Chapter 4

Global progress on financing for adaptation

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4.1 Financing of adaptation – introduction

In the Copenhagen Accord in 2009, developed countries pledged to mobilize US$100 billion annually by 2020 to support developing countries with mitigation and adaptation. In Paris in 2015, this goal was reiterated, and countries agreed to set a new collective quantified goal prior to 2025, using the US$100 billion as a floor. Has the US$100 billion goal been met? At this stage, that question seems impossible to answer. Developed countries are not required to report their climate finance data for 2020 to the United Nations Framework Convention on Climate Change (UNFCCC) before January 2022. In addition, there has been intense debate on what should count towards this US$100 billion goal (Bodnar, Brown and Nakhooda 2015; Weikmans and Roberts 2019).

A critical part of the discussion on the US$100 billion goal concerns the role of public and mobilized private finance in meeting the goal. Adaptation is often most needed in non-market sectors or is focused on public goods that benefit many stakeholders (United Nations Environment Programme [UNEP] 2018), which makes it challenging to mobilize private finance. Public finance can address this by strengthening the capacities of various stakeholders, covering incremental costs of adaptation, creating incentives for institutions and investors (for example, by addressing market imperfections), and by taking on risks that would otherwise disincentivize private flows of adaptation finance. Private finance for adaptation, however, also remains essential, given the nature, scale and related costs of adaptation.

The UNEP 2016 Adaptation Gap Report concluded that annual costs of adaptation in developing countries could range from US$140 billion to US$300 billion annually by 2030 and rise from US$280 billion to US$500 billion by 2050. Adaptation costs are higher for high-income countries in absolute dollar value, but costs are higher relative to gross domestic product for low-income countries.1 High levels of global mitigation action would put the world in a relatively low-risk (RCP2.6) scenario and may reduce adaptation costs by 75 per cent compared with a high-risk scenario (RCP8.5) (Chapagain et al. 2020). It is also important to note that the benefits of investing in adaptation often outweigh the costs. For example, the Global Commission on Adaptation (2019) estimated that a US$1.8 trillion investment in the areas of early warning systems, climate-resilient infrastructure, improved dryland agriculture, global mangrove protection, and resilient water resources could generate US$7.1 trillion of benefits. These benefits mostly concern avoided costs, and include non-monetary social and environmental benefits. Significant scaling up and incentivizing for both public and private finance is required to cover adaptation costs and benefits.

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1 Low-income countries and high-income countries according to the World Bank List of Economies 2019.
Many different challenges complicate the estimation of both adaptation costs and adaptation finance (figure 4.1 and annex 1 [online] and annex 2 [online]). These challenges make it hard to quantify the gap between adaptation costs and adaptation finance (see also Pauw et al. 2020 for an assessment of adaptation costs and adaptation finance needs in nationally determined contributions [NDCs]). Nevertheless, available estimates of adaptation costs (for example, UNEP 2016, Chapagain et al. 2020) and adaptation finance (for example, OECD 2019a; Climate Funds Update [CFU] 2020) tend to show that a major adaptation finance gap remains in quantitative terms. Nonetheless, it is important to measure and monitor adaptation finance needs and progress in finance provision. It can foster better understanding of the alignment of adaptation investments with country priorities and it will help gauge the accountability of developed countries given their commitments under the UNFCCC to provide adaptation finance. Together, these can lead to increased ambition and effectiveness of support for adaptation.

In addition to climate finance under the UNFCCC, and to domestic public and private financing of adaptation within countries, this chapter also discusses how sustainable finance efforts can contribute to adaptation. Section 4.3 elaborates on this 'new consideration' on financing for adaptation.

4.2 Financing adaptation – status and progress in adaptation finance flows

This section considers the main channels of adaptation finance and how they have evolved over time. Our understanding of the status of adaptation finance flows is heavily constrained by data availability. For the reasons detailed in annex 2 [online], tracked adaptation finance represents only a partial estimate of current flows. Some international concessional public finance flows (predominantly official development assistance [ODA] flows from OECD Development Assistance Committee [OECD DAC] members) are well documented, as are several multilateral flows. However, much less data exist on domestic public sector finance and private sector investments in adaptation (UNEP 2018; UNFCCC Standing Committee on Finance [UNFCCC SCF] 2018, Weikmans and Roberts 2019, Pauw et al. 2016). Details on the specific data sources considered for the assessments in this chapter are included in the sections that follow.

Two other important considerations must be made when considering tracked adaptation finance. Firstly, the amount of funding for adaptation does not provide much information about efficient or effective use of these funds. To date, there are no universally agreed upon metrics to assess outcomes of adaptation finance or to measure the effectiveness of those funds, though many climate finance contributors continue to work on improving their results frameworks to this end. Secondly, there is no systematic tracking of public or private financial flows that could undermine adaptation objectives or lead to maladaptation. This recognizes that where climate risks are not factored into investment-decision-making, they could increase vulnerability to climate impacts of individuals, institutions and systems and therefore, should be concurrently assessed.

4.2.1 Global climate-related finance

According to Climate Policy Initiative’s Global Landscape of Climate Finance 2019 (Climate Policy Initiative [CPI] 2019), total climate finance flows – including domestic and international, public and private flows – were estimated at US$579 billion per year for 2017–2018. The overwhelming majority (US$537 billion) of tracked finance went to mitigation, with US$30 billion to adaptation and US$12 billion to cross-cutting themes (ibid.). Water and wastewater management, land use and disaster risk management are the sectors that make up much of this tracked adaptation finance. Global finance flows for adaptation have increased by 35 per cent since 2015–2016. This constitutes 5 per cent of total tracked flows, a percentage that is similar to the 2015-2016 period. The majority of adaptation finance arises from public finance channels (ibid.). These global figures do not only concern flows to UNFCCC developing country Parties and care must be taken when comparing them with the US$100 billion mobilization goal.

While there is a clear need to increase adaptation finance flows, it is also recognized that there are significant challenges in tracking adaptation finance. CPI reports that coverage of adaptation remains “very limited”. This stems from definitional challenges, accounting issues, confidentiality restrictions, and a lack of universally accepted impact metrics (UNFCC 2018; UNEP 2016b, CPI 2019).

4.2.2 Adaptation finance under the UNFCCC

Under the UNFCCC, Annex II Parties2 are required to report on the climate finance that they provide to and mobilize in developing countries. They notably do so in the Biennial Reports that they submit to the UNFCCC secretariat. Annex II Parties use various methodologies to track adaptation finance (see annex 2 [online]) and in some cases, methodologies have changed over time, which, in turn, makes it very difficult to compare data over time (Weikmans and Roberts 2019). However, it is clear that the adaptation component of such self-reported finance under the UNFCCC is growing.

Bilateral public flows

Bilateral and regional flows reported to the UNFCCC by Annex II Parties are showing an increasing trend (see figure 4.2).

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2 Under the UNFCCC, Annex I Parties include the industrialized countries that were members of the OECD in 1992, plus countries with economies in transition. Annex II Parties (considered here as developed countries) are those Annex I Parties obliged to provide support to non-Annex I (considered here as developing country) Parties.
Estimated adaptation finance:
Adaptation finance is used to implement adaptation actions and plans. It can come from different sources, incl. public and private sources, and international (e.g. development banks and funds) and domestic (government spending) sources. The lack of universally agreed modalities to account for international adaptation finance has given rise to multiple accounting practices.

The challenges listed below complicate the estimation of adaptation finance. These challenges are explained further in Annex 1 [online].

Estimated adaptation costs:
Global adaptation costs can be estimated through top-down or bottom-up studies. Top-down studies use models that relate total impacts with impact damages, often at the global level and on the basis of a sectoral breakdown of cost elements. Bottom-up studies calculate costs by adding up more detailed estimates of national or sectoral levels.

The challenges listed below complicate the estimation of adaptation costs. These challenges are explained further in Annex 2 [online].
Data on bilateral provisions reported to the UNFCCC mainly rely on government tracking (through the OECD ‘Rio markers’ methodology) of ODA commitments that have adaptation objectives (see figure 4.2). This methodology was established to assess the degree to which the objectives of the Rio Conventions are mainstreamed into ODA, which also allows for cross-cutting analyses, for example, on the extent to which adaptation finance is gender-responsive (see box 4.1). The methodology is also increasingly being used as a basis for Annex II Parties’ reporting on climate finance (Weikmans et al. 2017; OECD 2020a). To account for the fact that the Rio markers methodology was not originally designed to monitor financial pledges, most Annex II Parties ‘scale down’ the volume of finance associated with the Rio markers in their financial reporting to the UNFCCC. They do so by using ‘coefficients’ to differentiate between funding marked as targeting adaptation as a ‘principal objective’ and as a ‘significant objective’ – the latter having other primary (‘principal’) objectives such as biodiversity conservation or gender equality. These coefficients differ across Annex II Parties and range from zero to 100 per cent (OECD 2015; OECD 2019b; Oxfam 2020).

While bilateral adaptation-related ODA shows an upward trend in absolute terms, its share of overall ODA slightly increased, from 4.6 per cent in 2013 to 6.1 per cent in 2017. In 2018, 24 per cent of ODA with adaptation components were channelled to small island developing states (SIDS) and least developed countries (LDCs). In the same year, 78 per cent of ODA with adaptation components was delivered in the form of grants and 22 per cent in the form of concessional loans (OECD 2019a).

**Multilateral public flows**

It is relatively straightforward for Annex II Parties to report on contributions made to multilateral climate funds such as the Least Developed Countries Fund or the Adaptation Fund. However, despite some improvements in recent years, estimating the adaptation-specific share of core contributions made to multilateral institutions is much more complex, and sometimes impossible.

Figure 4.3 summarizes adaptation-related multilateral flows to developing countries. Upward trends are visible in absolute terms for multilateral banks, UNFCCC funds and adaptation finance as reported by Annex II Parties.³ Adaptation funding

³ Annex II Parties also report on core/general finance flows separately, that are committed to multilateral and bilateral institutions that Parties cannot identify as climate-specific, such as to MDBs.
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channelled through the UNFCCC multilateral climate funds almost doubled between 2015–2016 and 2017–2018 to US$1.25 billion per year (CFU 2020). Multilateral support for adaptation also increased significantly as a share of the overall multilateral development finance: from 8 per cent in 2013 to 14.6 per cent in 2017 (OECD 2019a).

Since 2012, data on multilateral public flows are supplied by a group of multilateral development banks (MDBs) that have developed their own tracking methodology (Multilateral Development Banks [MDB] 2019). Adaptation-related financial resources flowing through MDBs are on a strong upward trend and averaged US$10.15 billion per year in 2017–2018. Support for adaptation as a share of overall MDB climate finance has risen from 20 per cent to 30 per cent between 2015 and 2018. In 2018, 20 per cent of adaptation-related MDB finance went to LDCs and SIDS. In the same year, 9 per cent of adaptation-related MDB finance was delivered as grants and 72 per cent as concessional loans; 19 per cent were channelled through other financial instruments (such as non-concessional loans).

Alongside MDBs, a number of other development finance institutions (DFIs) are also relevant to adaptation action. The International Development Finance Club (IDFC), a group of 23 regional and national DFIs, programmed US$125 billion in climate finance in 2018, of which US$15 billion was estimated to flow to adaptation (IDFC 2019). Financing volumes reported by these multilateral institutions cannot be directly compared with the adaptation-related multilateral flows reported by Annex II Parties as these institutions also receive contributions from non-Annex II Parties and do not only fund activities in developing countries.

Private flows
So far, few Annex II Parties have reported on private climate finance that they mobilize through their public interventions in their Biennial Reports. According to OECD (2020a), the majority of private finance mobilized by developed countries’ public climate finance continues to benefit mitigation activities (95 per cent in 2016–2018 compared with 90 per cent in 2013–2014). However, OECD (2020a; 33) also notes that there is room for improvement in identifying adaptation-relevant activities within mobilized private finance datasets. While the MDBs track private finance mobilized by their interventions, they do not provide adaptation-specific data. Tracking of mobilized private adaptation finance is expected to remain challenging.

**Figure 4.3 Adaptation-related multilateral flows to developing countries**

Note: All figures in current US$. Data partly overlap and are not aggregable. Adaptation finance as reported to the UNFCCC includes multilateral channels for adaptation and cross-cutting themes, but excludes general core commitments including those to multilateral institutions that cannot be identified by Parties as climate-specific. Data for 2017 and 2018 is not yet available at the time of writing. Data include both adaptation and cross-cutting finance. Data providers use different methods including definitions of adaptation finance, and have differing eligibility for funding (see annex 2 [online]).

UNFCCC funds are the Adaptation Fund, the Global Environment Facility Trust Fund, the Green Climate Fund, the Least Developed Countries Fund and the Special Climate Change Fund. MDBs included in this data are the Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank Group and the World Bank Group.

Sources: Annex II Parties’ Biennial Reports to the UNFCCC; information related to the United States is drawn from preliminary data provided to the UNFCCC SCF (2018); CFU 2020; MDBs (2013–2019).
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4.3 New trends in the financing of adaptation

4.3.1 Adaptation finance modalities of bilateral and multilateral support are evolving

Grant modalities are increasingly bolstered by a broader range of instruments, actors and approaches. While this trend is visible among many funds and funders, the Green Climate Fund (GCF)’s adaptation portfolio is used for illustrative purposes for two reasons. Firstly, the GCF is the world’s largest dedicated multilateral climate fund. Secondly, its portfolio reflects recent project approaches: the GCF just completed its first funding period of 2016–2019 (its so-called ‘Initial Resource Mobilisation’ process) which allows for reflection and learning. By early 2020, the GCF had invested US$2.228 billion in 93 adaptation projects and components in cross-cutting projects, representing 40 per cent of its total portfolio in nominal terms (and close to 50 per cent in grant equivalent terms). Increasingly, these investments have been made using non-grant instruments, predominantly senior loans (see box 4.2).

It is clear that multilateral institutions can play a strong role as catalytic agents, especially when they take a first-loss position that can help to crowd-in investments. Here we discuss a few examples.

The GCF acts as the anchor investor in Acumen’s Resilient Agriculture Fund (ARAF, project FP078) which makes small investments (US$1–3 million) in agriculture in East and West Africa. An initial technical assistance grant of US$3 million from the GCF is accompanied by a US$23 million junior equity stake. This investment has been matched by senior equity stakes from investors including a development bank, foreign direct investors, family offices and a philanthropic source. In turn, ARAF has invested in companies delivering: (i) solar irrigation bundled with bespoke meteorological and agronomic advice for smallholders; (ii) innovative contract farming schemes with strong forward linkages in processing; (iii) dairy farming through irrigation and a bundled range of goods and services. The GCF investment is for 12 years and the GCF expects to recover its investment following the return of capital and costs to senior equity holders.

Another approach combines improvements in hazard forecasting and early warning systems with refining how local communities, decision makers and actors prepare and plan for extreme events. An investment in the Philippines (GCF project SAP010) of US$10 million combines an improved forecasting and warning system at the local level with the use of index-based triggers and standard operating procedures to support a shock-responsive social protection system. In contrast to traditional approaches, the use of forecast-based financing and action improves efficiency for those implementing interventions and reduces distress and indebtedness within beneficiary communities.

Box 4.1. Gender in adaptation finance

The Biennial Reports submitted by Annex II Parties to the UNFCCC secretariat do not systematically include data on gender. However, 65 per cent of bilateral ODA from OECD DAC contributors marked as relevant to adaptation was also marked as supporting gender equality in the 2017–2018 period. Most of this adaptation-related finance has a significant objective for the gender marker, rather than a principal objective. Public finance that is gender-responsive is found to be more effective and efficient (World Bank 2012). For adaptation finance, this will entail projects and programmes taking into account the gender dynamics of, for example, food production. The Gender Action Plan of the UNFCCC approved at COP23 included the use of gender-responsive finance as a core tool for implementation (UNFCCC 2017). While a number of multilateral climate funds are increasingly considering gender considerations in their governance and implementation (Schalatek 2019), best practices on gender-budgeting have not yet been compiled or adopted and few funds are reporting gender-disaggregated results. Recent assessment of progress in implementing the gender mandates of multilateral climate funds highlight the need for more capacity-building support for implementing entities and strengthened guidance for monitoring and reporting (Adaptation Funding Board [AFB] 2019; CIF 2020).

Domestic finance flows

Domestic public finance data with climate relevance remains sparse, and it is not clear whether finance is increasing. The data that are currently available are largely based on case studies. For example, 2 per cent of the total annual budget was found to be climate-relevant in Ghana between 2014–2017, compared with 3 per cent in Antigua and Barbuda, 4 per cent in Bangladesh and Indonesia, 8 per cent in Kenya and Pakistan; and 31 per cent in Nepal. However, countries apply their own definitions and methods, and transparency around those is often low (Watson et al. 2020; UNDP 2019).

Nonetheless, there is growing recognition of the role that fiscal policy can play in building resilience to climate change. This includes taxes, price supports, revenue and expenditure measures, for example, that work to reduce, retain or transfer climate-related risks that build resilience to shocks (International Monetary Fund [IMF] 2019; World Bank 2019).
Results-based financing has also been used and the GCF has earmarked US$500 million for this purpose. Although, to date, this has only been applied to United Nations ‘reducing emissions from deforestation and forest degradation’ (REDD+) projects, it is clear that this modality may be employed in many ways, especially for impact investing and yielding resilience-related benefits, as long as mechanisms for results verification are well established (see, for example, Puri et al. 2020).

In addition, it is important to bear in mind that funds that combine grant and non-grant instruments are able to stagger the finance to form more mutualistic public-private innovation ‘ecosystems’. Overall, it is vital that private and public sector actors recognize resilience and wealth creation as a collective endeavour and sequence grant and non-grant instruments in a symbiotic fashion (see Mazzucato 2013). Therefore, evaluating mobilized private investments in adaptation based on their quantity alone would not be beneficial.

Box 4.2. Evolution of financial instruments in the GCF adaptation portfolio

By the end of 2017, the GCF had committed just under US$1 billion to adaptation projects in grants yet only US$54 million had been committed in senior loans. By March 2020 (after completion of the ‘Initial Resource Mobilisation’ period), a further US$800 million in grants had been supplemented by US$317 million in senior loans. As of August 2020, US$3.73 billion in co-finance had been committed, mainly by national governments and MDBs. The co-financing ratio of the portfolio stood at 1.5. This ratio is much higher for non-grant instruments (at over 10) than for grants (0.7).

4.3.2 Sustainable finance

The creation of sustainable financial systems is increasingly recognized as a promising avenue for scaling up adaptation and monitoring of investments in adaptation. Sustainable finance can be defined in a narrow sense as taking “due account of environmental and social considerations in investment decision-making” (European Commission 2018). In a broader sense, sustainable financial ‘systems’ can be understood as “financing as well as related institutional and market arrangements that contribute to the achievement of strong, sustainable, balanced and inclusive growth, through supporting directly and indirectly the framework of the Sustainable Development Goals (SDGs)” (G20 Sustainable Finance Study Group 2018). A sustainable financial system is crucial to implement Article 2.1c of the Paris Agreement to make “finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”. It could support the scale-down of ‘harmful’ activities and reposition US$ trillions to scale up finance that supports long-term low-carbon and climate-resilient development.

There is a growing understanding that both physical risks resulting from climate change and risks caused by transitioning to a low-carbon economy can have a negative impact on the stability of the financial system. This has led to a fast-evolving sustainable finance policy landscape. Alongside public sustainable finance policies and international initiatives supporting the establishment of a sustainable financial system, the private financial sector also takes part in initiatives towards alignment of the financial system with the Paris Agreement. This includes the 2019 ‘Collective Commitment to Climate Action’ under the UNEP Finance Initiative’s Principles for Responsible Banking and the 2019 Net-Zero Asset Owner Alliance of 33 institutional investors (representing nearly US$5.1 trillion assets under management). Sustainable finance has the potential to significantly impact adaptation, both financially and in terms of engaging the private sector, in three different ways.

Firstly, sustainability taxonomies and standards establish criteria for “determining whether an economic activity qualifies as environmentally sustainable” (European Commission 2018). This can help identify and track finance flows – for example, those related to adaptation. Taxonomies can also serve as indicators, as they can be used to help determine targets or transition pathways for taxonomy-compliant shares of green activities across sectors. The European Union (EU) has recently established the ‘EU taxonomy for sustainable activities’, linked to six environmental objectives, including adaptation (EU 2020). Other approaches for defining sustainable or green investments are also in place in other regions, such as China (Climate Bonds Initiative [CBI] 2019).

Secondly, climate-related financial disclosure regulations across the financial system can increase transparency on the vulnerability of investments and assets to climate change impacts. Such disclosure was recommended by the Task Force on Climate-Related Financial Disclosure (TCFD) (2017) and support for it is growing (TCFD 2019). An implication of regulatory requirements for climate-related disclosure could be that investments that are highly vulnerable to climate change impacts will become less attractive for investors, and the financial sector could take proactive measures to reward the financing of climate-resilient activities with preferential financing conditions.

4 Results-based finance is defined as a programme where the principal [in this case, GCF] investor sets financial or other incentives for an agent [in this case, the accredited entity] to deliver predefined outputs or outcomes and rewards the achievement of these results upon verification (Musgrove 2011).
Lastly, sustainable financial systems stimulate the mainstreaming of climate-related risk management beyond the financial system to real economy corporate clients. Improved climate risk management could therefore actively contribute to a more climate-resilient financial system and global economy. The Network for Greening the Financial System (NGFS) has recently concluded that it is “within the mandates of central banks and supervisors to ensure the financial system is resilient to these risks” (NGFS 2019).

Stringent climate disclosure and climate risk management requirements – based on solid taxonomies – across the financial sector can help to monitor finance flows that contribute to adaptation, and also have the potential to stimulate an increase in investments in climate resilience and direct finance away from investments that increase vulnerability. However, the scale and scope of the effects of sustainable finance regulation are not yet fully understood. Monitoring and impact assessment of sustainable finance measures are central to capitalizing on their potential. However, qualitative assessments and quantitative indicators are at an early stage of development, particularly those concerning adaptation. For example, there is initial comparative research on sustainability taxonomies across different geographies (OECD 2020b; International Platform on Sustainable Finance 2020). This research could be expanded to look into respective coverage of adaptation and disclosure requirements. Furthermore, ongoing research on climate risk integration into mainstreamed financial-sector risk management (NGFS 2020) could be expanded to look into the impacts on adaptation. Finally, the understanding of the link between sustainable finance and implementing Article 2.1c should be further researched to inform and support climate finance tracking. Future Adaptation Gap Reports should look into this in greater detail.