficiency improvements through the installation of more efficient equipment, changes in processes, reduction of heat/ hot water losses and/or increased waste heat recovery. Buildings (residential and/or commercial): • Energy-efficiency improvement in lighting, appliances and equipment, including more efficient use of hot water; • Substitution of existing heating/cooling systems for buildings by cogeneration plants that generate electricity in addition to providing heating/ cooling; • District heating systems; • Waste heat recovery improvements; • Retrofit of existing buildings: Architectural or building changes that enable reduced energy consumption. Greenfield: • Use of highly efficient architectural designs or building techniques that enable reduced energy consumption for heating and air conditioning, exceeding available standards and complying with high energy efficiency certification or rating schemes. This category excludes efficiency improvements to fossil fuel-fired power plants.
TRANSMISSION AND DISTRIBUTION SYSTEMS
• New transmission systems or new systems (e.g., new information and communication technology, storage facility, etc.) to facilitate the integration of renewable energy sources into the grid; • Transmission energy efficiency i.e. retrofit of transmission lines, distribution systems or substations to reduce energy use or losses; • Efficient water supply systems; with demonstrated GHG emission reductions compared with a technically and economically viable alternative
PROCESS EMISSIONS IN INDUSTRY AND FUGITIVE EMISSIONS
Industrial processes • Reduction of GHGs emissions resulting from industrial process improvements and cleaner production (e.g. cement, chemical, etc.). Fugitive emissions: • Reduction of gas flaring or methane fugitive emissions in the oil and gas industry; coal mine methane capture and storage; etc.
SUSTAINABLE TRANSPORT MODES SUPPORTING MODAL SHIFT (MITIGATION-RELEVANT PROJECTS ONLY)
This category includes mitigation-relevant projects with demonstrated GHG emission reductions compared with a technically and economically viable alternative Urban transport modal change: • Non-motorized transport (bicycles and pedestrian mobility); • Urban mass transit. Urban development: • 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; • Transport demand management measures to reduce GHG emissions. Inter-urban transport modal change (excluding projects for new or upgraded highway; or new airports even when net GHG emission reductions can be demonstrated) • Railway transport ensuring a modal shift of freight and/or passenger; • Waterways transport ensuring a modal shift of freight and/or passenger; Vehicle energy efficiency fleet retrofit. Existing vehicles, rail or boat fleet retrofit or replacement (including the use of lower-carbon fuels, electric or hydrogen technologies, etc.)

AGRICULTURE, FORESTRY, LAND USE AND LIVESTOCK MANAGEMENT (MITIGATION-RELEVANT PROJECTS ONLY)
This category includes only projects with demonstrated GHG emission reductions compared with a technically and economically viable alternative. Afforestation & reforestation: • Afforestation (plantations) on non-forested land; • Reforestation on previously forested land; • Sustainable forest management activities that increase carbon stocks and/or enhance soil carbon sequestration. • Reducing emissions from deforestation and degradation Agriculture: • 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.); • Reduction in energy use in traction (e.g. efficient tillage), irrigation, and other agriculture processes. Livestock: • Livestock projects that reduce GHG emissions (manure management with biodigestors producing biogas for heating or cooking, etc.).
WASTE AND WASTE WATER (MITIGATION-RELEVANT PROJECTS ONLY)
This category includes mitigation-relevant projects with demonstrated GHG emission reductions compared with a technically and economically viable alternative • Waste management that reduce methane emissions by e.g., shifting from open dumps and lagoons to municipal / industrial waste (water) treatment, including switch to composting, waste incineration, landfill gas capture and flaring/power production, etc. • Waste recycling measures with a net mitigation benefit.
POLICY/ REGULATION AND CAPACITY-BUILDING
Dedicated budget support to national or local authorities for implementation of climate change mitigation policies; and other awareness raising, capacity building, and technical assistance activities (if not included in the categories above).
OTHERS
This category can include other eligible activities that cannot be classified in the above categories e.g. cross-sector activities such as financial services like credit lines earmarked for mitigation activities (if not included in the categories above).

* In the 2013 Landscape, we excluded large scale hydropower (>50 MW)

** In the 2013 Landscape, we included transmission and distribution systems under energy efficiency

Sectoral breakdown for adaptation-relevant activities with examples

WATER SUPPLY AND MANAGEMENT

Demand side management activities reducing water consumption or increasing water use efficiency.

Supply side management activities enabling e.g. the expansion of supplies, reducing water losses, or improving cooperation on shared water resources.

Examples include:

- Improvement in catchment management planning and regulation of abstraction;
- Installation of domestic rainwater harvesting equipment and water storage including the provision of microfinance for their purchase;
- Rehabilitation of water distribution networks and the building pipelines to improve water resources management; to address changes in water flows/quality caused by climate change, etc.
- Changes in design of sanitation systems in response to extreme weather events arising from climate change.

AGRICULTURE, FORESTRY, LAND USE MANAGEMENT, AND NATURAL RESOURCE MANAGEMENT

- Provision of information on crop diversification options so that to strengthen famers' resilience;
- Increased production of fodder crops to supplement rangeland diet;
- Improved management of slopes and basins to avoid/reduce the impacts caused by soil erosion;
- Engagement with local communities to limit degradation due to e.g. uncontrolled burning;
- Identification of protected areas and establishment of migration corridors;
- Adoption of sustainable aquaculture techniques to face changes in fish stocks and supplement local fish supplies; etc.

RESILIENT INFRASTRUCTURE AND COASTAL PROTECTION

Improving the resilience of existing infrastructure e.g., transport infrastructure, energy infrastructure, riverine infrastructure (including built flood protection) and human settlements (e.g. housing, if not part of a wider disaster risk management strategy).

Building resilient infrastructure such as protection system for dams to reduce vulnerability to extremes caused by climatic changes.

Coastal Protection

- Building of dykes to protect infrastructure or to enhance the resilience from storms and coastal flooding, and sea level rise;
- Mangrove planting to build a natural barriers to adapt to increased coastal erosion and to limit salt water intrusion into soils caused by sea level rise;
- Coastal infrastructures (including built flood protection infrastructure).

(OTHER) DISASTER RISK MANAGEMENT

- Early warning / emergency response systems to adapt to increase occurrence of extreme events by improving disaster prevention, preparedness and management and reduce potentially related loss and damage;
- Construction or improvement of drainage systems to adapt to increase in occurrence of floods;
- Monitoring of disease outbreaks and development of a national response plan (to adapt to changing patterns of diseases that are caused by changing climatic conditions);
- Emergency investments for preparedness to climate-related natural disaster response, including housing (if part of a wider disaster risk management strategy).

POLICY/ REGULATION AND CAPACITY-BUILDING

Dedicated budget support to national or local authorities for implementation of climate change mitigation policies; and other awareness raising, capacity building, and technical assistance activities (if not included in the categories above).

OTHERS

This category can include other eligible activities that cannot be classified in the above categories e.g. cross-sector activities such as financial services like incorporation of climate risk assessment in ministerial investment appraisal processes (if not included in the categories above).

Annex F – Coverage of geographies and countries in *Landscape 2014*

In addition to non-OECD and OECD countries as destinations of funding (see table below), financial resources can be channeled to more than one country/region (transregional).

Country classification

	REGION	COUNTRY
NON-OECD	MIDDLE EAST AND NORTH AFRICA	Non-Annex I Parties under the UNFCCC: Algeria, Bahrain, Egypt, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine*, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen Not listed as party under the UNFCCC: West Bank & Gaza
	SUB-SAHARAN AFRICA	Non-Annex I Parties: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Republic of Congo, Dem. Rep. of Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé &Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, South Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia Overseas regions/ territories belonging to Annex I Parties: Mayotte, Saint Helena, Réunion
	SOUTH ASIA	Non-Annex I Parties: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka
	EAST ASIA AND PACIFIC	Non-Annex I Parties: Brunei, Cambodia, China, Cook Islands, Fiji, Indonesia, Kiribati, Korea PDR, Lao PDR, Malaysia, Marshall Islands, Fed. States Micronesia, Mongolia, Myanmar, Nauru, Niue, Palau, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu, Vietnam Overseas regions/ territories belonging to Annex I Parties: American Samoa, Guam Not listed as party under the UNFCCC: Taiwan
	CENTRAL ASIA AND EASTERN EUROPE	Annex I Parties: Belarus, Bulgaria, Latvia, Lithuania, Romania, Russian Federation, Ukraine Non-Annex I Parties: Albania, Armenia, Azerbaijan, Bosnia & Herzegovina, Georgia, Kazakhstan, Kyrgyz Republic, FYR Macedonia, Moldova, Montenegro, Serbia, Tajikistan, Turkmenistan, Uzbekistan Not listed as party to the UNFCCC: Kosovo
	LATIN AMERICA & CARIBBEAN	Non-Annex I Parties: Antigua & Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, St. Lucia, St. Kitts-Nevis, St. Vincent & Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela Overseas regions/ territories/ constituent countries related to Annex I Parties: Anguilla, Aruba, Cayman Islands, Curaçao, Falkland Islands, French Guiana, Guadeloupe, Martinique, Montserrat, Puerto Rico, St. Barthélemy, Saint Martin, Turks and Caicos Islands, Virgin Islands, West Indies
OECD	WESTERN EUROPE	Annex I Parties: Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom Non-Annex I Parties: San Marino
	AMERICA	Annex I Parties: Canada, United States of America Non-Annex I Parties: Chile, Mexico
	JAPAN KOREA ISRAEL	Annex I Parties: Japan Non-Annex I Parties: Korea, Israel
	OTHER OCEANIA	Annex I Parties: Australia, New Zealand Overseas regions/ territories/ constituent countries related to Annex I Parties: Tokelau

Note: Listing of Annex I/ Non-Annex I Parties to the Convention based on UNFCCC (2014)