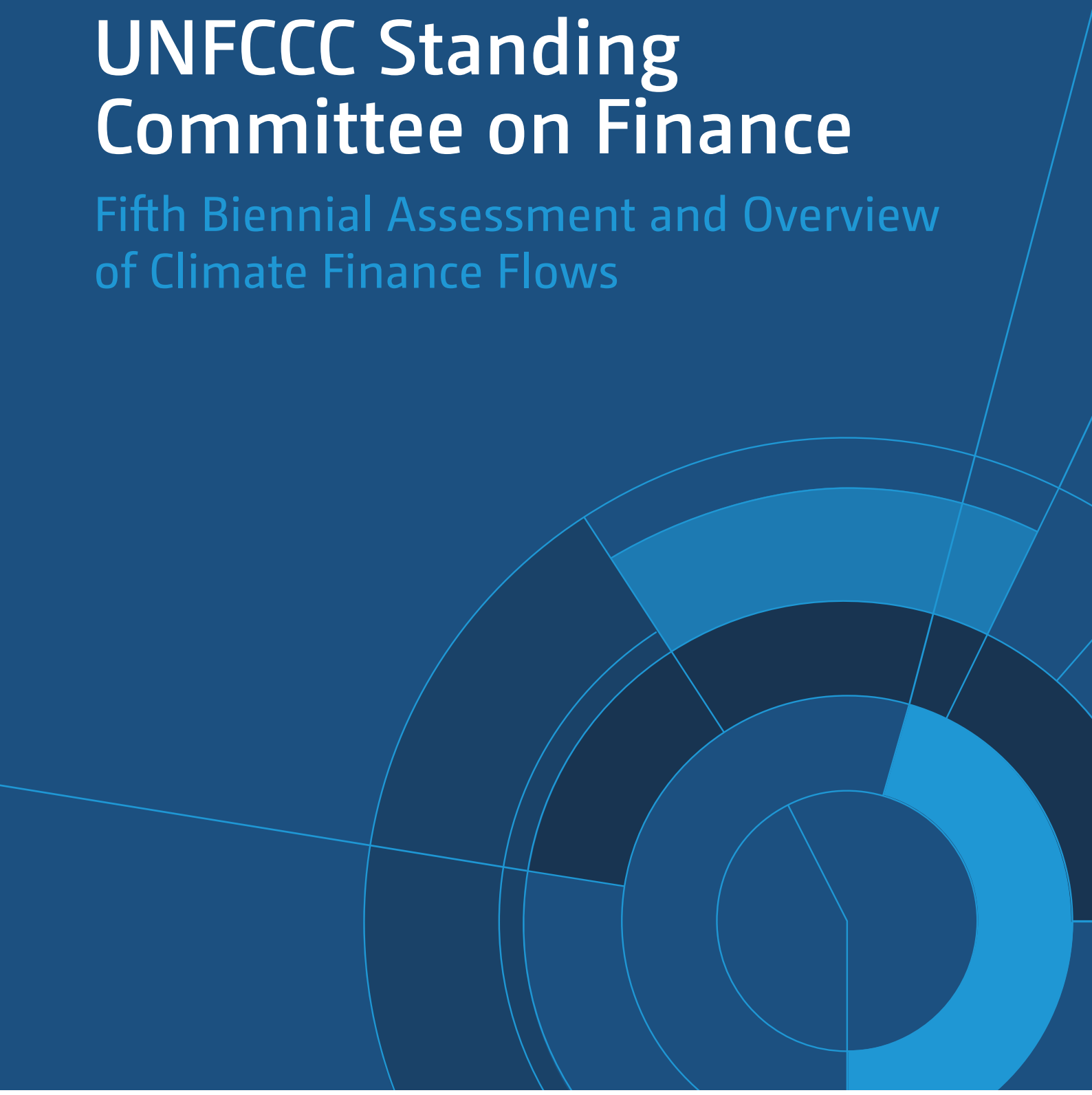
Technical Report

UNFCCC Standing Committee on Finance

Fifth Biennial Assessment and Overview of Climate Finance Flows



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Within the SCF, the fifth BA was prepared under the guidance of the co-facilitators, Vicky Noens and Diann Black-Layne. The report has benefited from inputs and guidance from SCF members in 2022, including Kevin Adams, Abdelrahman Al-Gwaiz, Gabriela Blatter, Zaheer Fakir, Mattias Frumerie, Zerihun Getu Mekuria, Fiona Gilbert, Javier Antonio Gutiérrez Ramírez, Outi Honkatukia, Konstantin Kulikov, Apollonia Miola, Bianca Moldovean, Richard Muyungi, Mohamed Nasr, Ayman Shasly, Toru Sugio, Ali Waqas Malik, Gertraud Wollansky, Ivan Zambrana Flores and Liucai Zhu.

SUMMARY BY THE STANDING COMMITTEE ON FINANCE OF THE FIFTH BIENNIAL ASSESSMENT AND OVERVIEW OF CLIMATE FINANCE FLOWS

I. Context and mandates

1. The fifth BA conducted by the SCF[1] provides an updated overview of climate finance flows up until 2020, highlighting the trends therein, and an assessment of the implications of these flows for international efforts to address climate change. The fifth BA includes:

(a) Information on recent developments in methodologies related to the tracking of climate finance at the international and domestic level, the operational definitions of climate finance in use, and the indicators for measuring the impacts of climate finance as well as emerging methodologies that support tracking the consistency of finance flows (see also the box below);
(b) An overview of climate finance flows from developed to developing countries, and available information on domestic climate finance, cooperation among developing countries[2] and other climate-related finance flows that constitute global climate finance;
(c) An assessment of the key features of climate finance flows, including their composition and purpose; an exploration of the effectiveness, accessibility and magnitude (in the context of broader flows) of climate finance flows; and insights into country ownership and alignment of climate finance flows with the needs and priorities of beneficiaries.

2. Since the first BA was conducted in 2014, the preparation of BAs has been guided by mandates from the COP and the CMA to the SCF.[3] The fifth BA comprises this summary, prepared by the SCF, and a technical report prepared by experts under the guidance of the SCF drawing on information and data from a range of sources. The report was subject to extensive stakeholder input and expert review, but remains a product of the external experts.

Challenges and limitations in collecting and aggregating data on climate finance

The challenges and limitations outlined below need to be taken into consideration when deriving conclusions and policy implications from the fifth BA:

(a) The fifth BA covers 2019–2020, a period during which the coronavirus disease 2019 pandemic may have affected the provision, mobilization and reporting of climate finance flows;
(b) In compiling the estimates of climate finance flows, efforts were made to ensure they are based on activities that are in line with the operational definition of climate finance adopted in the first BA in 2014 and to avoid double counting. Challenges were encountered in aggregating and analysing information from diverse sources with varying degrees of transparency;
(c) In 2019, COP 25 changed the due date for submission of the fifth biennial reports of Annex I Parties (including Annex II Parties), which were to include information on climate finance provided to non-Annex I Parties in 2019–2020, to no later than 31 December 2022.[4] Therefore, during preparation of the fifth BA, the SCF invited Annex II Parties to provide preliminary data on climate finance provided and mobilized for 2019 and 2020. These preliminary data may be subject to change once fifth biennial reports are submitted by Parties by the end of 2022;

1) The SCF assists the COP in exercising its functions with respect to the Financial Mechanism, including in terms of measurement, reporting and verification of support provided to developing country Parties through activities such as the BA. The SCF also serves the Paris Agreement, in line with its functions and responsibilities established under the COP (as per decision 1/CP.21, para. 63), including through the BA.

2) For the purpose of the overview of climate finance in the BA, various data sources are used to illustrate flows from developed to developing countries, without prejudice to the meaning of those terms in the context of the Convention and the Paris Agreement, including but not limited to flows from Annex I Parties and Annex II Parties to non-Annex I Parties and MDBs; flows from OECD members to non-members; flows from OECD Development Assistance Committee members to countries eligible for OECD Development Assistance Committee official development assistance; and other relevant classifications.

3) Decisions 2/CP.17, para. 121(f), 1/CP.18, para. 71, 5/CP.18, para. 11, 3/CP.19, para. 11, 4/CP.24, paras. 4, 5 and 10, and 11/CP.25, paras. 9–10; and decision 5/CMA.2, paras. 9–10.

4) Decision 6/CP.25, para. 3.

(d) In the area of global climate finance, challenges remain in filling data gaps, particularly on private finance for adaptation activities and for mitigation activities in the AFOLU, the waste and the water and sanitation sectors. Methodologies for calculating climate finance based on total cost or incremental cost produce different estimates by activity. This potentially leads to limitations regarding the completeness of data and any interpretation of the relative shares of global climate finance going to different themes or sectors. Energy efficiency estimates do not include data broken down by public or private actors financial instrument, or at country level. Some data sources, such as those for renewable energy, provide activity-level data but may make country- and technology-level assumptions on finance flows to fill data gaps. In compiling data from various sources to aggregate global climate finance flows, approaches that ensure the avoidance of potential overlaps in coverage are taken;

(e) Regarding domestic climate finance, although more countries are developing climate finance reporting systems, time lags in implementation mean data are underreported for 2019–2020. Amounts in relation to public expenditure may refer to ex ante budget allocations or ex post actual expenditures. Furthermore, the climate relevance of activities reported may refer to weighted criteria per activity or to positive activity lists;

(f) Data on international climate finance flows are compiled using various methodologies and have varying interpretations. Flows from developed to developing countries – covering finance provided, mobilized and received – include a mix of data based on disbursements to projects and recipients in the given year or on financial commitments made in the reporting year to activities that may be implemented over several years. Information on South-South cooperation in climate finance flows remains relatively underreported. The classification of data such as by geographical region or by granularity is not uniform across data sources. **As for previous BAs, for the fifth BA, no aggregation of data from different sources for finance flows from developed countries to developing countries was carried out owing to these challenges and limitations.**

The SCF will continue to contribute, through its activities, to the progressive improvement of the measurement, reporting and verification of climate finance in future BAs, to help address these challenges and limitations.

II. Key findings

A. Methodological issues related to transparency of climate finance

3. **New reporting tables will improve the information on climate finance submitted by Parties.** CMA 3 adopted new tables for reporting by Parties under the Paris Agreement on climate finance provided to and mobilized for developing countries and climate finance needed and received by developing countries. The new tables will be used for reporting from the end of 2024 in the biennial transparency reports. A number of improvements will facilitate enhancing the granularity of data reported on climate finance (including sectoral and subsectoral data) and on whether the financial support also contributes to capacity-building or technology transfer, and will provide an option to report on grant-equivalent amounts of climate finance provided and mobilized. In addition, CMA 3 requested the secretariat to establish an interactive web portal to facilitate the availability of information on climate finance reported by Parties.[5]

4. **The coverage and granularity of reporting on climate finance received by non-Annex I Parties is improving.** The proportion of BURs that include information on finance received rose from approximately 60 per cent in 2014 to over 97 per cent in 2021. A total of 70 Parties have provided quantitative information on climate finance received at the project or activity level in tabular format. More Parties are reporting details on financial instruments and implementing entities and on whether finance received is for mitigation or adaptation. Information that is reported the least includes that related to the use, impacts and results of climate finance. Limited capacities and resources to track climate finance received can pose challenges for non-Annex I Parties in reporting this information, and a lack of reporting on the year an activity received climate finance can make it difficult to compile and aggregate data.

5) Decision 5/CMA.3.

5. **Systems to track domestic public climate finance are growing in both developed and developing countries**. Twenty-four jurisdictions have established tracking systems for national budgets, with a further 24 countries having methodologies for tracking climate-relevant budgets in development. Building on previous work carried out as part of the climate public expenditure and institutional reviews of the United Nations Development Programme, many countries are developing guidance on green budgeting frameworks that include climate-relevant activities. Domestic public expenditures on climate change in 2019–2020 amounted to an estimated total of USD 134.2 billion (see chap. II.B below).

6. **Renewable energy, CCU/S, electrified transport, energy efficiency of buildings, and water management and supply are the most common mitigation activities listed across international, regional and national taxonomies or classifications.** An analysis of 12 classification lists or taxonomies related to climate change mitigation activities, including those of MDBs and of regional and national jurisdictions, revealed that mitigation activities that appear most commonly (in more than 75 per cent of lists) are renewable energy, electrified transport, energy efficiency of buildings, water management and supply, and abatement technologies (e.g. carbon dioxide capture and use or storage). Different eligibility criteria are in use for common activities relating to agriculture, waste, transport infrastructure and power generation (the latter including geothermal power, hydropower, bioenergy and efficiency improvements). Less common activities (in 25–75 per cent of lists) include gas-fired power generation, waste-to-energy processes, sustainable logging, and information and communication technology infrastructure. Of the uncommon activities (less than 25 per cent of lists), notable are nuclear power generation, aviation and mining. Of the 12 taxonomies of countries and institutions reviewed, 10 make use of exclusion lists across mitigation sectors. For adaptation, most taxonomies refer to process-based screening methods rather than an activity list owing to adaptation activities being specific to a given local environment or context. The evaluation baseline for adaptation screening processes is typically based on environmental and climate risk and vulnerability assessments or national, regional or global resilience and biodiversity standards and codes. In addition, 7 of the 12 analysed taxonomies apply the 'do no significant harm' principle (to other environmental objectives) when assessing the eligibility of activities.

7. **Climate finance providers are advancing more indicators and metrics to measure what climate finance is achieving on the ground.** Multilateral climate funds (including the operating entities of the Financial Mechanism), multilateral institutions and national development finance institutions are in the process of developing or have already developed frameworks for measuring outputs, outcomes and impacts of climate finance interventions, with the granularity of indicators and metrics increasing. Multilateral climate funds, in their results management frameworks, capture information on 141 indicators, 48 of which are core indicators, and most multilateral institutions, as well as bilateral contributors, use a similar set of mitigation and adaptation indicators. Common indicators identified for mitigation are greenhouse gas emissions reduced (in t CO_2 eq) and sector-specific metrics for the energy, transport and land-use sectors. For adaptation, common indicators in use are the number of beneficiaries; the hectares of land protected; and the number of policies, projects, plans, systems or assets that foster climate resilience. An ongoing challenge is defining and reporting on outcome and impact indicators that enable the long-term or indirect effects of climate finance interventions (e.g. job creation or the increased climate resilience of beneficiaries) to be captured as opposed to measuring direct project outputs (e.g. number of beneficiaries or number of early warning systems installed). Methodologies for outcome measurement are at earlier stages of development by climate finance providers than those for output measurement.

8. **Increasing efforts are being made to enhance the transparency and comparability of approaches for tracking consistency with low-emission and climate-resilient development pathways**. Methodological developments in this area, particularly from the private financial sector and supervisory authorities, are in a dynamic growth phase. The aim of these initiatives and efforts is to offer discussion of and guidance on appropriate choices of emission pathways and scenarios, emission metrics and measures, geographical and sector coverage, the role of carbon offsets, the formulation and implementation of transition plans and governance frameworks, and for aggregate Paris Agreement alignment indicators. In the financial sector, a focus of current approaches on decarbonization and net zero targets, rather than on fostering climate change adaptation and resilience, continues to be observed. Since the fourth BA, initiatives that seek to increase the transparency and understanding of approaches for tracking consistency have emerged – notable among these are the United Nations High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities and the Expert Peer Review Group under the Race to Zero campaign. In addition, various private and public sector reports that assess alignment approaches to the Paris Agreement continue to be published (see SCF documents on work under this area for further information).[6]

B. Overview of climate finance flows in 2019–2020

9. **Global climate finance flows were 12 per cent higher in 2019–2020 than in 2017–2018, reaching an annual average of USD 803 billion, with the trend being driven by an increasing number of mitigation actions in buildings and infrastructure and in sustainable transport, as well as by growth in adaptation finance.** The growth in finance flows in 2019–2020 was largely driven by increased investment in the energy efficiency of buildings (USD 34 billion increase), sustainable transport (USD 28 billion increase) and adaptation finance (USD 20 billion increase). While overall investment in clean energy systems remained stable, public energy investment increased its share of total finance flows. Adaptation finance increased by 65 per cent, from an annual average of USD 30 billion in 2017–2018 to USD 49 billion in 2019–2020, driven mainly by financing from bilateral and multilateral development finance institutions. Figure 1 provides a breakdown, by sector, of global climate finance flows in 2017–2020 and figure 2 provides an overview of global climate finance and finance flows from developed to developing countries in 2019–2020.

10. The continued decline in renewable energy technology costs in 2019–2020 compared with those in 2017–2018 meant that renewable energy investments, despite the economic slowdown caused by the coronavirus disease 2019 pandemic, remained close to the record high in 2017. Technology cost decreases in 2019–2020 compared with 2018 for onshore wind (13 per cent), offshore wind (9 per cent) and solar photovoltaic (7 per cent) emphasized how greater impacts are now achieved for each new dollar invested. Aggregate investments in new renewable energy generation projects made up the largest segment of global climate finance. The declining costs of renewable energy alongside the maintenance of high levels of investment indicates that the overall deployment of renewable energy technologies has increased in real terms.

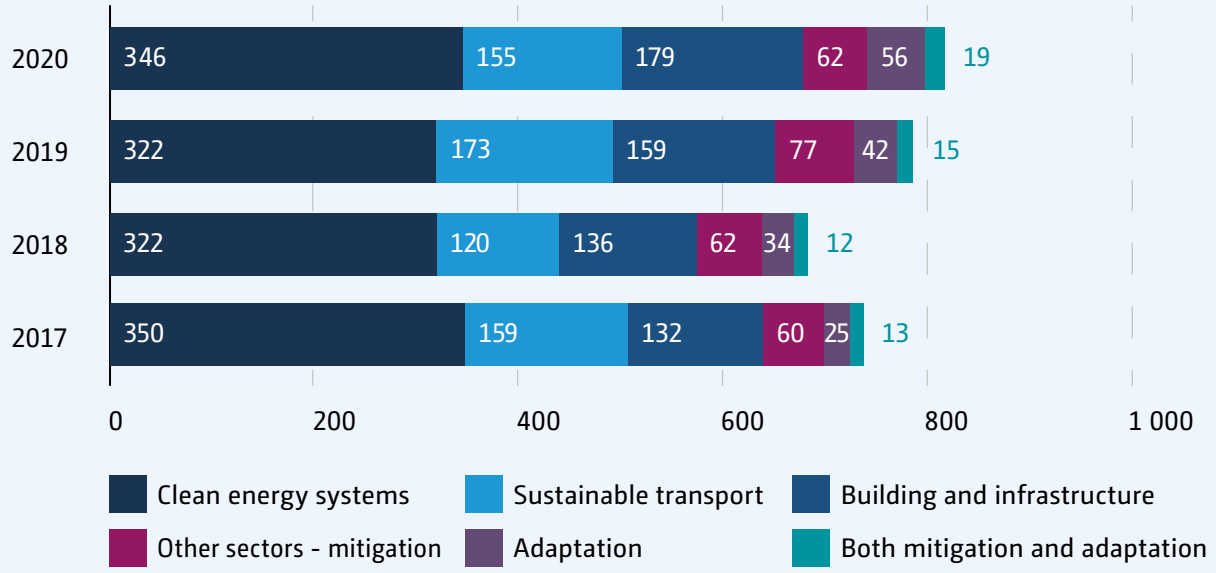
11. **Government pandemic recovery packages included up to USD 513 billion of spending allocated to green or climate-related measures (21 per cent of the total USD 2.5 trillion) up until the end of 2020**. Approximately 76 per cent (USD 392 billion) of climate-related recovery spending was announced by developed countries and the remainder by developing countries, particularly those in Asia. Data from climate budget tagging systems and other sources indicated domestic public climate finance amounted to USD 134 billion per year in 2019–2020, half of which was in 21 developing countries and the other half in 6 developed countries or jurisdictions.

12. **Public climate finance flows from developed to developing countries increased by between 6 and 17 per cent, depending on the source, in 2019–2020 compared with 2017–2018.** Preliminary data from Annex II Parties on climate-specific finance provided for 2019–2020 showed that it increased by 6 per cent from 2017–2018 to USD 40.1 billion per year on average. Most of the climate-specific finance (79 per cent) was channelled through bilateral, regional and other channels, with the remainder consisting of contributions or inflows to multilateral climate funds and multilateral financial institutions.

6) FCCC/CP/2022/8/Add.3–FCCC/PA/CMA/2022/7/Add.3 and FCCC/CP/2022/8/Add.4–FCCC/PA/CMA/2022/7/Add.4.

Figure 1

Global climate finance flows in 2017–2020 by sector
(Billions of United States dollars)



13. Mitigation finance constituted the largest share of climate-specific financial support through bilateral, regional and other channels, at 57 per cent (USD 17.9 billion). However, the share of adaptation finance continued to increase – from 20 per cent (USD 6.4 billion) in 2017–2018 to 28 per cent (USD 8.9 billion) in 2019–2020 – as it grew at a higher rate than mitigation finance. In 2019–2020, adaptation finance through bilateral, regional and other channels grew 40 per cent while mitigation finance decreased by 13 per cent. The share of cross-cutting finance, which serves both mitigation and adaptation purposes, stagnated at 14–15 per cent (USD 4.4 billion and USD 4.7 billion) in 2017–2018 and 2019–2020, respectively.

14. UNFCCC funds and multilateral climate funds approved a combined USD 2.9 billion and USD 3.5 billion for climate change projects in 2019 and 2020 respectively. The annual average for 2019–2020 (USD 3.2 billion) represents an increase of 21 per cent compared with the annual average for 2017–2018, attributable primarily to increases in project approvals by the GEF Council, the GCF Board and the Clean Technology Fund. In terms of inflows, the GEF raised USD 5.3 billion from 29 contributors under the GEF-8 replenishment in 2022 for the programming period 2022–2026, an increase of more than 30 per cent compared with the amount raised under GEF-7. Under GEF-8, USD 852 million was allocated to the climate change focal area for mitigation, an increase of 6 per cent compared with the amount allocated under GEF-7. The Adaptation Fund registered USD 356 million in new pledges from 16 donors at COP 26, which is more than triple the amount it raised in 2020 (USD 116 million).

15. MDBs provided USD 46 billion and USD 45 billion in climate finance to developing and emerging economies in 2019 and 2020 respectively. The annual average of USD 45.9 billion in 2019–2020 represents a 17 per cent increase compared with the 2017–2018 amount. The attribution of these flows from developed to developing countries is calculated at USD 29.3–30.5 billion in 2019 and USD 28.2–33.2 billion in 2020.

16. Data on private climate finance flows to developing countries remain challenging to compile and assess. There is a methodological difference between measuring private finance for climate action in general and measuring climate finance mobilized through public interventions. With existing methodologies and approaches, tracking private finance mobilized by technical assistance or policy interventions is difficult. Further, data sources often do not specify whether private funds are sourced from private sector entities in developed or developing countries and whether these funds are received by public or private sector entities

from developed or developing countries. OECD estimates that private climate finance mobilized by developed countries through bilateral and multilateral channels amounted to USD 14.4 billion and USD 13.1 billion in 2019 and 2020 respectively. The annual average of USD 13.8 billion represents a 6 per cent decrease compared with the annual average of USD 14.6 billion in 2017–2018.

17. The increase in submissions of BURs from non-Annex I Parties resulted in a greater amount of information on finance being available for the fifth BA than for previous BAs. However, time lags in data availability for reporting made it difficult to compile updated, complete information on finance received in 2019–2020. Of the 79 Parties that had submitted BURs as at 30 June 2022, 28 included some information on climate finance received in 2019 or 2020 in their reports. In total, USD 10.0 billion was reported as received for projects starting in 2019 and USD 1.6 billion for projects starting in 2020. Approximately 81 per cent of the 2019 amount was specified as coming from bilateral institutions in developed countries or multilateral institutions and 15 per cent from institutions based in developing countries; the origin of the finance was unspecified for the remaining amount.

18. **Trends in South-South climate finance flows varied depending on the source of finance.** Finance commitments from International Development Finance Club members based in non-OECD countries to projects in other non-OECD countries amounted to USD 1.7 billion and USD 2.2 billion in 2019 and 2020 respectively, which represented a substantial decrease from the USD 4.1 billion committed in 2018. The Asian Infrastructure Investment Bank and the New Development Bank continued to increase finance flows, and MDB-attributed financing from non-Annex II Parties increased from around USD 9.1 billion in 2017–2018 to an annual average of USD 11.0 billion in 2019–2020. Investments in renewable energy and sustainable transport projects decreased from an annual average of USD 3.2 billion in 2017–2018 to USD 2.6 billion in 2019–2020. Overall, the availability of data on and the coverage of climate finance flows between developing countries remain limited.

Figure 2

Climate finance flows in 2019–2020
(Billions of United States dollars, annualized)

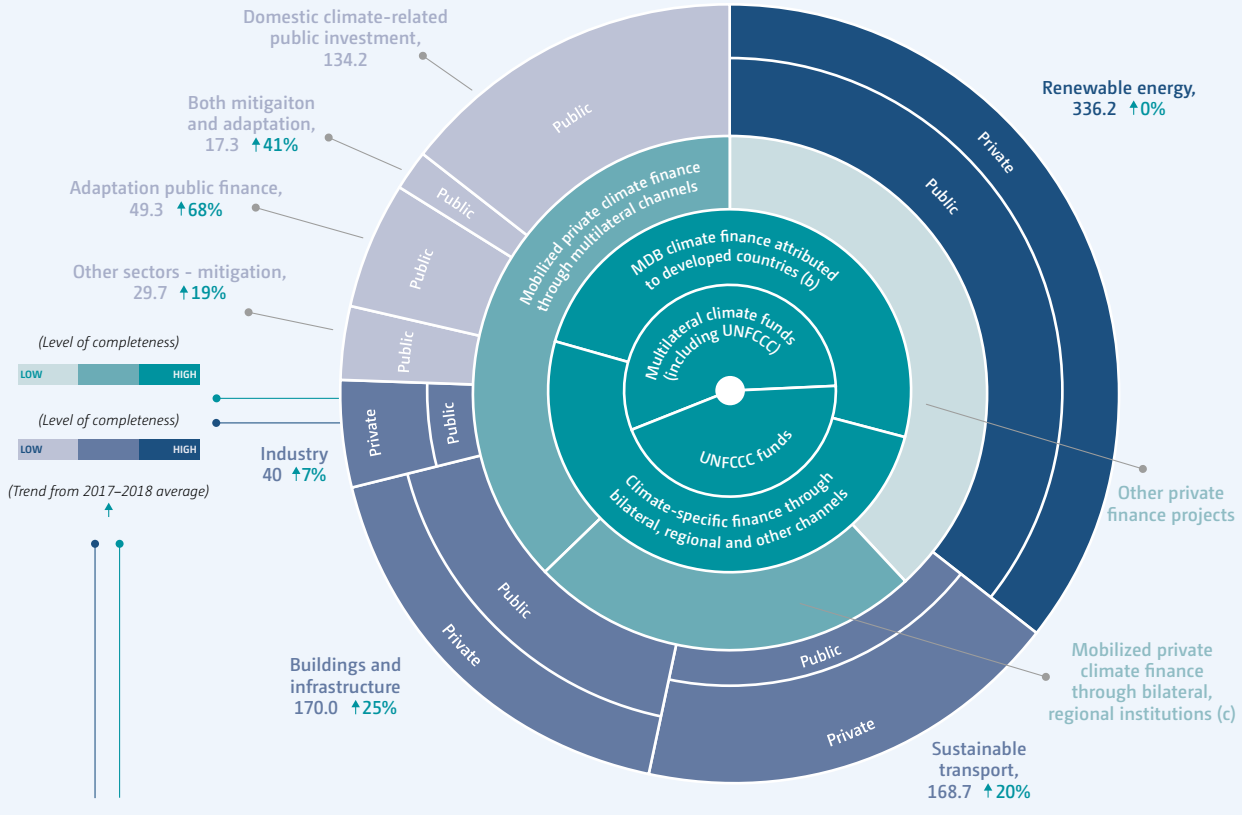


Figure 2 (continued)

Climate finance flows in 2019–2020
(Billions of United States dollars, annualized)

			2019	2020	Sources of data and relevant section
Global total flows	Renewable energy		325.1	347.3	Section 2.2.3 CPI 2022 based on multiple sources
		Public	108.2	115.7	
		Private	216.9	231.6	
	Sustainable transport		175.2	162.2	Section 2.2.4 IEA 2021b, CPI 2022 based on multiple sources
		Public	112.1	85.8	
		Private	63.1	76.4	
	Buildings and infrastructure		160.0	180.0	Section 2.2.5 IEA 2021b, CPI 2022 based on multiple sources
		Public	26.0	40.0	
		Private	134.0	140.0	
	Industry		45.0	35.0	Section 2.2.6 IEA 2021b, CPI 2022 based on multiple sources
		Public	9.0	4.9	
		Private	36.0	30.1	
	Other sectors - mitigation[a]		32.2	27.1	Section 2.2.7 and 2.2.8 CPI 2022 based on multiple sources
	Adaptation public finance		42.4	56.2	Section 2.2.9 CPI 2022 based on multiple sources
	Both mitigators and adaptation		15.3	19.3	CPI 2022, based on multiple sources
	Domestic climate-relate public investment		134.2	134.2	Section 2.3 Country level reporting, BURs, CPEIRs, various government reports, CPI
Flows to non-Annex I Parties	UNFCCC funds		2.2	2.9	Section 2.5.2 Fund financial reports, CFU
	Multilateral climate funds (including UNFCCC)		2.9	3.5	
	Climate-specific finance through bilateral, regional and other channels		31.9	31.4	Section 2.5.1 Preliminary data from Annex II Parties, subject to change
	MDB climate finance attributed to developed countries[b]		30.5	33.2	Section 2.5.2 OECD 2022a
	Mobilized private climate finance through multilateral channels		8.6	8.0	Section 2.5.4 OECD 2022a
	Mobilized private climate finance through bilateral, regional institutions[c]		5.8	5.1	
	Other private finance projects[d]		7.3	9.6	Section 2.5.4 CPI 2022 based on multiple sources

Notes: (1) Figure note (a): other mitigation investments include industry, waste and wastewater, information and communications technology and other cross-sectoral investments; (2) Figure note (b): includes investments from amounts listed by sector above that are discounted when calculating the global aggregate to avoid double counting; (3) Figure note (c): flows are from developed to developing countries, see section 2.5.2 of the technical report of the fifth BA for further information; (4) Figure note (c): estimates include private finance mobilized through public interventions by developed countries; (5) Figure note (d): this includes private finance in addition to finance mobilized through bilateral and multilateral channels and institutions.

C. Assessment of climate finance flows

19. **The collective goal of jointly mobilizing USD 100 billion per year by 2020 to address the needs of developing countries in the context of meaningful mitigation action and transparency on implementation was not fully met in 2020.**[7]

20. **More public finance flows from developed to developing countries are for mitigation than for adaptation, yet adaptation finance has grown significantly through bilateral channels and MDBs.** In 2019–2020, on average, mitigation had a 57 per cent share (USD 17.9 billion) of bilateral climate finance, a 37 per cent share (USD 1.2 billion) of multilateral climate fund climate finance and a 62 per cent share (USD 23.6 billion) of MDB climate finance, while adaptation had corresponding shares of 28, 19 and 36 per cent (USD 9.0 billion, USD 605 million and USD 13.8 billion respectively). Since 2017–2018, adaptation finance from bilateral channels has grown by 39 per cent (USD 2.5 billion) and from MDBs by 48 per cent (USD 6 billion), while adaptation finance from multilateral climate funds has remained constant. The share of public climate finance flows contributing to both adaptation and mitigation from multilateral climate funds rose to 35 per cent (USD 1.1 billion) in 2019–2020 from 27 per cent (USD 785 million) in 2017–2018. When assessing the balance of finance between mitigation and adaptation, it is worth considering different approaches to measuring climate finance flows and considering whether data are adjusted by the financial instrument providing the resources. Information on face value financial volume can be complemented with information on grant-based equivalent financial volume (as is done by the GCF to assess its mitigation and adaptation split). The number of interventions and information on how different institutions allocate finance can also help inform discussions on balance.

21. **Public adaptation finance is predominantly delivered through grants while public mitigation finance predominantly takes the form of loans.** In 2019–2020, grants accounted for 57 and 99 per cent (USD 8.5 billion and USD 1.2 billion) of the face value of bilateral adaptation finance and of adaptation finance from multilateral climate funds respectively, compared with 64 and 95 per cent (USD 5.9 billion and USD 1.1 billion) respectively in 2017–2018. In 2019–2020, 15 per cent of adaptation finance flowing through the MDBs was grant-based (USD 2.1 billion) (see figure 3). Mitigation finance remains less grant-based in nature, with 31 per cent of bilateral flows (USD 4.6 billion), 30 per cent of multilateral climate fund approvals (USD 865 million) and less than 5 per cent of MDB investments (USD 1.1 billion) taking the form of grants.

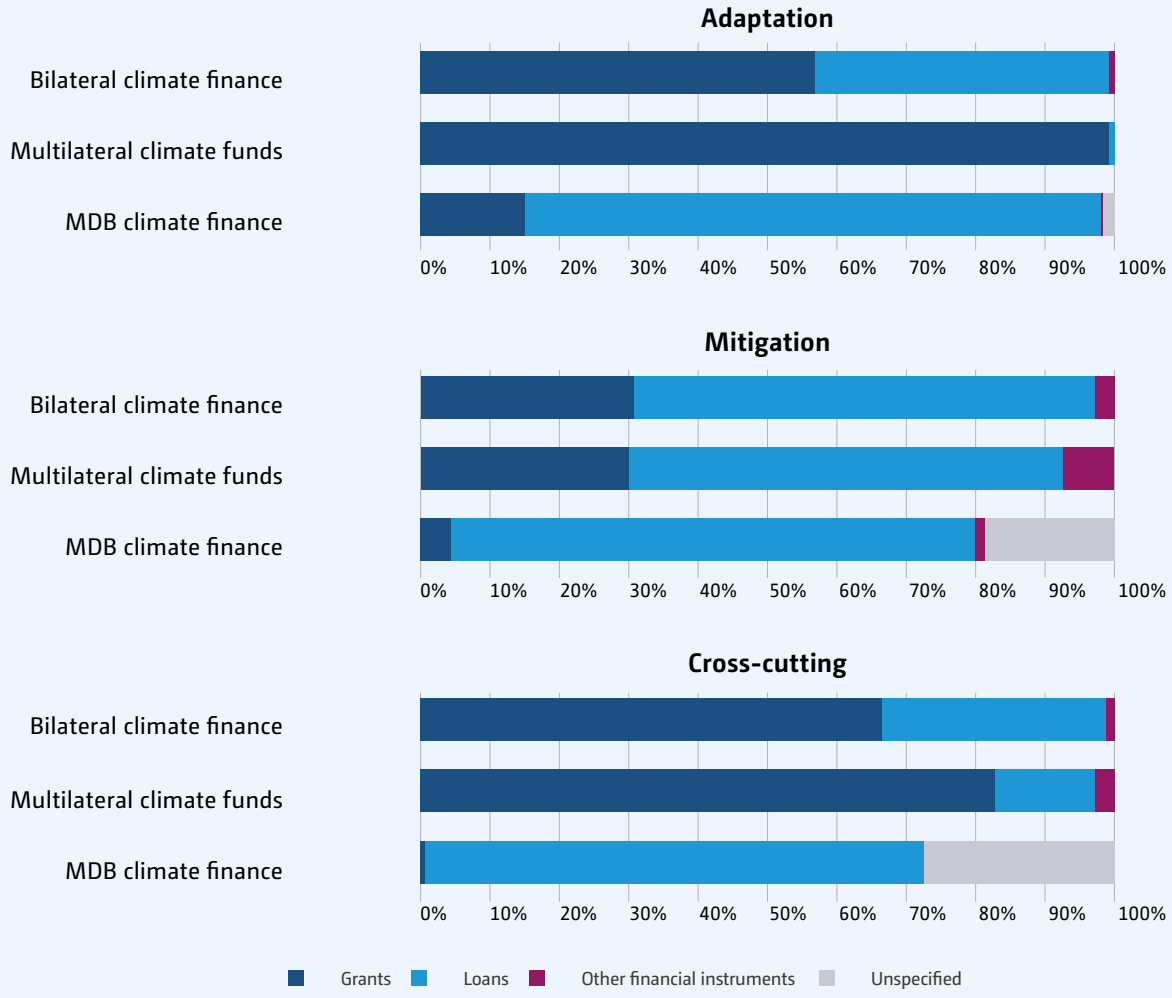
22. **Reflecting their geographical and population sizes, Asia and Africa are the regions receiving the largest total amounts of public climate finance.** Asia received the most climate finance for adaptation and mitigation projects and programmes from bilateral channels, multilateral climate funds and MDBs, with an average of 36 per cent of the total climate finance provided. Asia was followed by Africa (average of 27 per cent) and Latin America and the Caribbean (average of 16 per cent). The remainder was shared among developing countries of Eastern and Southern Europe and Oceania.[8] On a per capita basis, the less populous developing country regions Oceania and Eastern and Southern Europe received the largest amounts of climate finance (USD 5.1–49.5 and USD 1.0–84.2 respectively), followed by Latin America and the Caribbean (USD 0.8–10.7), Africa (USD 0.6–8.4) and Asia (USD 0.2–4.0). These data do not, however, consider differing costs for climate change solutions in different regions, adjust for purchasing power or address the relative scale of climate vulnerabilities or emission reduction potential.

7) For more information see document FCCC/CP/2022/8–FCCC/PA/CMA/2022/7.

8) The fifth BA, for the first time, presented a geographical breakdown of public bilateral sources, multilateral climate funds and MDBs with a unified regional classification in accordance with the standard country or area codes for statistical use (M49) of the United Nations Statistics Division. Only non-Annex I Parties were included in the country grouping analysis.

Figure 3

Public climate finance flows from developed to developing countries in 2019–2020, by theme, source and financial instrument

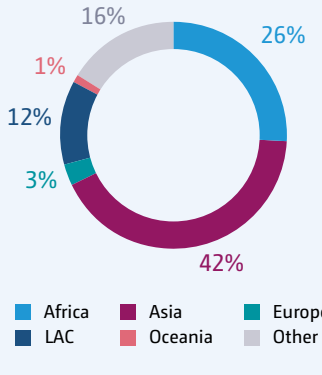


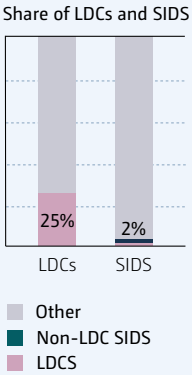
Source: Analysis of OECD Development Assistance Committee Creditor Reporting System statistics and Climate Funds Update.

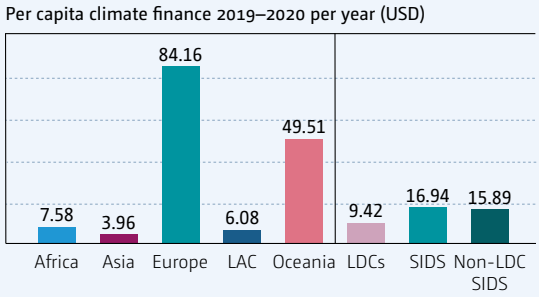
Figure 4

Geographical distribution of climate finance by volume and on a per capita basis in 2019–2020

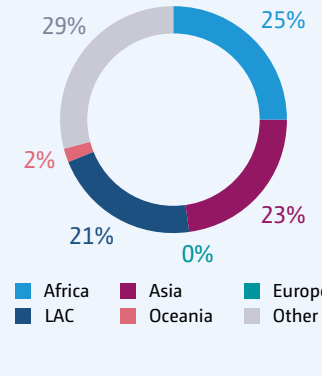
Bilateral concessional finance - USD 39.0 billion per year 2019–2020

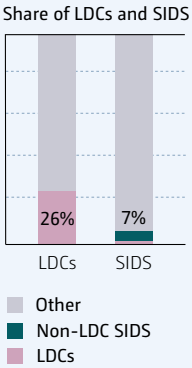


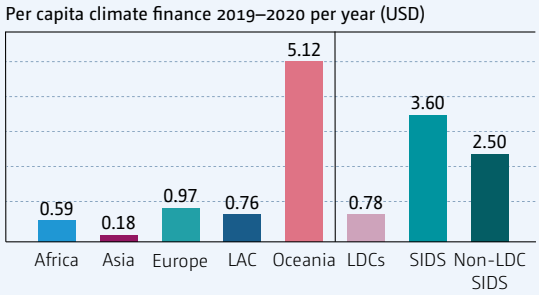




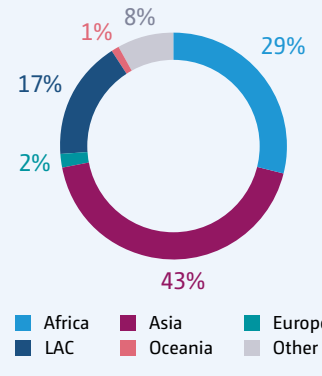
Multilateral climate funds- USD 3.1 billion per year 2019–2020

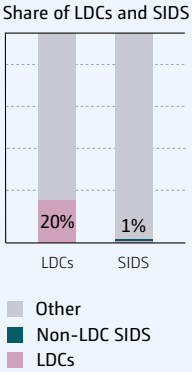


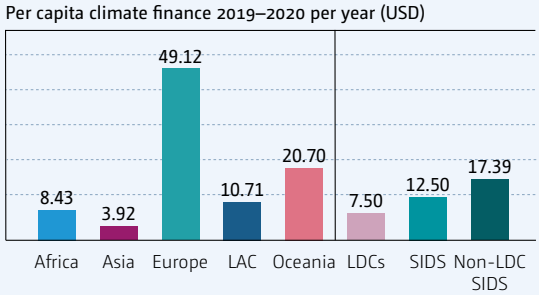




Multilateral development banks - USD 38.3 billion per year 2019–2020







23. **Support provided to the LDCs and SIDS as a proportion of overall public climate finance flows remained relatively stable compared with previous years.** In 2019–2020, funding provided to the LDCs accounted for 25 per cent of bilateral flows, 26 per cent of approvals from multilateral climate funds and 20 per cent of MDB climate finance. While bilateral channels and MDBs increased their adaptation finance commitments to the LDCs from 2017–2018 to 2019–2020, multilateral climate funds decreased their adaptation finance while doubling their mitigation finance from 2017–2018 to 2019–2020.

24. In 2019–2020, funding provided to the SIDS accounted for 3 per cent of bilateral flows, 7 per cent of approvals from multilateral climate funds and 2 per cent of MDB climate finance. International public climate finance flows to SIDS are predominantly adaptation focused. Grant finance plays a strong role in SIDS, ranging from 43 to 89 per cent across the channels analysed. The LDCs and SIDS have specific vulnerabilities and needs, which are partially reflected in the climate finance provided to them on a per capita basis. Per capita climate finance reached USD 3.6–16.9 for SIDS and USD 0.8–9.4 for the LDCs in 2019–2020 (see Figure 4).

25. **Between 2016 and 2020, private climate finance mobilized by developed countries for developing countries through bilateral and multilateral channels totalled USD 66.8 billion**. Of this amount, 86 per cent was mobilized for mitigation actions, particularly in the energy sector (53 per cent of total mobilized finance in the five-year period). Private finance mobilized for adaptation actions targeted industry, mining and construction. Private climate finance was mobilized through number of mechanisms, dominated by direct investment in companies and special purpose vehicles, which together accounted for 44 per cent of the total. MDBs mobilized 57 per cent of total estimated private climate finance, followed by bilateral providers and multilateral climate funds. SIDS and the LDCs received 1 and 8 per cent respectively of total private finance mobilized.

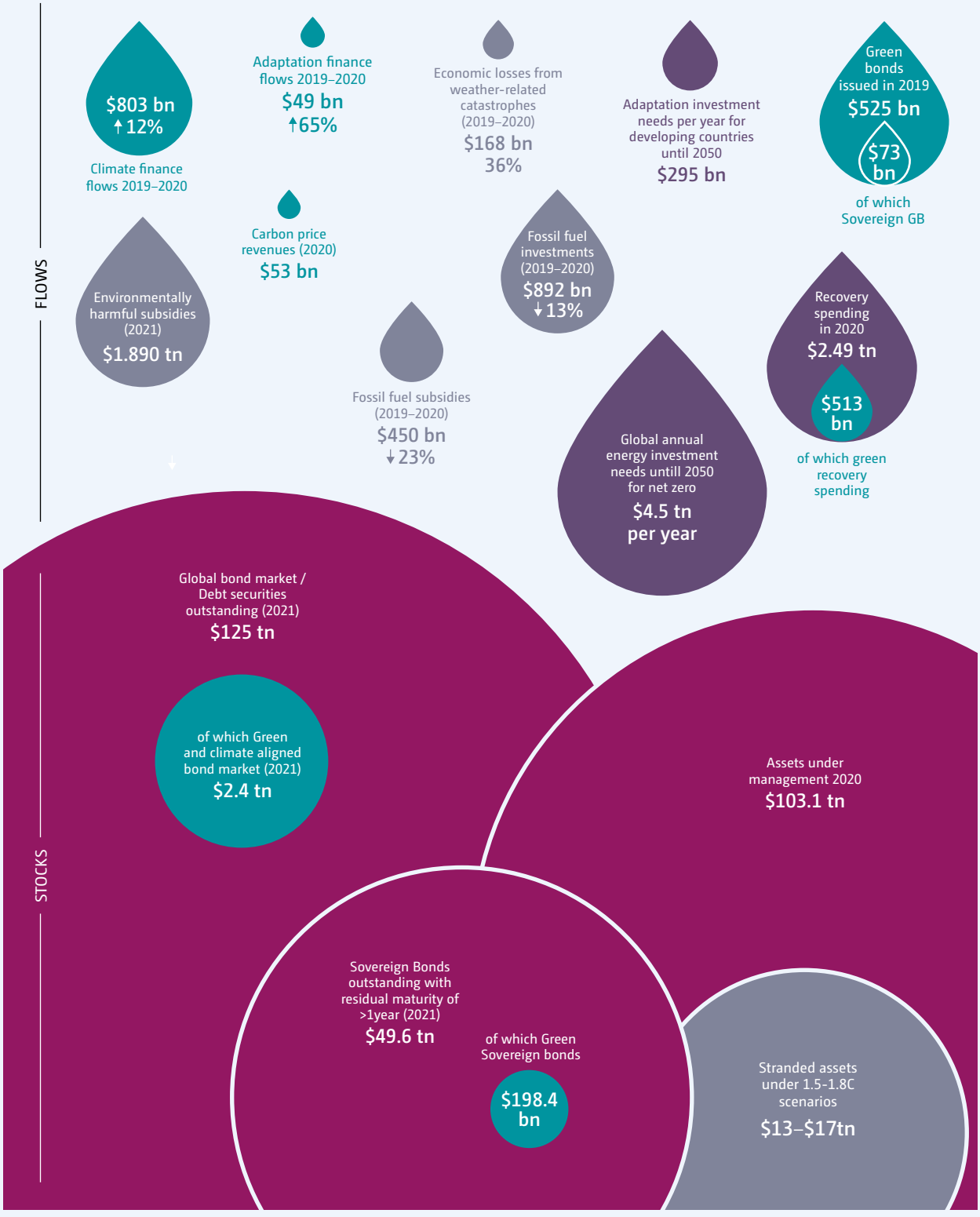
26. **Accreditation to multilateral climate funds increased by 36 per cent in 2019–2020, driven by a rising number of national and regional institutions being accredited; however, while national and regional accredited entities now account for more than half of all accredited entities, they accounted for only 10 per cent of financial outflows in 2019–2020.** Climate finance readiness and project preparation initiatives play a key role in facilitating access to climate finance. The number of partners through which developing countries can access multilateral climate funds continues to grow rapidly, driven by GCF accreditation. Efforts are under way to enhance access beyond national and regional entities, by supporting access at the local level.

27. **Interest in country platforms that facilitate country ownership of climate finance flows and their alignment with national priorities is emerging.** Country ownership is a fundamental factor in the delivery of effective finance but is also a broad concept encompassing active stakeholder engagement, links between climate policies and economic growth and development policies, and national spending and tracking systems for climate finance. Recent studies drawing on experience from development cooperation suggest that to be successful in stimulating climate action, country platforms need to secure and maintain political will, coordinate public finance from multiple channels and harness private investment. Also important is that country platforms are tailored to country needs and priorities.

28. **Reported expected and actual results from climate finance providers indicate an increase in portfolio-level emission reductions and number of beneficiaries reached.** Multilateral climate funds reported a combined 96.3 Mt CO_2 eq emission reductions achieved and 54.8 million beneficiaries reached through their interventions. Expected results from the portfolios of approved or currently implemented projects are orders of magnitude higher, for example, 1 980 Mt CO_2 eq emission reductions and 588 million direct and indirect beneficiaries in the GCF portfolio alone. While multilateral climate funds are increasing their transparency and reporting under their results frameworks more regularly, they face persistent challenges in impact measurement, namely, that direct project output indicators are easier to define that outcome indicators and that reporting on actual results is largely dependent on the reporting capacity of implementing entities. MDBs present mitigation and adaptation outcomes to varying degrees against their results and impact frameworks, often for their entire portfolios rather than on climate-specific support, while bilateral contributors have differing approaches to impact reporting. In general, it takes at least several years before being able to report on outcomes and impacts of approved and implemented projects supported by climate finance, and this time lag poses challenges for comprehensive portfolio impact reporting.

Figure 5

Global climate finance in the context of broader finance flows, opportunities and costs



Note: (1) Data points are provided to place climate finance in context and do not represent an aggregate or systematic view; (2) All flows are global and annual averages for 2019–2020 unless otherwise stated; (3) The representation of stocks that overlap is not necessarily reflective of real-world overlaps. The flows are not representative of all flows contributing to the stocks; (4) Climate finance flows are those represented in section B of the summary and recommendations and chapter 2 of the fifth BA technical report. (5) For data sources, see chapter 3 of the fifth BA technical report.

29. **The way in which gender issues are addressed under the governance and operational frameworks of the operating entities of the Financial Mechanism and multilateral climate funds has improved.** However, the development of systems for monitoring and reporting on gender-related outcomes at the project and portfolio level is still in progress, as is the building of capacity of the operating entities to implement gender-responsive policies. This suggests work remains to be done on strengthening gender mainstreaming efforts and the availability of gender-disaggregated and other gender-related data to evaluate outcomes.

30. **Global climate finance flows are small relative to the overall needs of developing countries.** Global climate finance in 2019–2020 was estimated to be USD 803 billion. This amount is 31–32 per cent of the annual investment needed for the global temperature rise to follow a well below 2 °C or a 1.5 °C pathway. This level of climate finance is also below what one would expect in the light of the investment opportunities identified and the cost of failure to meet climate stabilization targets.

31. More can be done to ensure that finance flows are consistent with climate change objectives. Such efforts include the reform of fiscal policies, financial policies and regulations and the integration and management of climate risk for financial decision-making processes by private actors and the financial sector, with care taken in all circumstances to manage a just and equitable transition for all.

32. Given the scale and speed of effort needed to align finance flows with low-emission, climate-resilient development pathways, it is critical to consider climate finance flows within the context of broader finance flows (see figure 5). A sole focus on positive climate finance flows will be insufficient to meet the overarching purpose and goals of the Paris Agreement. This does not mean that broader finance flows must all have explicit beneficial climate outcomes, but it does mean that they must integrate climate risks into decision-making and avoid increasing the likelihood of negative climate outcomes.

33. Across the key areas of climate finance identified through the recommendations arising from previous BAs, the findings of the fifth BA reveal both progress and continuing challenges, as presented in the table below.

Table

Following up on recommendations from previous BAs: progress and challenges

Area of recommendation[a]	Progress	Challenges
Improve transparency of reporting of climate finance provided and received (a), (b), (c), (d)	Improved reporting tables agreed for implementation in 2024 Increasing number of developing countries reporting on climate finance received	Limited capacities and resources to track climate finance received and report on the impacts and outcomes of climate finance
Improve data coverage, granularity and tracking of flows from all sources, including developing country Parties, international financial institutions and private finance data providers (e), (f), (g), (h)	Increasing data coverage for financing of electric vehicles, climate finance mobilized and domestic climate finance reporting	Scarcity of data on energy efficiency, the AFOLU sector, buildings, industrial sectors and adaptation, in particular from the private sector, as well as on South-South cooperation
Align climate finance with national needs, plans, climate change frameworks and priorities, enhancing country ownership (j), (l), (p)	Significantly increased number of direct access entities and national implementing entities and other accredited entities of multilateral climate funds Growing number of national investment plans and strategies to target climate finance Publication of needs determination report	Finance flows channelled through regional and national entities remain low Lack of support for local-level access beyond national or regional entities Methodological, capacity and data limitations in development of project pipelines

Table (continued)

Following up on recommendations from previous BAs: progress and challenges

Area of recommendation[a]	Progress	Challenges
Balance funding for mitigation and adaptation **(l)**	Increase in adaptation finance of 39 and 48 per cent through bilateral channels and MDBs respectively since 2017–2018 Achievement by GCF of a 50:50 balance in mitigation and adaptation on a grant-equivalent basis Most adaptation finance from bilateral channels and multilateral climate funds now in the form of grant finance	Difficulties in costing adaptation needs to inform assessments of balance Different accounting approaches applied for mitigation and adaptation finance to inform assessment of balance
Encourage the uptake of available resources to strengthen institutional capacities for programming climate action and tracking climate finance **(k), (l)**	21 dedicated access, readiness and project preparation support modalities offered by multilateral climate funds 48 identified national climate funds in countries that are not OECD members 48 jurisdictions with domestic climate finance tracking systems, and 35 taxonomies formulated by 30 jurisdictions and 5 international or national organizations	Different funding requirements of diverse climate finance actors Time lag in reporting from nascent domestic climate finance tracking
Improve tracking and reporting of the impacts of climate finance, including the incorporation of 'climate proofing' and climate resilience measures in line with new scientific information **(n), (o)**	Increased granularity of impact measurement frameworks (three multilateral climate funds have adopted revised frameworks since 2018) Wide availability of expected results reporting Initial development of transformational change indicators	Limited ex post results data in reporting chains Limited availability of climate finance specific portfolio-level impact reporting from MDBs and bilateral sources Trade-offs between results measurement comparability and context-specific impact measurement (including at the country, local and sectoral level) Limited approaches for measuring transformational change
Improve tracking and reporting of gender-related aspects of climate finance **(m)**	Gender mainstreaming in governance and operational frameworks of climate finance contributors (all multilateral climate funds with revised frameworks or policies since 2018)	Limited implementing capacities and availability of gender-disaggregated data on outcomes and impacts
Update data sets and information relevant to Article 2, paragraph 1(c), of the Paris Agreement **(i), (q)**	Global proliferation of private and public sector actor approaches for aligning finance flows	Lack of data on implementation of Paris alignment approaches and on common standards in approaches to prevent greenwashing – this complicates evaluation of approaches

[a] Letters in parentheses denote the relevant recommendation from para. 51 of the summary and recommendations of the third (2018) BA (available at https://unfccc.int/BA-2018).
No recommendations were included in the fourth (2020) BA.

III. Recommendations

34. The SCF invites the COP and the CMA to consider the recommendations presented in chapter III below. The three sets of recommendations relate to chapters II.A–C above.

A. Methodological issues related to climate finance flows

35. Recommendations on methodological issues related to climate finance flows are as follows:

(a) *Encourage* Parties to report on climate finance provided, mobilized, needed and received in the new common tabular format for their first biennial transparency report to the highest level of granularity possible, taking into account the flexibility for those countries that need it in the light of their capacities, in accordance with the modalities, procedures and guidelines of the enhanced transparency framework under the Paris Agreement, in particular to report annual activity-level data;

(b) *Encourage* Parties to adopt or follow green- and climate-budgeting approaches and improve or establish climate finance tracking systems at the domestic level to inform their implementation of nationally determined contributions and adaptation communications;

(c) *Encourage* climate finance providers and recipients to report climate finance provided, mobilized, needed and received at both the activity- and the country-level;

(d) *Encourage* climate finance and data providers to further improve the data and the methodologies necessary for tracking private finance mobilized by developed countries, and others in a position to do so, through technical assistance, policy support and other public interventions for climate action in developing countries;

(e) *Encourage* Parties and climate finance providers to enhance their methodologies for measuring and reporting on climate finance results and impacts;

(f) *Encourage* Parties and climate finance providers to enhance their reporting on the qualitative aspects of climate finance, including policies, approaches and other factors related to strong enabling environments and delivering results;

(g) *Encourage* Parties through the enhanced transparency framework and taking into account the work of the SCF on definitions of climate finance, to better track climate finance provided, mobilized, needed and received;

(h) *Encourage* climate finance providers and data aggregators, in keeping with social inclusion and the potential value of information and data from the informal private sector and from local and indigenous communities, as well as noting the usefulness of proxy data, to incorporate into their systems the tracking of climate finance flows and impacts relating to these stakeholders;

(i) *Encourage* climate finance providers to enhance their reporting on elements relevant to Article 2, paragraph 1(c), of the Paris Agreement, thus increasing the ability to advance work related to pathways for low-emission, climate-resilient development.

B. Overview of climate finance flows

36. Recommendations on the overview of climate finance flows are as follows:

(a) *Encourage* climate finance providers, including multilateral and other financial institutions, relevant non-financial institutions and data providers, when reporting on climate finance, to enhance the availability of granular, country-level data on finance for adaptation and resilience as well as on finance for mitigation in the AFOLU and the water and sanitation sectors;

(b) *Encourage* climate finance providers and recipients to further enhance the tracking of private climate finance, in particular for adaptation activities;

(c) *Invite* private sector associations and financial institutions to build on the progress made on ways to improve data on climate finance and to engage with the SCF, including through their participation in the forums of the SCF with a view to enhancing the quality of the BA.

C. Assessment of climate finance flows

37. Recommendations on the assessment of climate finance flows are as follows:

(a) *Encourage* climate finance providers to continue to enhance country ownership and consider policies to improve the balance between support for mitigation and adaptation at the global level, taking into account country-driven approaches and recipient country capacities and priorities;

(b) *Encourage* climate finance providers to enhance access and increase climate finance for the LDCs and SIDS;

(c) *Encourage* developed countries, other climate finance providers and recipients to continue to enhance access to climate finance, including by addressing the barriers to access arising from the complex architecture of multilateral climate funds, and to enhance country ownership through supporting modalities such as direct access entity and national implementing entity accreditation, readiness and project preparation facilities, and subnational- and local-level access programmes;

(d) *Encourage* development finance institutions, in particular MDBs, to continue their essential role in helping developing countries to deliver on their nationally determined contributions, by expanding climate investment through either expanding the availability of development assistance or boosting climate-related investment directly;

(e) *Encourage* developing countries to take advantage of available modalities and to advance in-country efforts to strengthen institutional capacities for climate change programming and for tracking its effectiveness and impacts;

(f) *Encourage* climate finance providers and recipients to improve the tracking and reporting of portfolio-level results in terms of the impacts and outcomes of climate finance and advance the development of indicators for measuring the outcomes of climate finance interventions;

(g) *Encourage* climate finance providers and recipients to improve the tracking, reporting and dissemination of best practices in relation to the gender-related aspects of climate finance, impacts of climate finance interventions and for gender-responsive budgeting;

(h) *Request* the SCF, in preparing the sixth BA, to follow up on the recommendations made in this and previous BAs.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AF	Adaptation Fund
AFB	Adaptation Fund Board
AFCIA	Adaptation Fund Climate Innovation Accelerator
AFD	Agence Francaise de Development
AfDB	African Development Bank
AGN	African Group of Negotiators
AIIB	Asian Infrastructure Investment Bank
AILAC	Independent Association of Latin America and the Caribbean
Annex I Party	Party included in Annex I to the Convention
Annex II Party	Party included in Annex II to the Convention
AODP	Asset Owners Disclosure Project
AOSIS	Alliance of Small Island States
ASAP	Adaptation for Smallholder Agriculture Programme
ASEAN	Association of Southeast Asian Nations
AUM	assets under management
BA	biennial assessment and overview of climate finance flows
BCBS	Basel Committee on Banking Supervision
BCG	Boston Consulting Group
BEV	battery electric vehicle
BIS	Bank for International Settlements
BNEF	Bloomberg New Energy Finance
BR	biennial report
BR4	fourth biennial report
BRICS	Brazil, Russia, India, China and South Africa
BTR	biennial transparency report
BUR	biennial update report
CAF	Development Bank of Latin America
CBI	Climate Bonds Initiative
CBIT	Capacity-building Initiative for Transparency
CCCA	Collective Commitment to Climate Action
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CCS	carbon capture and storage
CDM	clean development mechanism
CDP	Carbon Disclosure Project
CESEE	Central, Eastern, and South-Eastern Europe
CFU	Climate Funds Update
CIF	Climate Investment Funds
CISL	Cambridge Institute for Sustainability Leadership
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
COP	Conference of the Parties
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CPEIR	climate public expenditure and institutional review
CPI	Climate Policy Initiative
CPIC	Coalition for Private Investment in Conservation
CRGE	Climate Resilient Green Economy
CRIN	Charities Responsible Investment Network
CRS	Creditor Reporting System
CTF	common tabular format
DAC	Development Assistance Committee
d-CPEIR	district-level Climate Public Expenditure and Institutional Review
DFI	development finance institution, including bilateral, regional or national development banks
DGM	Dedicated Grant Mechanism
DNSH	Do-No-Significant-Harm
DTU	Technical University of Denmark
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EDFI	European Development Finance Institutions
EIB	European Investment Bank
EIG	Environmental Integrity Group
EMPEA	Emerging Markets Private Equity Association
ESG	environmental, social and governance
ETF	enhanced transparency framework under the Paris Agreement
EU	European Union
EV	Electric vehicle
FC4S	Financial Centres for Sustainability
FCPF	Forest Carbon Partnership Facility
FDI	foreign direct investment
FIP	Forest Investment Program
FONERWA	Rwanda's Green Fund
Frankfurt School	Frankfurt School of Finance and Management
FSB	Financial Stability Board
FS-UNEP Centre	Frankfurt School – UNEP Collaborating Centre for Climate & Sustainable Energy Finance
GABC	Global Alliance for Buildings and Construction
GABV	Global Alliance for Banking on Values
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GDP	gross domestic product
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environment Facility
GEVA	Greenhouse Gas Emissions per Unit of Value Added
GFANZ	Glasgow Financial Alliance for Net Zero
GFLAC	Group for Climate Finance in Latin America and the Caribbean
GHG	greenhouse gas
GICCC	Global Investor Coalition on Climate Change
GIIN	Global Impact Investing Network
GIZ	German Agency for International Cooperation
GNI	gross national income
GPFI	Global Partnership for Financial Inclusion
GRI	Global Reporting Initiative
GTREI	Global Trends in Renewable Energy Investment
G7	Group of 7
G20	Group of 20
IADB	Inter-American Development Bank
IAIS	International Association of Insurance Supervisors
IAR	international assessment and review
IBRD	International Bank for Reconstruction and Development
ICA	international consultation and analysis
ICD	Islamic Corporation for the Development of the Private Sector
iCI	Initiative Climat International
ICMA	International Capital Market Association
I4CE	Institute for Climate Economics
IDBG	Inter-American Development Bank Group
IDFC	International Development Finance Club

IEA	International Energy Agency
IEN	Intentional Endowments Network
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IIGCC	Institutional Investor Group on Climate Change
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
INFFs	integrated national financing frameworks
INDC	intended nationally determined contribution
INGO	international non-governmental organization
INSPIRE	International Network for Sustainable Financial Policy Insights, Research and Exchange
IPCC	Intergovernmental Panel on Climate Change
IPSF	International Platform on Sustainable Finance
IRENA	International Renewable Energy Agency
IRMF	integrated results management framework
IsDB	Islamic Development Bank
JBIC	Japan Bank for International Cooperation
KfW	*Kreditanstalt für Wiederaufbau* (Reconstruction Credit Institute)
KPI	key performance indicator
LCOE	levelized cost of electricity
LDC	least developed country
LDCF	Least Developed Countries Fund
LDC Group	Least Developed Countries Group
LT-LEDS	long-term low-emission development strategies
MDB	multilateral development bank
MMR	Monitoring Mechanism Regulation
MPG	modalities, procedures and guidelines
MRV	measurement, reporting and verification
MSME	micro, small and medium-sized enterprises
NAMA	nationally appropriate mitigation action
NAP	national adaptation plan
NAPA	national adaptation programme of action
NC	national communication
NDA	national designated authority
NDB	New Development Bank
NDC	nationally determined contribution
NDR	report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement
NeST	Network of Southern Think Tanks
NGFS	Central Banks and Supervisors Network for Greening the Financial System
NGO	non-governmental organization
non-Annex I Party	Party not included in Annex I to the Convention
NZEB	nearly zero-energy building
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OECD DAC	Organisation for Economic Co-operation and Development Development Assistance Committee
OECM	One Earth Climate Model
OOF	official finance flows
PSI	Principles for Sustainable Insurance
Research Collaborative	Research Collaborative on Tracking Finance for Climate Action
OOF	other official flows
RINU	Responsible Investment Network – Universities
PACTA	Paris Agreement Capital Transition Assessment
PCAF	Partnership for Carbon Accounting Financials
PFG	Project Formulation Grant
PHEV	plug-in hybrid electric vehicle
PMR	Partnership for Market Readiness
POPs	persistent organic pollutants
PPCR	Pilot Program for Climate Resilience
PPF	Project Preparation Facility
PPIAF	Public – Private Infrastructure Advisory Facility
PRI	Principles for Responsible Investment
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para.70)
RPS	Required Policy Scenario
RPSP	Readiness and Preparatory Support Program
S&P	Standard and Poor's
SAP	Simplified Approval Process
SASB	Sustainability Accounting Standards Board
SBN	Sustainable Banking Network
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBTi	Science-Based Targets initiative
SCCF	Special Climate Change Fund
SCF	Standing Committee on Finance
SDA	sectoral decarbonization approach
SDG	Sustainable Development Goal
SEDICI	social and economic development impacts of climate investments
SIDA	Sweden's International Development Agency
SIDS	small island developing State(s)
SME	small and medium-sized enterprise
SNGWOFI	Observatory on Subnational Government Finance and Investment
SREP	Scaling Up Renewable Energy Program in Low Income Countries
SSE	Sustainable Stock Exchanges
TCFD	Task Force on Climate-related Financial Disclosures
TCLP	Transformational Change Learning Partnership
TNA	technology needs assessment
TOSSD	Total Official Support for Sustainable Development
TPI	Transition Pathway Initiative
TSC	Technical screening criteria
UCLG	United Cities and Local Government
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP Centre	UNEP Collaborating Centre for Climate and Sustainable Energy Finance
UNEP FI	United Nations Environment Programme Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
UNFCCC RCC	UNFCCC Regional Collaboration Centres
UNGC	United Nations Global Compact
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
V20	Vulnerable Twenty
WBG	World Bank Group
WRI	World Resources Institute
WWF	World Wildlife Fund

INTRODUCTION

Background and objectives

1. The fifth BA comprises two products, a summary and recommendations prepared by the SCF, which is included in the annual report to the COP at its twenty-seventh session and to the CMA at its fourth session, and a technical report consisting of a metadata analysis of existing work and available data that was prepared by external experts under the guidance of the SCF and presented in an interactive format on the BA web page.[1]

2. As in previous BAs, the preparation of the fifth BA was guided by mandates given to the SCF by the COP and the CMA.[2] The fifth BA was prepared with due consideration to the outcomes of the Paris Agreement, particularly provisions related to the purpose of the framework for transparency of support,[3] and the implementation of its modalities, procedures and guidelines.[4]

3. The objectives of the fifth BA include the following:

- Take stock of efforts aimed at improving the methodologies used for measuring, reporting and verifying public and private climate finance flows – including the use of operational definitions of climate finance – following recommendations made in previous BAs;
- Provide an updated overview of global climate finance flows, including finance flows from developed to developing countries as well as other climate-related finance flows based on available data;
- Provide an overview on the financial instruments used, their implications and future trends, and how they assist in enhancing the flows from developed to developing countries;
- Consider and assess the implications of climate finance flows, including composition, purpose and emerging trends relevant to the objectives of the Convention, as well as the long-term goals set out in the Paris Agreement;
- Identify data gaps as well as ways to strengthen, enhance and improve methodologies for reporting and verifying financial information.

Scope

4. The fifth BA focuses on climate finance flows for 2019 and 2020 and identifies trends from previous years where possible. It draws data from a wide range of sources of information, including but not limited to BRs and BURs, supplemented with other data from the OECD, international financial institutions, United Nations organizations, academia, NGOs, think-tanks, and the private sector in order to enhance the comprehensiveness of this report and provide insights into climate finance flows. The report has also benefited from qualitative information from various sources, including responses to the call for evidence issued by the wide range of reports that explore topics related to climate finance.

5. Chapter I considers methodological issues related to transparency of climate finance, including the latest developments and improvements on the measurement, reporting and verification of climate finance flows, as well as views on operational definitions of climate finance in use and updates on impact metrics and outcomes.

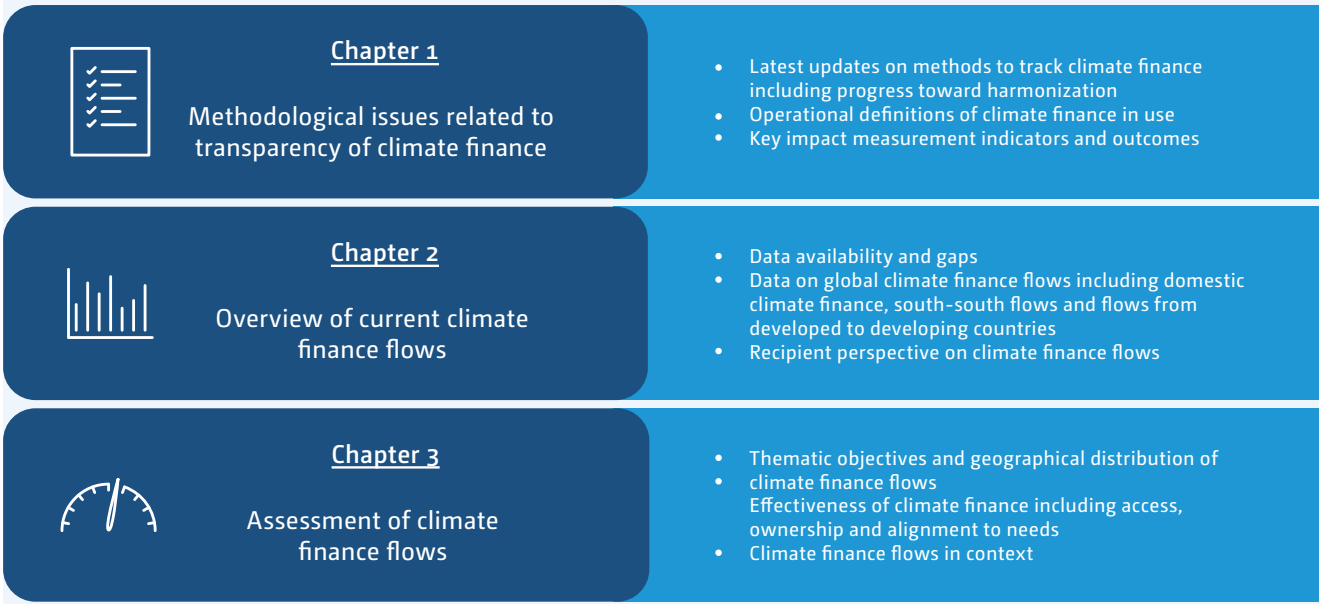
6. Chapter II provides an updated overview of current climate finance flows over the years 2019 and 2020, identifying emerging and new trends over previous years. The chapter compiles information from multiple sources of data to arrive at aggregate estimates for global climate finance flows (public and private), flows from developed to developing countries (public and available data on mobilized private finance through public interventions), domestic climate finance and South–South cooperation, as well as the other climate-related flows for the period.

7. Chapter III assesses the climate finance flows presented in chapter II and considers the implications of their purpose, composition and effectiveness, as well as access and emerging trends relevant to international efforts to address climate change.

1) Available at https://unfccc.int/topics/climate-finance/resources/biennial-assessment-of-climate-finance.
2) Decisions 2/CP.17, para. 121(f), 1/CP.18, para. 71, 5/CP.18, para. 11, 3/CP.19, para. 11, 4/CP.24, para. 4,5,10, and 6/CP.25, para. 9 and 10 and decision 5/CMA2, para. 9 and 10.
3) Article 13, para. 6, Article 9, para. 7.
4) Decision 18/CMA.1.

Figure 0.1

Overview of scope and content within each chapter of the BA



8. In contrast to the fourth (2020) BA, the fifth BA does not include a fourth chapter on mapping information relevant to Article 2, paragraph 1(c), of the Paris Agreement in line with the mandate to the SCF that this work would take place every four years.[5]

9. Throughout each chapter, efforts have been made to respond to SCF recommendations entailed in previous BAs as relevant, as shown in table 0.1.

Approach used in the preparation of the fifth BA

10. The fifth BA technical report is the result of meta-analysis including literature, outreach webinars and technical expert meetings as part of the SCF meetings in 2022.[6] A webinar was held on 4 August 2022 on capturing the latest updates on climate finance flows in relation to data, effectiveness and definitions.[7] Valuable inputs have been provided by both Party and non-Party stakeholders in response to the call for evidence issued by the SCF in April 2022.[8]

The term "climate finance" as used in this report

11. As was the case with the previous BAs, the term "climate finance" refers to the financial resources dedicated to adapting to and mitigating climate change globally, including in the context of financial flows to developing countries. Global climate finance is important for making progress towards the objective of the Convention and the goals set out in the Paris Agreement.

12. Since the first (2014) BA, the SCF has used an operational definition of climate finance based on a review of climate finance definitions adopted by data collectors and aggregators, which pointed to a convergence that could be framed as, *"Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts."*

13. COP26 and CMA3 also mandated the SCF to continue its work on definitions of climate finance with a view to providing input for consideration by the COP and CMA at its twenty-seventh and fourth sessions respectively.[9]

5) Decision 4/CP.24, para 10.
6) The fifth BA is developed one year after the publication of the fourth (2020) BA as the fourth (2020) BA was delayed to 2021 due to the postponement of COP26.
7) Information is available at: https://unfccc.int/topics/climate-finance/resources/biennial-assessment-and-overview-of-climate-finance-flows.
8) As available at https://unfccc.int/topics/climate-finance/resources/standing-committee-on-finance-info-repository#eq-2.
9) Decisions 5/CP.26, para 7, 4/CP.26, para 12, and 10/CMA.3, para 3.

Table 0.1

Follow up on recommendations from previous BAs, where relevant

Area of recommendation	2018 BA recommendation	Relevant section(s)
Improve transparency of reporting of climate finance provided and received	(a), (b), (c), (d)	1.3
Improve data coverage, granularity and tracking of flows from all sources including flows from developing country Parties, IFIs, and private finance data providers	(e), (f), (g), (h)	1.2, 2.2–2.5
Update data sets and information relevant to Article 2, paragraph 1(c)	(i), (q)	1.6, 2.6, 4
Alignment of climate finance with national needs, plans, climate change frameworks and priorities, enhancing country ownership	(j), (l), (p)	3.2–3.3
Balance of funding for mitigation and adaptation	(l)	3.2
Uptake of available resources to strengthen institutional capacities for programming climate action and tracking climate finance	(l), (k)	1.2, 3.3
Improve tracking and reporting on impacts of climate finance, including incorporation of climate-proofing and climate resilience measures in line with new available scientific information	(n), (o)	1.5, 3.3
Improve tracking and reporting on gender-related aspects	(m)	1.5, 3.3

Work undertaken to improve the quality and coverage of data

14. Additional work was undertaken to improve the quality and coverage of the data and information across the content in each chapter of the BA with the objective of contributing to the progressive improvement of information on climate finance flows. In 2019, COP25 decided to change the due date for submission of the fifth biennial reports of Annex I Parties (including Annex II Parties) from 1 January 2022 to no later than 31 December 2022 in order to provide Parties with the opportunity to include annual GHG inventory data for 2020 in these reports. In the course of preparing the fifth BA, the SCF invited Annex II Parties to provide preliminary data on climate finance provided and mobilized for the years 2019 and 2020. This data is preliminary and subject to change once official fifth biennial reports are submitted at the end of 2022.

Approach taken in organizing information and data

15. Climate finance data were aggregated and assessed for the period 2019–2020. The data were classified as follows:

- Global climate finance flows: As in previous BAs, global climate finance estimates were gathered against an operational definition of climate finance, namely flows whose expected effect is aimed at reducing emissions or enhancing sinks of GHG, and/or reducing vulnerability of and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts. Efforts are made to avoid double counting finance flows by focusing on project level activities and the primary financing of a new physical asset or activity. A mix of full investment cost and incremental or component costs are included based on type of activity and data source used and in general are on the side of conservativeness. Estimates cover public and private finance, international and domestic finance;
- Climate finance flows from developed to developing countries: The report draws primarily from the reporting of climate funds under the UNFCCC as well as preliminary data provided by Annex II Parties in estimating climate finance provided through bilateral and multilateral channels for 2019–2020. These data are complemented by commitments by MDBs from their own resources to projects in developing countries as well as other multilateral climate funds that may be attributable to Annex II Parties. Data on bilateral and multilateral flows to developing countries from the OECD DAC, CRS, IDFC and other databases complement these data sources to provide more granularity with regard to sectors and themes. Estimates of mobilized private finance flows in developed countries were gathered from MDBs, IDFC and OECD analytical work but do not differentiate between private finance originating

in developed countries and private finance mobilized locally in developing countries.

16. The use of the terms "developed and developing countries" or "South-south" in this report are used by the authors to describe data or country classifications from various sources. Please refer to Annex A for a definition of different country classifications used by various data sources. For the purpose of the overview of climate finance in the BA, various data sources are used to illustrate flows from developed to developing countries, without prejudice to the meaning of those terms in the context of the Convention and the Paris Agreement, including but not limited to Parties included in Annex II/Annex I to the Convention to Parties not included in Annex I to the Convention and MDBs; OECD members to non-OECD members; OECD DAC members to countries eligible for OECD DAC official development assistance; and other relevant classifications. For South-south, this refers to non-Annex I, non-OECD DAC members and other similar classifications.

Challenges and limitations

17. In compiling estimates of climate finance flows, efforts have been made to ensure they are based on activities in line with the operational definition of climate finance adopted in the first (2014) BA and to avoid double-counting (see section 2.1 for further information). Challenges remain in aggregating and analysing information from diverse sources with varying degrees of transparency.

18. In the area of global climate finance, challenges remain in filling data gaps particularly for private finance in adaptation activities and in mitigation activities with respect to agriculture, forestry and land use sectors as well as waste, water and sanitation sectors. Methodologies in calculating climate finance differ by activity between total cost or incremental cost methods. This leads to limitations on the completeness of data and any interpretations of the relative shares of global climate finance going to different themes or sectors. Energy efficiency estimates do not include data by public or private actors, financial instruments or country-level data. Other data sources such as in renewable energy provide activity-level data but may employ country- and technology-level assumptions on finance flows to fill data gaps. In aggregating data from various sources to aggregate global climate finance flows, approaches are used to ensure any potential overlaps in coverage are avoided.

19. In the area of domestic climate finance, although more countries are developing climate finance reporting systems, time lags in implementation mean data is as yet underreported for 2019–2020. Amounts in relation to public expenditures may refer to ex-ante budget allocations or ex-post actual expenditures. Furthermore, the climate-relevance of activities reported may refer to weighted criteria per activity or positive activity lists.

20. Data on international climate finance flows follow varying methodologies and interpretations. Flows from developed to developing countries, both provided and received, include a mix of data based on disbursements made to projects and recipients in the given year, to financial commitments made in the reporting year, to activities that may be implemented over a number of years. Information on south-south cooperation in climate finance flows remains relatively underreported. Classifications of data such as geographic regions or levels of granularity are also not uniform across data sources. As with previous BAs no aggregation of data from different sources for finance from developed to developing countries is carried out due to the aforementioned challenges and limitations.

METHODOLOGICAL ISSUES RELATED TO TRANSPARENCY OF CLIMATE FINANCE

New reporting tables will improve the information on climate finance submitted by Parties

- ✓ Sectors and sub-sector information
- ✓ Whether finance contributes to capacity building or technology transfer
- ✓ Voluntary reporting of grant-equivalent values
- ✓ Interactive web portal for summary information

The coverage and granularity of reporting on climate finance received by non-Annex I Parties is improving

70 parties have provided data on climate finance received at the project level

Increasing efforts are being made to enhance the transparency and comparability of approaches for tracking consistency with low-emission and climate-resilient development pathways

Initiatives have emerged since 2020, including UN High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities, the Expert Peer Review Group (EPR) of the Race to Zero campaign and a range of assessments on Paris alignment.

141 indicators in the results management frameworks of multilateral climate funds

Example mitigation indicators
- – GHG emissions reduced
- – MW installed capacity
- – Volume of fuel per km travelled

Example adaptation indicators
- – Number of beneficiaries
- – Hectares protected
- – Number of projects that foster climate resilience

Since 2020, the number of countries developing or implementing climate finance tracking systems has more than doubled

24 countries have established tracking systems for national budgets

Another 24 have methodologies on tracking in development.

The most common mitigation activities across international, regional and nationally developed taxonomies or classification lists are;

Most common
- – Renewable energy
- – CCU/S
- – Electric transport
- – Energy efficiency in buildings
- – Water management and supply

Less common
- – Gas-fired power
- – Waste to energy
- – Sustainable logging
- – ICT infrastructure

Uncommon
- – Nuclear power
- – Aviation
- – Mining
- – Desalination

10/12 taxonomies have exclusion lists for mitigation.

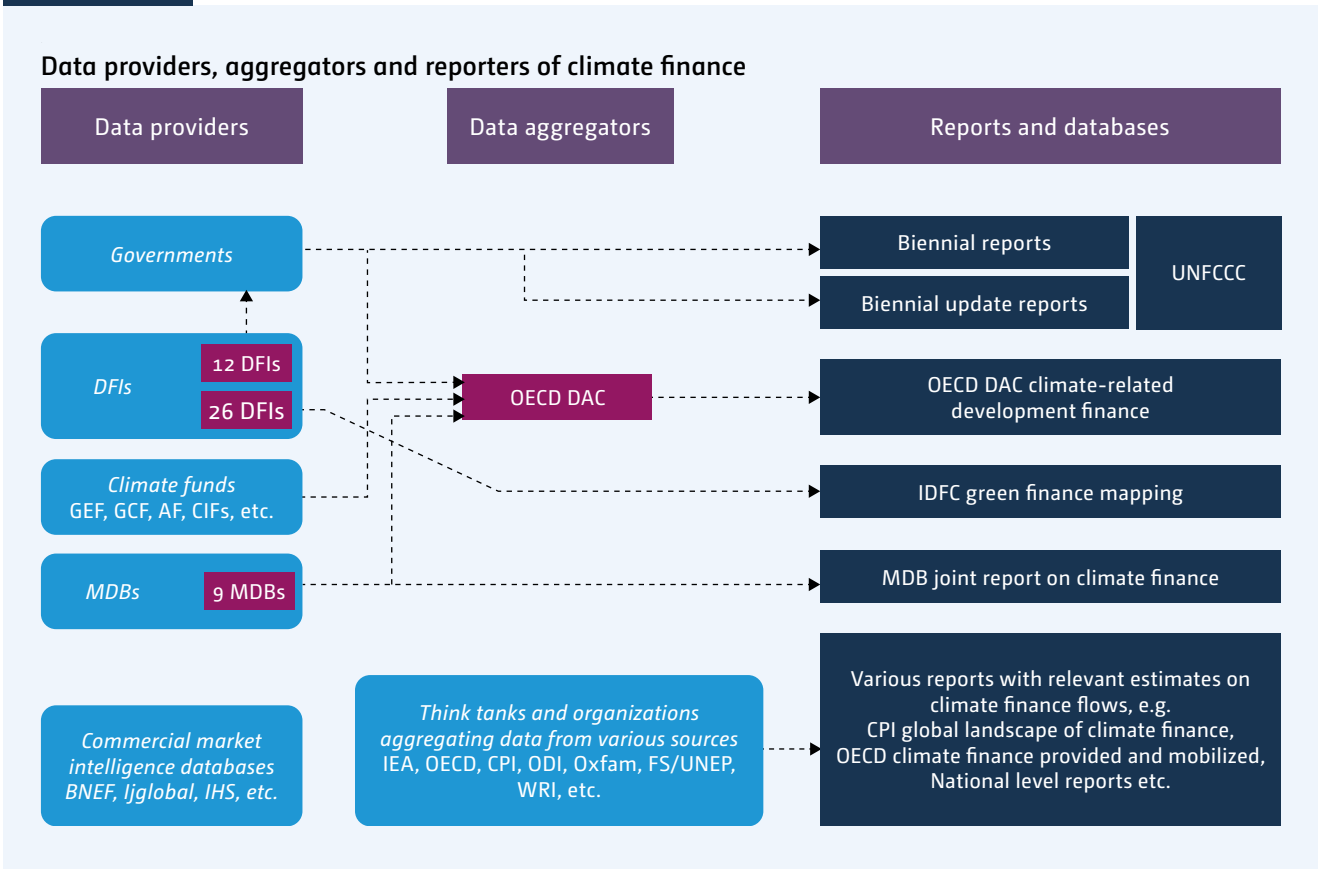
1.1. Introduction

21. This chapter provides an update on ongoing work related to the MRV of climate finance information since the publication of the fourth BA. It responds to a request by the COP for the SCF to take into consideration relevant work by other bodies and entities on the measuring, reporting and verification of support and the tracking of climate finance[10] and to consider ways of strengthening methodologies for reporting climate finance.[11]

22. Information on methodologies for MRV of climate finance is useful in the UNFCCC process, particularly in the context of the implementation of the enhanced transparency framework under the Paris Agreement. This includes work on the operationalization of the CTFs for the electronic reporting of information on the support provided and mobilized by developed country Parties to developing country Parties and the support needed and received by developing country Parties.[12]

23. Reporting on climate-related finance is undertaken by a variety of different actors, for different purposes and using different processes. Actors involved in climate-related finance reporting include providers of raw data: both public and commercial data providers, aggregators of data from various sources, publishers of climate finance estimates and Parties themselves, which report on climate finance support provided, mobilized and received (see figure 1.1). Some actors follow formalized processes for reporting on climate finance, such as through the UNFCCC biennial reporting, statistical systems and standards to report mainstreaming of climate finance such as through the OECD DAC Creditor Reporting System, or using dedicated methodologies developed by the MDBs and IDFC.

Figure 1.1



Notes: Dashed arrows indicate formal reporting processes, for example through the UNFCCC, OECD DAC or joint reporting by MDBs and IDFC. Some DFIs report data to their national governments to be included in reporting to the UNFCCC or OECD DAC.

10) Decision 1/CP.18, para. 71.
11) Decision 5/CP.18, para. 11.
12) Decision 5/CMA.3.

24. It is important to understand how, and which, accounting methods and reporting approaches facilitate the provision of disaggregated information, including by channel, thematic distribution (e.g. mitigation, adaptation and cross-cutting), funding source, financial instrument and status (e.g. committed and disbursed). The diversity in approaches can compound the difficulty in developing aggregate estimates of volumes of climate finance. It is therefore important to understand the methods to account for the financial resources provided and mobilized. and the ongoing efforts aimed at harmonizing reporting approaches in terms of transparency, accuracy, consistency, comparability and completeness as set out in decision 1/CP.21. In particular, the principles of transparency and consistency referred to in Article 9, paragraph 7, of the Paris Agreement, underscore the need for continued efforts to enhance the transparency and harmonization of reporting approaches and operational definitions of climate finance over time. Such transparency and harmonization in reporting is important for generating comparable data that ensures the transparency of support provided and received and that provides a full overview of aggregate financial support to inform the first global stocktake in 2023 under Article 14 of the Paris Agreement, of which the BA is one of the identified sources of information.[13]

25. Scope and structure of chapter - Chapter 1 is structured as follows:

- Section 1.2 provides updated information on methodologies for tracking climate finance flows from various data providers and aggregators to report on climate finance from public sources, private finance mobilized by public interventions and private finance flows at both the international and domestic level;
- Section 1.3 includes updated information on reporting and reviewing climate finance under the Convention and the Paris Agreement;
- Section 1.4 contains information on emerging methodologies for measuring mitigation and adaptation finance outcomes;
- Section 1.5 provides insights into emerging methodologies relevant to tracking consistency with the long-term goal outlines in Article 2, paragraph 1(c), of the Paris Agreement.

1.2. Updates and trends in methodologies to track climate finance

26. The following section provides updates to methodologies, including the scope and coverage, on climate finance tracking as covered in previous BAs. Updates to operational definitions of climate finance in use by specific methodologies are also described below. For more detailed descriptions of each methodology, please refer to previous BAs as well as Annex B which compiles definitions on mitigation and adaptation finance.

1.2.1. Methods to track international public climate finance

OECD-DAC climate-related development finance database

27. The OECD DAC climate-related development finance database includes bilateral flows from governments, development agencies and DFIs; multilateral outflows from MDBs and multilateral climate funds, including the Financial Mechanism of the UNFCCC, i.e. the GCF and the GEF; and finance provided through philanthropic foundations that report through the statistical system.

28. The DAC statistical system allows for climate-related development finance to be considered from two perspectives. A “recipient perspective” captures development finance to developing countries that are eligible for ODA, from both bilateral and multilateral providers.[14] The “provider perspective” is a measure of bilateral providers’ efforts, comprising their bilateral contributions and their contributions to international organizations. Under the provider perspective, data includes bilateral activities targeting climate change objectives identified using the Rio markers as well as the climate share of their core contributions (inflows) to international organizations, referred to as “imputed multilateral contributions”.[15]

29. The Rio markers methodology is used by DAC members, bilateral donors and a number of institutions to identify activities targeting climate mitigation and/or adaptation objectives. For each climate-relevant activity, the climate objective is marked as being either a “principal” or “significant” objective.[16] Both the Rio marker definitions for climate change mitigation and adaptation have been amended to include references to

13) Decision 19/CMA.1, para. 36(d).

14) In the OECD DAC context the “recipient perspective” refers to the development finance flows from different sources directed to countries eligible to receive ODA.

15) Imputed multilateral shares are published online. They are available on the OECD DAC website and at http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm. In addition to MDBs and multilateral climate funds, the IPCC and UNFCCC, recent additions to the list include AIIB, the CAF, the GCF, the Global Green Growth Institute.

16) OECD developed a handbook and guidance table that are available at http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm.

the Paris Agreement. The amended definition for climate change mitigation was approved by the DAC members in July 2021,[17] and it reads as follows (new text in bold):

It contributes to the objective of stabilisation of greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG ***removal by sinks, in line with the goals of the Paris Agreement****.*

30. The amended definition for climate change adaptation was approved by the DAC members in December 2021, and it reads as follows:

It intends to reduce the vulnerability of human or natural systems to the current and expected impacts of climate change, including climate variability, by maintaining or increasing resilience, through increased ability to adapt to, or absorb, climate change stresses, shocks and variability and/or by helping reduce exposure to them, ***in line with the Paris Agreement.***

This encompasses a range of activities from information and knowledge generation, to capacity development, planning and the implementation of climate change adaptation actions.

31. When reporting to the UNFCCC on climate finance in their BRs, most OECD DAC members draw on their climate-related development finance reporting to the OECD DAC but adjust the amounts reported to better reflect the financial contribution of the respective activities to the objectives of the Convention. In 2018, the OECD DAC secretariat introduced a biennial voluntary survey to collect information from DAC members on their approach to adjusting amounts reported to the UNFCCC. Twenty-two DAC members and one non-DAC member responded to the latest survey in 2022, compared to 21 in 2020 and 11 in 2018 (OECD, 2022). 18 members who responded are also Annex II Parties to the Convention while three other Annex II Parties responded to the survey in 2020.[18] Based on the two surveys, seventeen Annex II Parties apply a "fixed coefficient" approach by reporting to the UNFCCC 100 per cent of flows marked as principal and between 30 to 50 per cent of flows marked as significant, except for one member who reported 85 per cent of flows marked as principal.

32. Another three members used different methods to apply coefficients to Rio marked projects: one Party ensured that if an activity is marked principal for more than one Rio marker (e.g. mitigation, adaptation, biodiversity, desertification) the value is divided equally among the different markers. Significant marked activities apply a coefficient based on the sector classification (purpose codes) they use, which can range from 2–80 per cent. Two other Parties applied a case-by-case method for deducing coefficients for each Rio marked activity. Finally, one Party did not use Rio marked activity data to report to the UNFCCC and instead used a nationally determined climate finance definition reported in its biennial report with data gathered from different government agencies.

33. The 2022 survey included expanded information on types of flows reported to the UNFCCC and sector level classifications used. Of particular note, it reported that all survey respondents reported ODA flows, 11 reported other official flows (non-concessional finance), and 7 reported officially supported export credits in their biennial reports to the UNFCCC. In relation to sector classifications reported to the UNFCCC, there are six sector codes from the OECD classification that align broadly with the six listed under UNFCCC reporting formats (energy, transport, industry, agriculture, forestry, and water and sanitation). Ten members reported against these sector codes using the UNFCCC categories, while 1 member submitted data using the OECD sector codes. For other sectors, practices varied substantially using OECD sector classifications or classifying activities as Other.

MDBs climate finance tracking methodologies

34. Since 2011, six MDBs have jointly reported their mitigation and adaptation finance activities.[19] In 2018, the IsDB joined the group in reporting climate finance flows and in 2020, the Asian Infrastructure Investment Bank (AIIB) joined. In 2021, the New Development Bank (NDB) was featured for the first time in the MDB Joint Report, but did not apply the tracking methodology extensively and was not included in total figures reported for 2020.

35. The Joint MDBs group and IDFC agreed common principles for climate change mitigation and adaptation finance tracking in 2015 (AfDB, ADB, EBRD, et al., 2015c; AfDB, ADB, EBRD, et al., 2015d). The joint MDB climate finance tracking group developed the methodology for the report and updated the methodology over time. The adaptation finance methodology captures incremental cost while mitigation finance captures financing based

17) DCD/DAC/STAT/A(2020)42/REV2.

18) Finland, Iceland, and the UK did not respond to the survey in 2022, although they did respond in 2020. France and Luxembourg did not respond in either survey.

19) The MDBs include AfDB, ADB, EBRD, EIB, IDBG, WBG and more recently, Islamic Development Bank (IsDB) and Asian Infrastructure Investment Bank (AIIB).

on an exhaustive list of activities in sectors and sub-sectors that reduce greenhouse gas (GHG) emissions in line with the goals of the Paris Agreement and that are compatible with low-emission development.

36. In 2021, an update to the MDB–IDFC Common Principles for climate change mitigation was published, that will come into effect for climate finance tracking for the financing years 2021 onwards. It provides a more granular breakdown of the eligibility list including clear criteria and guidance for its application. The revised eligibility list considers new mitigation activities that are required in order to achieve the goals of the Paris Agreement, and to ensure, with a specific focus on greenfield activities, the avoidance of activities that, despite reducing greenhouse gas (GHG) emissions in the short term, risk locking in emissive technologies over the long term. The eligibility list is based on the categorization of three types of climate change mitigation activities, namely negative- or very-low-emission activities, transitional activities, and enabling activities. Significant changes to the methodology are amongst others the inclusion of: i) mining activities for climate action; ii) hydrogen production and use; and iii) efficiency measures in aviation systems.

37. The joint MDB group reports climate finance in commitments from MDB's own account as well as from external sources channelled through, and managed by, the banks, and on climate co-financing by non-MDB actors.[20] As financial commitments are captured at the time of board approval or financial agreement signature, the data is therefore based on ex-ante estimations and no revisions are issued when changes in the project either increase or decrease climate financing. Financial instruments covered include advisory services, equity, bonds, grants, guarantees, investment loans, lines of credit and policy-based or results-based financing.

38. The report includes aggregate information across instruments, sectors, regions and at country level for the years since 2015. In 2020, the Joint Report expanded its geographic coverage to include climate finance commitments in all economies the MDBs operate including high income countries with comparability on new data against previous reports provided in an annex. Only four of the MDBs publish project-level activity data on their own websites that are compiled in the joint report. These include ADB, IADB, Islamic Development Bank; the World Bank for its concessional finance arm IDA, and the IBRD; and EBRD in its sustainability report. All of the MDBs also publish activity data through the OECD DAC system, although some MDBs with private sector operations consider these climate finance commitments as confidential activity level and report at aggregate levels.

International Development Finance Club green finance mapping

39. IDFC reports green finance flows from 26 national, regional and bilateral DFIs based in both developed and developing countries. Green finance is broken down into climate finance in green energy and mitigation, adaptation and cross-cutting. In its 2021 report, biodiversity finance was added as a separate category from other environmental objectives for the first time.

40. The IDFC green finance mapping report contains institutional level finance commitments by type of theme and aggregate level flows by sector, sub-sectoral technologies, financial instrument and regional distribution. Financial commitments are those signed or approved by the board of the reporting institution during the reporting year in the form of inter alia, loans (concessional and non-concessional), grants, guarantees, equity and mezzanine finance used by financial institutions to finance investments (IDFC, 2021).

41. In line with the MDB-IDFC common principles for climate mitigation finance tracking, a consistent categorization of mitigation and adaptation activities was agreed to by IDFC members. With regards to the revised eligibility list on mitigation in 2021, IDFC members will use the list initially as a guide, aiming to apply the list to the extent possible over a two-year transitional period.

42. Not all IDFC members participate in the survey due to insufficient reporting systems, a lack of resources dedicated to collecting data, non-availability of data and confidentiality issues. This can lead to incomplete or inconsistent data collection over years as the number of reporters varies and not all members have the capacity to report across all sectors and activities e.g. in adaptation finance. For flows in 2019, 22 members reported and for flows in 2020, 17 members reported. (IDFC, 2021).

Multilateral climate funds

43. Multilateral climate funds, such as the GCF, the GEF and the AF, publish project-level activity data on their respective websites. CFU is an independent website maintained by the Heinrich Böll Foundation and ODI that

20) External resources include trust-funded operations, such as those funded by bilateral agencies and dedicated climate finance funds such as the Climate Investment Funds (CIF), Green Climate Fund (GCF), and climate-related funds under the Global Environment Facility (GEF), EU blending facilities and others (MDB 2021).

offers annually standardized and aggregated project-level information from 23 multilateral climate funds, including information on pledges, approved commitments and disbursed funds (CFU, 2020). In addition, the GCF, GEF, AF and CIFs report on activity-level data to the OECD DAC system.

Total Official Support for Sustainable Development platform

44. In 2021, the coverage of the TOSSD expanded to 99 providers including development finance institutions and governments from developing countries. TOSSD is an international statistical (TOSSD, 2021). The objective of the statistical framework is to fill a data gaps about resources for sustainable development beyond official development assistance (ODA), including capturing a broader array of actors, from traditional bilateral and multilateral reporters to emerging providers and private finance actors, as well as instruments, such as guarantees. Support is reported against actions for each of the SDGs, including SDG 13 on climate action. The scope of data collection includes cross-border flows to eligible recipient countries as well as global and regional expenditures for international public goods, such as activities that promote international cooperation, knowledge generation and dissemination, and expenditure in provider countries that address global challenges. It also includes private finance mobilized by official interventions. TOSSD data for 2020 captured over 75 000 activities not reported in the OECD DAC CRS, representing an additional USD 27 billion in gross disbursements to cross-border project activities, and USD 41 billion in gross disbursements on international public goods.

Other sources

45. Other sources on international public finance include new databases analysing south-south finance flows, particularly in the energy and infrastructure sectors. WRI's COFI database covers debt and equity investments from financial institutions based in China into the power generation sector in 82 countries related to the Belt and Road Initiative. It consolidates nine different source databases to include transaction details by power plant.

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1.2.2. Methods to track private climate finance

Methods for estimating private finance mobilized by public interventions

46. The OECD DAC continue to apply international standards for measuring private finance mobilized by official development finance interventions through seven financial instruments or leveraging mechanisms, namely: syndicated loans, developmental guarantees, shares in collective investment vehicles, direct investment in companies, credit lines, simple co-financing and project finance schemes.

47. Since the last BA, annual data on private finance mobilized is available at a recipient country level broken down by providers, sectors and type of leveraging mechanism. The data is also reported through the TOSSD platform. Work is ongoing to develop further guidance and criteria for reporting the mobilization effect of some technical assistance and capacity-building activities while avoiding risks of double counting (OECD, 2020).

48. Since 2015, MDBs have reported on climate co-financing to estimate the volume of financing by both public and private external parties alongside MDB climate finance. The report differentiates between private direct mobilization, composed of financing from a private entity on commercial terms due to the active and direct involvement of an MDB leading to commitment, and private indirect mobilization, composed of financing from private entities supplied in connection with a specific activity for which an MDB is providing financing, where no MDB is playing an active or direct role that leads to the commitment of the private entity's finance. Private indirect mobilization includes sponsor financing if the sponsor qualifies as a private entity. The 2018 BA provides a detailed discussion and summarizes information on the approaches used by the OECD DAC, MDBs and IDFC for estimating, tracking and reporting on these private finance flows including information on definitions, financial instruments, coverage, attribution and measurement methods.

Other methods for estimating private climate finance

49. As outlined in the fourth (2020) BA, commercial and market intelligence databases inform the collection of private climate finance data in specific sectors such as renewable energy finance, energy efficiency and electric vehicles in particular. BNEF project level data on renewable energy projects continues to be a primary source of data for aggregators of climate finance flows including the CPI's global landscape of climate finance. The IEA continues to derive incremental investments related to energy efficiency in the buildings, transport and industry sectors from proprietary databases, based on applying baseline calculations of costs of equipment at minimum energy performance standards or sector averages. For electric vehicles, the IEA catalogues country-level retail prices of EV models and applies them to annual sales data by country to estimate total investment. Public incentives or taxes are used to denote the share of investment from government and the remaining share from consumers. For electric charging infrastructure, the IEA tracks installation levels and applies unit cost data for estimating total investments. IEA data on EVs and charging infrastructure is used in CPI's global landscape of climate finance while energy efficiency investment data is not due to lack of data granularity on sources and instruments used. Other market intelligence databases of relevance include data provided by IJglobal, IHS Markit and others that provide project-level data on infrastructure investment. This data is used in CPI's report to cover water, waste, municipal and transportation infrastructure projects where the climate relevance of the activity is clear.

50. In its *World Investment Report 2022* annual report, UNCTAD publishes information on foreign direct investment flows into developed and developing economies in climate mitigation and adaptation, however there is no information on the geographical source of the foreign direct investment (UNCTAD, 2022). The data includes greenfield investments (new projects and expansions by overseas investors) sourced from fDi Markets and project finance deals data retrieved from Refinitiv SA. The point of measurement is based on an announcement basis. The data on climate mitigation investments includes renewable energy, energy efficiency and emission reductions which includes transmission and distribution, battery storage, carbon capture and EVs and clean technology manufacturing; and low carbon mobility, in particular public transport infrastructure. Climate adaptation activities include water management and a manual screening of datasets to elicit investments which improve climate resilience in existing infrastructure, agriculture and coastal protection.

51. In the green bonds market, a significant number of data providers track global green bond issuances as well as other thematic debt instruments such as sustainability-linked bonds, SDG bonds, transition bonds, blue bonds and social impact bonds. CBI publishes regular publicly available data on labelled bonds as well as reports on the market size of climate-aligned bonds (both labelled and unlabelled bonds). In its global landscape of climate finance report, CPI uses green bond data from CBI to screen for new projects that are linked to green bonds but were not captured in other datasets.

52. Similar issues are also encountered when tracking investments in climate resilient infrastructure. Developing a novel methodology, CPI, 2022a estimates the total amounts of infrastructure investments that took climate resilience factors into account, as full cost data is more accessible than incremental investment into adaptation or resilience. A keyword list of adaptation solutions was applied in four sectors namely water and wastewater, agriculture, forestry and other land use, transport and energy to identify relevant infrastructure projects in data sources including Global Water Intelligence, World Bank private participation in infrastructure database and the activity level OECD-DAC database on climate-related development finance.

1.2.3. Methods to track climate finance at country level

Overview of countries regularly reporting climate finance expenditures and private finance, scope and approaches

53. Climate finance tracking and reporting may be used to inform policy decisions for scaling up domestic and international resource mobilization to meet national climate change objectives. In recent years, there has been significant growth in methodologies developed for country-level reporting on climate finance. Government agencies or non-State actors conduct one-off studies (e.g. CPEIRs or domestic climate finance landscapes) or regular reporting based on established budget tagging tracking systems (see the fourth (2020) BA for detailed description of these approaches). Since the fourth (2020) BA, a further 23 countries have announced they are developing and implementing the process, bringing the total number of countries with regular tracking systems to 47 (excluding the EU).

54. With regard to government-led tracking initiatives, most focus on public climate expenditure in national budgets. The aims of climate finance tracking of public expenditures vary from monitoring implementation of national climate policy plans, to identifying financing gaps in order to attract international climate finance or to identify eligible green expenditures to link to the issuance of sovereign green bonds.

55. Methods to define and account for public climate expenditures differ depending on national circumstances. Informed by the Rio markers approach, CPEIRs use similar definitions for adaptation and mitigation finance (see annex B), and tag relevant budget lines, programmes or components as having low, medium or high relevance to climate mitigation or adaptation outcomes. The quantification of climate-relevant expenditures report

Table 1.1

Regular reporting of climate finance at national level

	Existing tracking systems *(years indicate start of data availability)*	**Under development** *(start date of application if indicated)*
Annual Reporting	**CBT:** Bangladesh (2014-), Ecuador (2016), Ghana (2018-), Honduras (2017-), Indonesia (2016-), Kenya (tbc), Nepal (2013-), Nicaragua (2018-), Pakistan (2017-), Philippines (2015-) **CPEIR:** Cambodia (2009) **Other:** Austria (2020-), Canada (unknown), Colombia (2011-), EU (2014-), Finland (2020-), France (2019-), Ireland (2020-), Italy (2000-), Luxembourg (tbc), Mexico (2014-), Norway (unknown), Peru (2014-), United Kingdom (2020/2021-)	**CBT:** Armenia, South Africa, Rwanda (2022–23), Timor-Leste **CBT Methodology developed:** Ethiopia (2017), Moldova (2016), Uganda (2018) **Other/Unknown:** Argentina, Chile, Costa Rica, El Salvador, Fiji, Guatemala, Morocco, Panama, Cyprus, Greece, Lithuania, Netherlands, Poland, Slovenia, Spain (2023), Sweden
Studies *(with coverage of 2019/20 onwards)*		
	Government	**Non-governmental**
	CPEIR: Vietnam (2016–2020), Armenia (2017–2019), Timor-Leste (2018–2021)	**CPEIR:** Niger (planned) **Climate Finance Landscapes:** France (I4CE 2011-)

Source: Compiled from World Bank 2021a; CPI, 2019b; and UNDP, 2019.

programme budgets against these high, medium or low markers (Ethiopia, Nepal) or apply discount weighting, such as 100 per cent for highly relevant budget lines, 50 per cent for those with medium relevance and 20 per cent for those with low relevance (Ghana, Honduras, Pakistan). In reporting against its objectives to spend at least 30 per cent of the 2021–2027 EU budget on climate change, the EU has added DNSH principle and an exclusion list of projects that cannot be financed, to its traditional weighting approach based on the Rio markers. Each policy area and measures in the budget and recovery plans are designated as contributing fully, partly or with no impact to the climate objective with the amount weighted 100 per cent, 40 per cent and 0 per cent, accordingly.

56. The incorporation of climate-relevant activities covered in government-led tracking systems in use or one-off studies cover a broad range of sectors and themes, including the common themes of climate change mitigation and adaptation, as well as explicitly in three countries disaster risk management, disaster risk finance, or loss and damages (Honduras, Kiribati, Nicaragua). Climate budget tagging and tracking systems thereby reflect local and context specific exposure to climate change and nationally defined climate change policy priorities, as a review of eleven published domestic tracking systems or guidance from developed and developing countries conducted by the technical authors underlines:[21] Next to activities commonly considered as climate-positive, such as renewable energies, sustainable agriculture, industry or transport, the following climate-relevant activities are reflected:

- In the energy sector, natural gas power generation is included by some domestic systems (3) either for substitution of other higher-carbon energy sources, for all forms of power generation with a low climate-relevance weight (28 per cent) or for co-generation only. Two methodologies cover emissions and efficiency improvements in the oil and gas industry, for example *Promote energy efficiency in the hydrocarbons sector or C02 capture in refineries,* while one methodology attaches a low relevance weight (12 per cent) to coal mining and generation. Spending for nuclear safety measures (operational or for the national institute on nuclear safety) is covered in two further tagging systems;
- In the water and wastewater sector, a broad coverage of national spending related to water and wastewater facilities, supply and distribution networks and sanitation was visible in nine of eleven reviewed countries, with an approach to general inclusion reflecting the mitigation and adaptation relevance of the sector. Exemplary activities are *Support for sewage infrastructure and systems; Construction, reconstruction, upgrades of sewage water treatment plants; and Water and sanitation programme for climate vulnerable areas;*
- National expenditures related to climate change disaster risk reduction and management (DRR&M) are included in nine countries in particular on measures for physical infrastructure and forward- and backward-looking risk management and response. Eligible activities are, amongst others, *Drought response actions; Flood risk management; Improvements in weather monitoring, forecasting and early warning system (including associated ICT); Post-disaster reconstruction*. In addition, capacity-building information and policy formulation is covered explicitly in three documents through measures such as *Capacity-building in disaster management; Strengthening institutional capacity for climate risk management* while another three methodologies encompass financial mechanisms and social protection instruments in relation to DRR&M and associated losses, for example *Finance mechanisms for disaster risk and losses; Natural disaster risk reduction fund;*
- National measures for migration and resettlement and associated land rights planning associated with climatic change are captured explicitly in four domestic tracking systems and include, amongst others, spending on *Monitoring of internal and external migration and providing support of capacity building for rehabilitation; Develop and implement post-disaster resettlement and counselling of displaced families and communities; Incorporation of mitigation and adaptation criteria in life plans and ethno-development plans of ethnic communities;*
- Climate adaptation measures in the health sector are covered in nine domestic tracking systems, either with regards to physical adaptation of health and sanitation infrastructure *(i.e. Support for energy and material efficient renovation* and rehabilitation of hospitals) and/or for adaptation to climate-related diseases and health hazards, amongst others *Upgrade health systems to respond to changes in environmental health risks from climate change and variability (e.g. malaria) or Strategies and policies for heatwaves.*

21) Countries covered are Armenia, Austria, Bangladesh, Colombia, Ecuador, EU, France, Honduras, Ireland, Nepal, Philippines. Either methodology or results / budget documents from governments, including CPEIRs have been considered depending on availability.

57. International climate finance flows are a regular component of domestic green budget tagging systems. At least 12 jurisdictions with existing tracking systems include international climate finance in their methodology to report on budget or expenditure allocations. Three countries (Bangladesh, Ghana and Honduras) only capture climate finance channelled through the national Treasury, but do not report the amounts separately. Countries report from the recipient perspective on international climate finance as budgeted or spent such as in the Colombian domestic climate finance MRV portal, but also from the provider perspective on climate finance and other climate-relevant development spending allocated, as is the case for the EU, France and Ireland.

58. Since green budgeting on the country-level is an evolving practice, there is little available evidence so far on the impact of green budgeting practices for promoting climate mitigation and adaptation objectives through more sustainable resource allocation. Countries are in the processes of developing methodologies and measurement frameworks (OECD, 2021; UNDP, 2021).[22] Selected countries that already have in place climate budget tagging systems have started to apply initial performance-based budgeting, amongst others Pakistan, Nepal and India on the sub-national level in the state of Odisha. In Nepal, the pilot approach starting with the Ministry of Agriculture and Livestock Development specifies performance indicators for climate projects. Pakistan's pilot to climate change performance measurement is incorporated in the standardised performance-based budgeting process as part of the Executive Budget Proposal to Parliament. It will provide outcome and output data for the budget of the pilot ministry Water and Food Security and for agriculture and irrigation sectors on the subnational level.

59. Sector specific climate vulnerability assessment has been introduced as an additional component to the CPEIR methodology in some CPEIR national studies. The identification of sector specific climate vulnerabilities will aid the process of adequate policy formulation and thereby provides inputs to the assessment of financing needs. In Timor Leste's CPEIR report, 16 key sectors are identified in accordance with its National Strategic Plan. The climate vulnerability assessment, based on a review of available qualitative and quantitative literature, provided evidence on the potential climate change impact and exposure of different sectors, and enabled them to issue specific recommendations to strengthen climate responses and policies, including knowledge production on climate vulnerabilities, at both sector and national level.

Green budgeting in the context of Covid-19 recovery

60. In response to the Covid-19 pandemic, enhanced efforts have been made and methodologies developed from a variety of research programmes to track and assess the "greenness" or climate-relevance of fiscal responses (Eltokhy et al., 2021). While dedicated pandemic-related green fiscal policy trackers are necessarily limited in scope and time, they provide useful analytical and transparency tools, although methodologies applied to assess climate-relevant or "green" expenditures varied significantly.

61. A common methodological challenge of the trackers that mirrors climate budget tagging exercises is the quantification and degree of "greenness" of expenditures. The classification and scoring systems of trackers employ simple binary green and brown/red distinctions or 3- to 10-point scales assessing the degree of positive or negative climate-impact. Most trackers feature an activity category for climate-irrelevant spending ("grey", "indeterminate", "unclear" or "other"). For example, the IMF Green Tracker's "grey" category is designed to cover the wide range of public expenditures that have no significant impact on GHG emissions, such as health or social spending, as well as non-sector specific spending, e.g. wage support.

62. In focussing on large economies and on impacts on GHG emissions, available trackers have limited global scope and country coverage. Associated with it is limited information for smaller low- and middle- income countries and for the adaptation components of spending relative to mitigation measures.

Development of national green/sustainable finance taxonomies

63. Activity lists on climate mitigation or adaptation, such as the MDB-IDFC Common principles for climate mitigation have served in part to inform green or climate-aligned taxonomies in recent years to support the development of the green bond market. Such systems rarely incorporate a stand-alone definition of climate finance but do adopt activity lists on climate mitigation and/or adaptation, partially informed by existing practices such as the OECD DAC Rio Markers or the MDB-IDFC Common principles for climate mitigation and adaptation finance tracking.

22) OECD. 2021. Green Budgeting in OECD Countries. OECD Publishing, Paris. Available at https://doi.org/10.1787/acf5d047-en.

Table 1.2

COVID-19 Green Trackers – Summary of Key Features

	IMF's Green Monitor	Vivid Economics Greenness of Stimulus Index	Global Recovery Observatory	EU's Green Recovery Tracker	Energy Policy Tracker	OECD Green Recovery Database
Data source	IMF Policy Tracker	IMF Policy Tracker and the public domain	Public domain	National economic recovery packages	Public domain	Public domain
Country coverage	G20 + Spain	G20 + ten other countries	50 largest economies	19 Eurozone countries	30 major economies	Public domain
Sub-national jurisdictions	✗	✗	✗	✗	✓	✓
Sub-national jurisdictions	Impact on GHG emission, climate resilience	Impact on GHG emissions, pollution, and biodiversity	Impact on GHG emissions, air pollution and natural capital	Impact on GHG emissions	Impact on energy production and consumption	Impact on GHG emissions, adaptation Air pollution, water, biodiversity, and waste & recycling
Classification system	Policy archetypes (18 green, 21 red) across five sectors + "other"	Policy archetypes (20 green, 23 red) across five sectors	Typologies (5), Policy archetypes (40) and sub-archetypes (158)	All measures in long-term economic recovery packages	Energy categories (5) and types (18) across six sectors	680 Policy measures (positive, negative or mixed) across 10 sectors
Scoring system	Green, Red, Conditional Red	10-point Likert scale + "coverage" + "underlying sector context"	5- and 3-point Likert scale + "emissions intensity adjustment factors"	5-point Likert scale + "unclear climate impact" category	4-point Likert scale + "other"	Positive, negative or mixed based on clear environmental impact and "DNSH" criteria
Environmental regulations	✗	✓	✗	✓	✓	✓

Source: adapted from Eltokhy et al., 2021; OECD 2021.

64. In jurisdictions including Bangladesh, China, the EU, Japan, Malaysia, Mongolia, Russia and most recently in 2022 in Colombia, Indonesia, South Africa and Sri Lanka, green taxonomy regulations, guidance or eligibility lists are already in place. Further jurisdictions are currently developing, have published drafts, or are considering green taxonomies, such as South Korea, ASEAN, Australia, Bhutan, Brazil, Canada, Chile, Dominican Republic, India, Kazakhstan, New Zealand, Philippines, Singapore, Thailand, the United Kingdom, Vietnam and Mexico, and Sri Lanka (Xu et al., 2022, with additional research of technical authors).[23]

65. While the principles and methodologies of national taxonomies differ, they generally follow three approaches listed below (UN-DESA and IPSF, 2021).[24] Overlap between approaches is evident, and the three methodologies can be used independently or in combination. For example, a taxonomy based on a technical screen criteria-based approach could include a white-list for some activities or could contain guiding principles.

- **Whitelist-based** approaches focus on identifying eligible projects or economic activities under each sector or sub-sector. Instead of following a technology-neutral approach, this type of classification lists technologies that are considered green or sustainable and provides detailed descriptions of eligibility. The whitelist-based taxonomies do not always start by screening whole economic activities but seek to identify activities that are already green or contain green components

23) Xiaoyun Xu, Wenhong Xie, Manshu Deng. 2022. Global green taxonomy development, alignment, and implementation. Climate Bonds Initiative. Available at https://www.climatebonds.net/files/reports/cbi_taxonomy_ukpact_2022_eng.pdf.

24) UN-DESA and IPSF. 2021. Improving compatibility of approaches to identify, verify and align investments to sustainability goals. UNDESA/IPSF G20 SFWG Input Paper September 2021. Available at https://g20sfwg.org/wp-content/uploads/2021/09/G20-SFWG-DESA-and-IPSF-input-paper.pdf.

which could bring more positive impacts to the environment. The whitelist approach could contain technical screening standards for certain activities and projects to define eligibility. This approach was applied to the taxonomies developed by Bangladesh, China, Mongolia, and Russia;

- **Technical screening criteria based** approaches: TSC informs thresholds and screening criteria for economic activities and their compliance with the specific objectives. The TSC determine whether economic activities are making a substantial contribution to environmental objectives and, if the concept is in use by taxonomies, DNSH to other environmental objectives. Within sectors or sub-sectors, the TSC approach is intended to be technology-neutral in screening the eligible projects and assets and activities for inclusion and therefore does not predetermine any specific technology. However, the operationalisation of the TSC necessitates availability of granular sectoral and activity-level data. The EU, South Africa, Colombian and Korean taxonomies have adopted the technical screening criteria approach, while the ASEAN Plus Standard and Chilean taxonomies are currently developing this methodology for selected or all sectors, respectively (CBI, 2022);
- **Principle-based** approaches define a set of core principles for market participants. This approach is in use by taxonomies developed by Malaysia and Japan. The method is similar to the Green Bond Principles published by International Capital Market Association. Bank Negara Malaysia uses a principles-based taxonomy for climate change mitigation and adaptation. It contains core guiding principles to assess which economic activities can be funded and includes a non-exhaustive list of examples, thereby adding a white-list component.

66. Following from differing methodologies for taxonomy development, jurisdictions differ in the classification of eligible sectors and activities. To screen and select sectors and activities, jurisdictions draw from varying classification systems. The EU taxonomy applies the industrial classification system of economic activities (Statistical Classification of Economic Activities in the European Community, known as NACE), while ASEAN identifies sectors in scope based on the International Standard Industrial Classification of All Economic Activities (ISIC) due to its commonality with the regionally applicable AMS NSIC codes. Other countries define sectors and activities based on national priorities or draw from sector or activity lists as contained in national climate policy plans, such as is the case in Bangladesh, Colombia or Mongolia.

67. The Common Ground Taxonomy (GST) published by the IPSF Taxonomy Working Group in 2021 makes an attempt to increase comparability of the EU and China taxonomy through presenting a CGT framework for an initial set of 79 activities across six sectors in the ISIC classification.[25]

68. The breadth of taxonomies in use or where draft methodologies have been published allows for a comparison of existing operational definitions of climate finance through the analysis of positive activity lists (whitelists), TSC-based lists, or principle-based approaches. An overview of taxonomies that explicitly mention climate change mitigation[26] is provided in the table below that presents a mapping of common and uncommon activities according to the frequency across reviewed classification systems.

69. Across the mapped taxonomies commonly included activities and approaches to criteria setting vary, reflecting in parts the national or regional context and economic or sectoral composition.

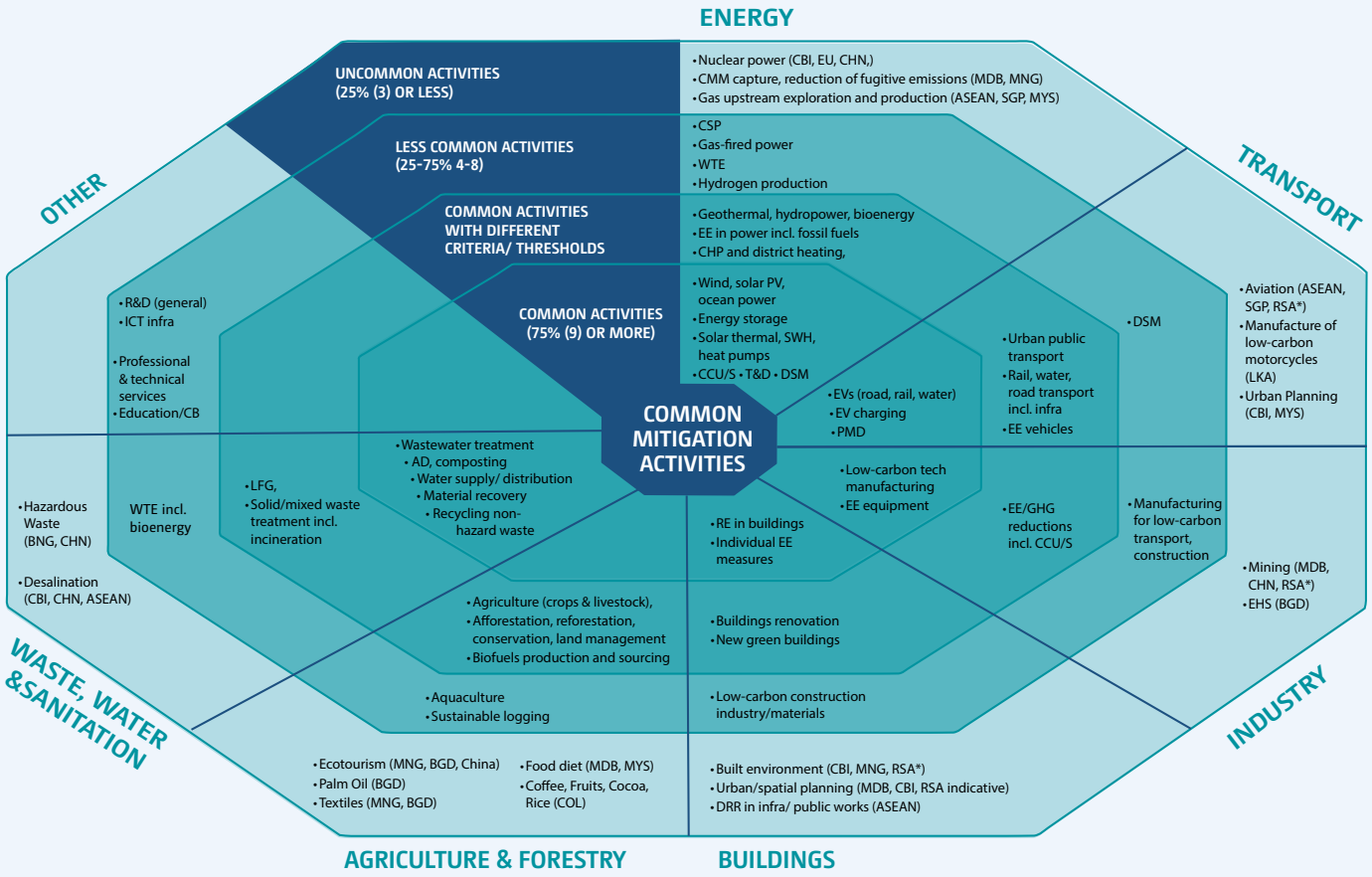
- Common activities are evident in the sub-sector of **renewable energies** for power generation that are included in all taxonomies with uniform criteria for solar, wind and ocean/marine power as eligible in principle. However, eligibility criteria can differ for other forms of renewable energies such as geothermal, hydropower or bioenergy. For power generation, cogeneration or heat & cool from bioenergy in particular, approaches differ from general inclusion (whitelisting) to C02 intensity thresholds or emission reduction targets against fossil fuel comparators. In addition, varying sustainability requirements to biofuel sourcing and manufacture exist through differing forestry plans or monitoring reporting and verification standards. The MDB Common Principles exclude first generation liquid biofuels unless sourced from waste;

25) The International Platform on Sustainable Finance (IPSF) was launched in 2018 and has expanded to 18 member countries or jurisdictions since. IPSF is committed to fostering the global and comparability and interoperability of sustainability approaches, including definitions and taxonomies, taking due account of local specificities and transition considerations. IPSF. 2021. Common Ground Taxonomy – Climate Change Mitigation. Instruction Report. IPSF Taxonomy Working Group. Available at https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/211104-ipsf-common-ground-taxonomy-instruction-report-2021_en.pdf.

26) These include the updated MDB-IDFC Common Principles for Climate Change Mitigation Finance Tracking, the CBI Taxonomy and the taxonomies of the following jurisdictions: ASEAN, Bangladesh, China, Colombia, EU, Malaysia, Mongolia and South Africa.

Figure 1.2

Mapping of common and uncommon activities relevant to climate mitigation among existing positive activity lists and taxonomies



EXCLUSION LISTS OR EXAMPLES

ENERGY

- Coal-fired power (EU, BGD, MDB). All solid fossil fuels (SGP)
- T&D dedicated exclusively to fossil fuel power (EU, COL, RSA, MDB, CBI, SGP)
- MDB: peat-fired power, Brownfield displacement of carbon intensive fuel with lower carbon fuel when electricity generation only, Fossil fuel upstream and midstream, Nuclear power, first generation biofuels unless sourced from waste, Utilisation of gas from oil or coal production.
- CBI: Coal or oil power or combined heat and power (CHP) without CCS; WHR from coal or oil power, coal mining or oil upstream
- SGP: New gas power plants, Power plants dedicated to support fossil fuel infrastructure or operations

TRANSPORT

- Fossil fuel dedicated infrastructure (MDB, EU, COL, RSA, CBI, SGP)
- New road infrastructure (CBI, SGP)
- MDB: transport of blended fossil fuels
- CBI:, oil tankers or other ships solely transporting coal or oil, non zero-emissions HGVs, biofuel vehicles
- COL: Hybrid vehicles
- SGP: Infrastructure encouraging maintained/increased ICE vehicle use; Parking facilities; Fossil fuel filling stations

INDUSTRY

- CBI: Products dedicated to clean-up or efficiency of fossil fuel energy

BUILDINGS

- SGP: Buildings dedicated to extraction, storage, manufacturing, transport of fossil fuels'.

AGRICULTURE & FORESTRY

- CBI: agriculture/timber production on peatland
- MDB: Activities leading to deforestation
- MYS: illegal deforestation leading to soil degradation and release of Co2

WASTE, WATER & SANITATION

CBI: Landfill waste collection facilities, Landfill without gas capture

Sources: AfDB et al, 2021; ASEAN, 2021; Bangladesh Bank, 2020; Bank Negara, 2021; CBI 2021; EU COM, 2021; Financial Stability Commission of Mongolia, 2021; Gobierno de Colombia, 2022; National Treasury RSA, 2022, GFIT, 2022, Central Bank of Sri Lanka, 2022; PCOB, 2021

Note:

1. Common activities are those in 75 per cent of taxonomies reviewed (9 out of 12); 2. Less common activites are those between 25-75 per cent of taxonomies viewed (4-8); 3. Uncommon activities are those in 1-25 per cent of taxonomines reviewed. In the case of Malaysia, the mapping is restricted to the common climate change mitigation activities as stated under Guiding Principle 1 (GP1): climate change mitigation of the document. "Activities to be developed in the future" are mapped as indicative activities for the South Africa Green Finance Taxonomy. While technical screening criteria are under development, the ASEAN Taxonomy – Version 1 has been included only for the assessment of common or uncommon activities in scope, as they are indicated in the ASEAN Taxonomy – Version 1 document through the provided activity list of selected focus sectors.

Note: Data as of 11 August 2022

Abbreviations: AD=Anaerobic digestion, ASEAN=Association of South East Asian Nations, BGD=Bangladesh, CBI=Climate Bonds Initiative, CCU/S= carbon capture and storage CHN=China, CHP=combined heat and power, CMM=Coal mine methane, COL=Colombia, CSP=Concentrated solar power, DRR=Disaster risk reduction, DSM=Demand side management, EE=Energy efficiency, EHS= environment, health and safety, EU=European Union, ICT=Information and communication technologies, LFG=Landfill gas, LKA=Sri Lanka, MDB=multilateral development bank, MYS=Malaysia, MNG=Mongolia, PMD=Personal mobility devices, PV=Photovoltaic, RE=Renewable energy, RSA=South Africa, SGP=Singapore, SWH=solar water heaters, T&D=transmission and distribution, WHR=Waste heat recovery, WTE=waste-to-energy.

- Approaches to the **inclusion of lower-carbon fossil fuels and nuclear energy** power generation vary. Gas-fired power generation and efficiency and emissions improvements of other types of fossil fuel generation are either not eligible (RSA, COL) or can be subject to specified life-cycle emission thresholds over time (EU, SGP, LKA for gas), have specific requirements for fuel switch away from coal or percentage of emissions reduction (MNG), or are eligible in the context of multi-energy complementary systems (CHN). The Mongolian taxonomy also has special considerations for improved clean coal technologies in rural areas. MDB common principles exclude fossil fuels for standalone electricity generation, while lower-carbon fuel switch and efficiency improvements are under certain conditions eligible for cogeneration and/or heat and cool generation, which is similar to the Malaysian approach. Common amongst taxonomies is the exclusion of thermal coal fired generation activities as well as upstream and mid-stream activities related to coal. CBI, China, and the EU include nuclear power generation while many other taxonomies do not feature this form of generation and the MDB Common Principles and the Bangladesh taxonomy exclude the activity explicitly;
- In the **transport** sector, all forms of zero tailpipe emissions transport, including electric vehicles, railways or water vessels, as well as charging infrastructure and personal non-motorised mobility are included in green taxonomies. Approaches to other forms of low-carbon transport and for modal shift differ across taxonomies. Urban public transport in other than zero-emission modes can be considered as generally eligible or is subject to requirements for a shift to low-carbon transport modes within short to medium time horizons. Infrastructure investments, for roads, railways and waterways are similarly subject to varying criteria with regards to demonstration of GHG savings or modal shifts from high carbon modes. CBI excludes all new road infrastructure in principle. Most taxonomies exclude activities dedicated to the transport of fossil fuels;
- In the **industrial and manufacturing sector**, the manufacture of renewable and low-carbon or energy efficient technologies as well as batteries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are generally eligible for green finance. Approaches to energy and resource efficiency and emissions improvements differ with regards to sub-sector specific thresholds (EU, RSA, COL, CBI, LKA), whitelist approaches (BGD, MNG) or substantial reduction requirements with differentiation based on technology and brown- or greenfield type of activity (MDB);

- Approaches to define **sustainable agricultural activities** including crops, livestock and associated land-use vary. While agricultural activities are common in taxonomies, the requirements set out range from whitelisting (BGD, MNG) and broad inclusion of a variety of agricultural practices (COL), to criteria for demonstrating incremental or substantial emissions reductions or increased attention to bio- and methane gas treatment and soil conservation (MDB, CBI, LKA refers to a range of international certification schemes). Some taxonomies set a country-specific focus on sectors or activities according to national policy or economic priorities. In addition to seven sectors under the climate mitigation objective, the Colombia taxonomy presents three sectors of land use (livestock, agriculture and forestry) under a transversal approach given that these are responsible for 59 per cent of Colombia's greenhouse gas emissions. To tailor taxonomy usability to the specific context of mainly small landholders, land-use improvements are classified along three levels - basic, intermediate and advanced – to reflect implementation and cost considerations. Specific examples of the general sectoral criteria are given for the subsectors of coffee, rice, fruits and cocoa. Similarly, Bangladesh specifies a range of eligible activities in the in the agricultural sector including palm oil production and Mongolia includes sustainable textile processing and production. Reflecting local economic importance, sustainable Eco-tourism is featured in three taxonomies, and is also planned for future integration into the RSA taxonomy;
- **Forestry** is a common sub-sector across all taxonomies with the general eligibility principle of maintaining and improving existing carbon stocks. However, specific eligibility criteria differ from general whitelisting for sustainable forestry activities, to requirements for detailed forestry management plans that can include carbon impact estimations according to varying time-periods.

70. Taxonomies including the climate change adaptation objective are in place amongst others in the EU, China, Mongolia and Bangladesh, and the Climate Bonds Initiative Climate Resilience Principles. Other jurisdictions such as ASEAN and Malaysia focus detailed criteria development initially on the climate mitigation objective of taxonomies before developing adaptation-specific standards (ASEAN, 2021; Bank Negara Malaysia, 2021). Compared to detailed sector-and activity level criteria for mitigation, it is however apparent that most taxonomies currently make recourse to a process-based screening methodology for the adaptation objective rather than defining eligible adaptation activities. This is also motivated by the context specificity of adaptation actions within a given local environment, and the difficulty to establish sector or even cross-sectoral criteria for what constitutes an adequate adaptation measure. The DNSH principle to other environmental objectives based on national, regional or global resilience and biodiversity standards and codes often forms the evaluation baseline, as well as the general conduct of environmental and climate risk and vulnerability assessments. An example of a typical process based qualitative measurement framework for climate adaptation and resilience is the MDB common principles for tracking adaptation finance (AfDB et al., 2021) which is based on the three procedural pillars of:

(1) Setting out the climate change vulnerability context of the project;
(2) Making an explicit statement of intent of the project to reduce climate change vulnerability; and
(3) Articulating a clear and direct link between specific project activities and the project's objective to reduce vulnerability to climate change.

71. Transition Taxonomies: Transition taxonomies are designed to cover a broader range of activities beyond already sustainable "green" activities, recognizing that different sectors, especially in hard-to-abate industries and transport, but also different regions and countries, will have different starting points and different transition potential (OECD, 2020; Xu et al., 2022).[27,28] The discussion on transition finance is evolving in the global markets and in international fora, such as the International Platform on Sustainable Finance and in the G20 Sustainable Finance Working Group. Current taxonomy models suggest different approaches to incorporate transition activities. The Japanese taxonomy establishes

27) OECD.2020. Developing Sustainable Finance Definitions and Taxonomies, Green Finance and Investment. OECD Publishing, Paris, https://doi.org/10.1787/134a2dbe-en.

28) Xiaoyun Xu, Wenhong Xie, Manshu Deng. 2022. Global green taxonomy development, alignment, and implementation. Climate Bonds Initiative. Available at https://www.climatebonds.net/files/reports/cbi_taxonomy_ukpact_2022_eng.pdf.

transition principles and a list of eligible activities. The ASEAN, Indonesia, Singapore or Malaysian taxonomies conceive comprehensive multi-colour screening systems that would enable the ranking of a whole portfolio from "green" to "amber/yellow" and "red" in order to define and incentivise opportunities for finance of activities which can improve environmental performance. The South African taxonomy foresees the future integration of transition components while the EU's Platform on Sustainable Finance in 2022 issued a proposal for extending the EU taxonomy towards incorporating transition considerations and the establishment of an amber category of economic activities at intermediate environmental performance levels (PSF, 2022).[29]

1.2.4. Methods used to aggregate estimates of climate finance flows

72. The CPI global estimates of climate finance flows aggregate transaction data from multiple sources to ascertain the sources and intermediaries of the origin of finance, instruments used, disbursement channels and sector or thematic uses. Data are aggregated from the OECD DAC database, CFU, survey responses from DFIs, BNEF renewable energy databases, IEA, IJglobal, Convergence, and CBI and cross-checked to avoid double counting. In 2021, improvements to the methodology included implementing a revised sector classification that can be applied to both mitigation and adaptation finance flows as opposed to separate sector classifications for both themes. The revised sector classification is derived from drawing, amongst others, from the following economic activities classifications: MDBs, CBI taxonomy, IPCC, the EU taxonomy and OECD' CRS purpose codes. In addition, to estimate sources used for private finance in electric vehicle investments, country-level assumptions on household/corporate market shares, auto-loan market shares and loan-to-value ratios were applied for the first time.

73. Aggregate estimates on climate finance flows from developed to developing countries include the OECD report series on climate finance and the USD 100 billion goal and Oxfam's climate finance shadow report. Since the fourth (2020) BA, only the OECD has published an update in the series covering finance flows in 2019 and 2020 using the same methodology as previous reports. For a detailed description of the methods and ranges see fourth (2020) BA.

1.3. Reporting on climate finance under the Convention and the Paris Agreement

1.3.1. Overview of climate finance reporting under the Convention and the Paris Agreement

74. This section focuses on the methods for reporting on public and private climate finance flows under the Convention. Annex II Parties are required to provide information in their NCs, as well as their BRs and CTF tables 7, 7(a) and 7(b), on the financial resources provided to non-Annex I Parties.[30] Previous BAs provided an in-depth overview on methodological issues related to the reporting of climate finance in the BRs of Annex II Parties (see the fourth (2020) BA for an overview on methodological issues from fourth biennial reports of Annex II Parties).

75. COP 25 in 2019 decided to change the due date for submission of the fifth biennial reports of Annex I Parties (including Annex II Parties) from 1 January 2022 to no later than 31 December 2022 in order to provide Parties with the opportunity to include annual GHG inventory data for 2020 in these reports.[31] Preliminary data on climate finance provided and mobilized by Annex II Parties for the years 2019 and 2020 are outlined in Chapter 2, however an analysis of methodological approaches is not yet possible as the official biennial report submissions are to be submitted after publication of the fifth BA. Please refer to section 1.2.1 for information on how Parties have reported climate finance to the UNFCCC based on the results of a survey by the OECD DAC secretariat (OECD, 2022).

76. This section therefore focuses on updates to reporting on climate finance under the enhanced transparency framework based on the newly adopted CTFs. It also provides an overview of reporting on climate finance received by non-Annex I Parties in their BURs before presenting information on reporting by the operating entities of the Financial Mechanism of the Convention and its Kyoto Protocol.

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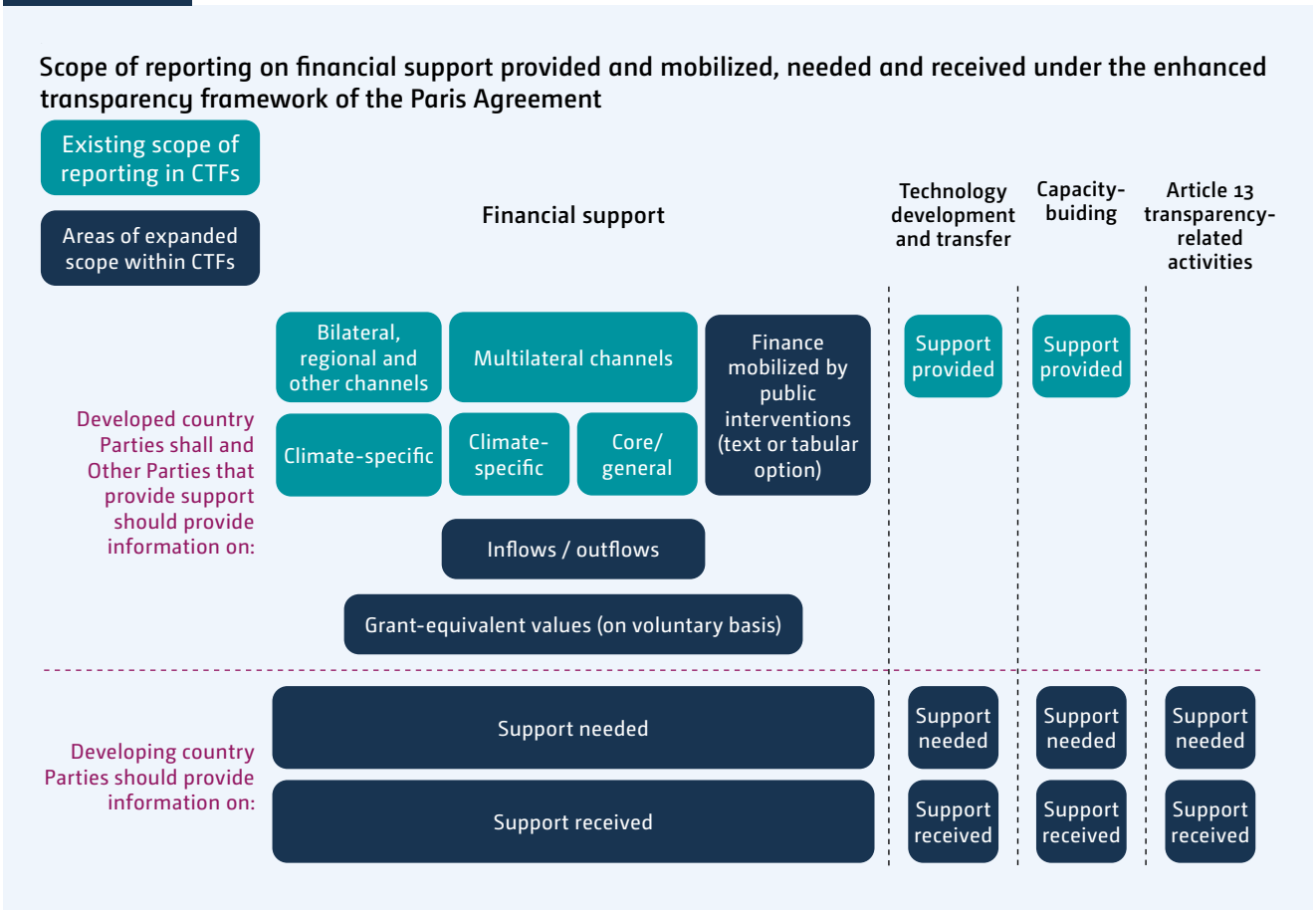
29) Platform on Sustainable Finance. 2022. The Extended Environmental Taxonomy. Final Report on Taxonomy extension options supporting a sustainable transition. March 2022. Available at https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/220329-sustainable-finance-platform-finance-report-environmental-transition-taxonomy_en.pdf.

30) Features of the current system of the measuring, reporting and verification of support are described in a technical paper prepared by the UNFCCC secretariat, available at http://unfccc.int/sites/default/files/resource/docs/2017/tp/01.pdf.

31) see decision 6/CP.25, para.3.

Figure 1.3



1.3.2. Reporting on climate finance provided and mobilized, needed and received under the enhanced transparency framework of the Paris Agreement

77. In 2018, CMA 1 adopted the modalities, procedures and guidelines for developed country Parties to report on the financial support they provide and mobilize and for developing country Parties to report on their finance needs and finance received. Other Parties who provide support should also provide such information and are encouraged to use the same modalities, procedures and guidelines.[32] The CTFs, as applicable, were developed under the SBSTA from 2019 and adopted by Parties at CMA 3 in 2021.[33] Parties are due to submit their first biennial transparency reports under the Paris Agreement by the end of 2024, including CTFs, as applicable, as well as the underlying assumptions, definitions and methodologies used in the reports.

78. In adopting the CTFs at CMA 3, a number of key changes in scope, clarity and ease of implementation for Parties were introduced in comparison to the existing reporting framework and CTFs in use by Annex II Parties. In terms of scope, developed country Parties have three CTFs to report financial support provided through bilateral, regional and other channels, multilateral channels, and finance mobilized by public interventions with the option to report the latter information in either textual or tabular format. In addition, columns for providing information on grant-equivalent values of financial support provided and mobilized on a voluntary basis in accordance with decision 18/CMA.1 are featured in each of these CTFs. Furthermore, in the CTF on financial support provided through multilateral channels, information on amounts is differentiated in separate columns between inflows to multilateral institutions and outflows from multilateral institutions. For developing country Parties, CTFs for reporting information on financial support needed and received under Article 9 of the Paris Agreement (provision of financial support) were developed for the first time. In addition, financial amounts are included when reporting information on

32) See decision 18/CMA.1
33) See decision 5/CMA.3

support needed and received for the implementation of Article 13 of the Paris Agreement (the enhanced transparency framework) and transparency-related activities, including for transparency-related capacity building.

79. In addition to the greater clarity on reporting due to expansion of scope, further clarity on other areas of information on financial support are noted:

- Currency exchange rates used in reporting domestic currency and amounts in USD are provided above each of the CTFs on financial support provided and mobilized, needed and received;
- Recipient information in terms of geographic information and titles of project or programme activities are differentiated in separate columns in the CTFs on financial support provided and mobilized;
- Consistent entry categories across the same parameters in multiple CTFs are adopted, for example, recipient information (country, regional or global); sectors (energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting, and other (specify)); status of activity (planned, ongoing, completed). In addition, where information on a sector is to be reported, a parameter on subsector is provided to allow Parties to submit further granular detail;
- Information on financial support provided, needed and received can be tagged as contributing to technology development and transfer and/or capacity building objectives providing further clarity on the linkages across the means of implementation. Furthermore, developing country Parties information on financial support needed can be tagged as whether the activity is anchored in a national strategy and/or an NDC;
- An additional information column is included in each CTF to allow Parties to report, to the extent possible, information on the project/programme and implementing agency and provide a link to any relevant documentation and as appropriate, support to activities related to averting, minimizing and addressing loss and damage associated with the adverse effects of climate change;
- Notation keys are also introduced across the CTFs to support Parties in providing context to information, if a specific parameter is not applicable (NA), if information on the parameter is not available at the time of reporting (UA), and if the Party chooses to not report the information (NR);
- For information related to underlying assumptions, definitions and methodologies used in reporting information on financial support provided and mobilized, needed and received, a space is provided for under each CTF to indicate the relevant page number or link to where this information is available in the BTR.

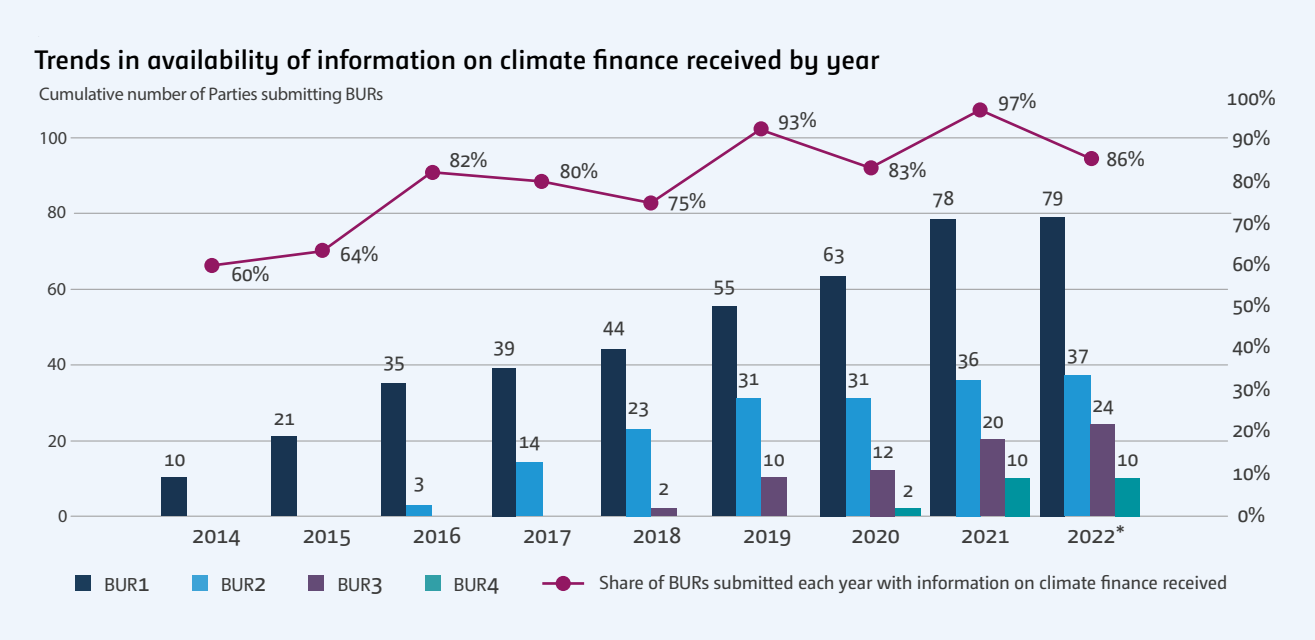
80. A number of arrangements related to the adopted CTFs were also agreed by Parties that may ease the burden in reporting on financial support provided and mobilized, needed and received, as well as provide further transparency:

- Where information on financial support provided is tagged as contributing to technology development and transfer and/or capacity-building objectives, Parties have the option to auto-populate the information under repeating parameters in the CTFs on technology and capacity-building support provided, namely the title of the project, programme or activity, the type of support (adaptation, mitigation, cross-cutting), and the sector;
- In the CTF reporting information on financial support provided through multilateral channels, the structure of the CTF facilitates reporting more than one line entry per multilateral institution. This allows for Parties to differentiate for type of support provided through multilateral institutions when the information on mitigation and/or adaptation amounts is known, rather than each entry categorised as cross-cutting;
- In place of a summary table CTF on information on financial support provided, Parties agreed to request the secretariat to establish an interactive web portal to facilitate the availability of information, by parameter and by year, reported by Parties in their BTR on financial, technology development and transfer and capacity-building support provided and mobilized, needed and received.

1.3.3. Reporting on climate finance received by non-Annex I Parties

81. The "UNFCCC biennial update reporting guidelines for Parties not included in Annex I of the Convention" state that non-Annex I Parties should provide updated information on financial support received from the GEF, Annex II Parties and other Parties that provide support, the GCF and multilateral institutions for activities relating to climate change including for the preparation of

Figure 1.4



Notes: *Data as of 30 June 2022.

BURs.[34] However, until the advent of the ETF described above, there has been no associated common reporting format and limited capacities and resources to track climate finance received can pose challenges for non-Annex I Parties to report this information.

82. As at 30 June 2022, 79 non-Annex I Parties had submitted BURs, up from 63 in the fourth (2020) BA. Six more Parties have submitted a second BUR, 12 a third BUR and 8 more Parties have submitted a fourth BUR since the fourth (2020) BA. The share of BURs with information on climate finance received has continued on an upward trend reaching 97 per cent in 2021 and 86 per cent of the BURs submitted in the first half of 2022.

83. Of the 70 Parties that have submitted information on climate finance received, 65 provide information in tabular formats, up from 48 in the fourth (2020) BA. Fifteen more Parties provide this information at a project level than in the fourth (2020) BA (56 in total), while other Parties provide information by sector aggregates, institution aggregates, or by types of support (mitigation, adaptation etc.).

84. Annex C maps the tabular formats used in BURs to the CTFs agreed for reporting on climate finance received at COP26 (see section 1.3.2). Most Parties reporting in tabular formats include project titles, project descriptions, amounts received, and timeframes, although this can often represent a range of years for all information in the table or where specific start/end years are given.

85. A greater proportion of Parties using tabular formats are reporting information on financial instruments (31–46 per cent), implementing entities (31–37 per cent) and types of support (31–40 per cent) than in the fourth (2020) BA. Information that is reported the least across Parties in tabular format includes information related to the use, impact and results of finance received (four Parties) and whether the finance represents commitments or received funds (seven Parties). Many Parties report both types of actors, recipients and implementers under one column and 60 per cent provide information on the donors, contributors or source of the finance that is not required by the CTF.

86. Most of the Parties submitting BURs have 1 to 3-year time lags between the submission year and the latest reporting year in their tabular formats, which is in line with the reporting requirements in the ETF, although several Parties provide data on a 5 year or more time lag. The provision of annualized data is necessary to support compilation of information on climate finance received across Parties, however, several Parties provide aggregates over a range of years or project level information without specifying the timeframe of the project.

34) See Annex III to decision 2/CP.17.

1.4. Methodologies for measuring climate finance outcomes

87. Many multilateral and bilateral institutions continue to develop new indicators on mitigation and adaptation outcomes at the project level in their official reports This section provides an overview and comparison of methodologies in use, including new developments in reporting international climate finance outcomes since the fourth (2020) BA. Section 3.3.3 below includes an analysis of expected and reported results from the operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol, as synthesized in annex D.

88. Result and impact frameworks have been progressing recently, with funds such as the GCF (2021), GEF (2019) and AF (2019) updating its respective result management systems. After an independent review in 2018, the GCF developed IRMF that provides an enhanced and simplified measurement architecture and reduces the number of indicators tracked from 177 to 42. The GEF has begun to roll out its revised reporting framework based on 11 Core indicators during GEF-7 captured in the GEF Scorecard, with improved portfolio coverage expected for GEF-8.

89. Funds typically report results according to a bottom-up structure whereby detailed project-level sub-indicators are aggregated to a smaller defined set of core portfolio-level indicators. In addition, some funds such as the GCF or CTF-FIP seek to capture the systemic or transformational impact of its intervention through qualitative or quantitative indicators that are part of the project-level reporting requirements.

90. For this BA, a mapping of results frameworks of multilateral climate funds shows a total range of 141 outcome or output level indicators in use.[35] Of those, 48 core impact indicators are reported at the portfolio level, aggregated from individual project-level results. The funds reviewed report on between 4 and 11 core indicators. Table 1.3 provides a breakdown of the core indicators reported, disaggregated by applicable theme and most relevant sectors. Some indicators are presented

35) The AF, GCF, GEF, LDCF/SSSF, and the CIF associated funds (CTF, FIP, SREP, PPCR) were included in the analysis.

Table 1.3

Overview of core result indicators in use by multilateral climate funds, by theme and sector

Sector	Theme					
	Mitigation			*Adaptation*		
	Indicator	*Unit*	*Fund*	*Indicator*	*Unit*	*Fund*
Cross-cutting	1) Greenhouse gas emissions mitigated or avoided	tC02	GCF, GEF, CIF, FIP, SREP	1) Number of direct and indirect beneficiaries / livelihood co-benefits	Number of beneficiaries (disaggregated by gender)	AF, GCF, GEF, LDCF/SCCF, FIP
	2) Number of direct and indirect beneficiaries / improved access to energy	Number of beneficiaries (disaggregated by gender)	GCF, GEF, LDCF / SCCF, FIP, SREP	2) Area of land or ecosystems brought under sustainable/ improved/ climate-resilient management practices	Hectares	GCF, GEF, AF, LDCF / SCCF, FIP, PPCR
	3) Value of physical assets made more able to reduce GHG emissions	Value in USD million	GCF	3) Value of physical assets made more resilient to the effects of climate change	Value in USD million	GCF
				4) Early Warning Systems implemented	Number of projects, systems or beneficiaries	AF, LDCF / SCCF (not core: GCF)
				5) Number of assets, policies or institutions increasing adaptive capacities and resilience or introduce MRV / RVA systems	Number of asset/ policies /institutions	AF, LDCF / SCCF, PPCR

Table 1.3 (continued)

Overview of core result indicators in use by multilateral climate funds, by theme and sector

	Theme					
	Sector-specific indicators					
Energy	Installed capacity	MW	CIF, GEF	3) Crosscutting indicator	Value in USD	GCF
	Installed renewable energy capacity (per technology) or energy storage capacity	MW / MWh	SREP (not core: GCF)	Reduction, avoidance of emissions of POPS to air from point and non-point sources	Weight (Grams of toxic equivalent gTEQ)	GEF
	Energy savings (annually or total)	MWh/ MJ	CTF, (not core GEF, GCF)			
	Businesses with improved access to energy	Number of businesses	SREP			
Transport	Number of additional passengers, using low carbon transport	Number of passengers per day (disaggregated by men and women if feasible)	CIF	Km of climate resilient road constructed or rehabilitated	Km	PPCR
	Improved low-emission vehicle fuel economy	Volume of fuel per kilometre travelled	GCF	3) Crosscutting indicator	Value in USD	GCF
Industry	Reduction, disposal/ destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes*	Metric tons	GEF	Reduction, disposal/ destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes*	Metric tonnes	GEF
				Reduction, avoidance of emissions of POPS to air from point and non-point sources	Weight (Grams of toxic equivalent gTEQ)	GEF
Agriculture & Forestry	3) Crosscutting indicator	tCO_2e	GCF, GEF, FIP	2) Crosscutting indicator	Hectares	AF, GCF, GEF, FIP, LDCF/ SCCC, PPCR
				Number of livestock brought under sustainable management practices	Tonnes of livestock	GCF
				Area of High Conservation Value forest loss avoided	Hectares	GEF
				Reduction, avoidance of emissions of POPS to air from point and non-point sources	Weight (Grams of toxic equivalent gTEQ)	GEF
				Reduction, disposal/ destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes	Metric tons	GCF

Table 1.3 (continued)

Overview of core result indicators in use by multilateral climate funds, by theme and sector

	Theme					
Water and Sanitation	Hectares of natural resource areas brought under improved low emission practices	Hectares	GCF	Number of shared water ecosystems (fresh or marine) under new or improved cooperative management	Number of systems / policies	GEF
				1) Crosscutting indicator	Number of beneficiaries	GEF
Other (Infra-structure incl. buildings and cities)				M of coastline protected	Metres	AF
				1) and 3) Crosscutting indicator	Value / Beneficiaries	GCF
Other (Land Use & Biodiversity	1) Crosscutting indicator	tCO_2e	GCF, GEF, FIP	2) Crosscutting indicator	Hectares	GEF, FIP
	Area of land restored or under sustainable management practices	Hectares	GEF, FIP	Increased ecosystem resilience in response to climate change induced stresses	Hectares	AF
Other (Marine incl. Fisheries)				2) Crosscutting indicator	Hectares	GEF
				Number of shared water ecosystems (fresh or marine) under new or improved cooperative management	Number of systems / policies	GEF
				Globally over-exploited fisheries moved to more sustainable levels	Metric tonnes	GEF
Other (Health and Food)				2) Crosscutting indicator	Number of beneficiaries	GCF
Other (Finance)				Number of targeted institutions benefitting from the direct access and enhanced direct access modality	Number of assets/ systems/ policies & institutions	AF
				Barriers to climate finance access targeted	Qualitative, yes/no	LDCF/SSCF

Note: For mapping purposes, sector classifications from original sources (when available) have been translated to sectors based on categories used in reporting on climate finance to the UNFCCC. Shaded indicators are sub-indicators that show availability of sector-specific granular results indicators with specific metrics beyond the core indicators presented.

*Indicator "Reduction/Phase out of Chemicals" has potential implications for both mitigation and adaptation due to associated emissions reductions as well as positive benefits for human health and status of environmental degradation.

in several sectors and can therefore occur more than once in the table.

91. Outcome indicators for mitigation, are focused on the quantification of GHG emissions mitigated or avoided across sectors such as energy, transport, industry agriculture and forestry or infrastructure, buildings and cities. Some additional measures relate to the number of direct and indirect beneficiaries and the value in USD of physical assets made more able to reduce GHG emissions. Energy sector indicators commonly cover additional low-carbon or renewable power generation capacity installed (in MW) or achieved energy savings in MWh/MJ. In contrast to the energy sector, core indicators for transport, industry or other infrastructure (incl. buildings and cities) are less represented. In the transport sector, the number of additional passengers using low-carbon transport is reported by CIF is available. In industry sectors, the GEF reports a specific indicator on the reduction or phase out of chemicals of global concern to the environment. In the agriculture, forestry, as well as maritime, land use and ecosystems sectors, indicators for terrestrial and maritime areas under improved low-carbon management measured in hectares can cover a range of

activities such as improved land and tenure management, reduction of deforestation or afforestation and restoration of ecosystems leading to improved carbon sinks.

92. Core outcome indicators for adaptation are more diverse than in mitigation. The most common indicators reported include number of beneficiaries, at times split by direct and indirect beneficiaries, and the land or maritime area, measured in hectares, brought under sustainable, improved or climate-resilient practices. These indicators are reported by all adaptation relevant funds AF, GCF, GEF, LDCF/SCCF and PPCR with exception of PPCR for number of beneficiaries. Many other adaptation indicators are expressed with the number of institutions, policies, assets or systems introduced through interventions that increase adaptive capacities and climate resilience or mainstream MRV and risk and vulnerability assessments. Particular attention is directed towards the establishment of early warning systems that is measured as a standalone indicator by four funds, although only the AF reports it as a core indicator on the portfolio level. The GCF measures the value in USD of physical assets made more resilient to the effect of climate change across sectors. Similar to the mitigation theme, the sectors of transport, industry, and infrastructure including cities and buildings have few dedicated outcome indicators, with the exception of kilometres of climate resilient road constructed or rehabilitated (PPPCR), metres of coastline protected (AF) and two GEF measures related to the reduction and avoidance of chemicals and emissions from PoPs.

93. Core and sub-indicator outcomes related to **gender** are reported on the level of gender-disaggregated reporting of number of beneficiaries. The GCF, GEF, LDCF/SCCF and CTF provide gender-disaggregated portfolio-level reporting on number of beneficiaries while AF, FIP and SREP do no not report gender-specific figures. The GCF records gender-disaggregated beneficiary numbers on the project-level for six subcategories pertaining to climate-resilient livelihoods, food security and water security, early warning systems, innovations for climate resilience, and increased resilience climate hazards. The FIP, in its level 2 indicators, reports selectively on the number of land right titles emitted, split by gender.

94. MDBs and IDFC do not currently include information on mitigation and adaptation outcomes in their joint report. As noted in the Fourth BA, MDBs and IDFC developed jointly the climate resilience metrics framework, that since 2020 guides the development of climate resilience metrics for individual projects on two levels: (1) quality of project design (diagnostics, inputs, activities); and (2) project results (outputs, outcomes, impacts).

95. As a result, multilateral and bilateral contributors have variable approaches to reporting on climate finance impacts, including through using indicators. A non-exhaustive overview of results and impact measurement frameworks from these types of providers resulted in a list of 136 core indicators reported on a portfolio-level. Applied indicators and metrics show a considerable overlap with indicators reported from multilateral climate funds and point to a convergence of impact methodologies across sources of climate finance.

96. Table 1.4 lists the metrics applied to report on output and outcome level indicators from the selection of multilateral and bilateral sources studied. Number of beneficiaries and number of assets / policies and plans / projects or solutions are most widely used. Other common metrics are hectares of land or maritime area covered as well as km of transport infrastructure, capacity installed in MW, and tC02e to measure GHG reductions or emissions avoided.

97. Similar to the existing impact frameworks of multilateral climate funds, the indicator on number of beneficiaries is mostly applied for adaptation (22) while application for cross-cutting (5) and mitigation (4) themes are less frequent.

98. A widely used descriptive output indicator is the Number of assets, policies and plans, projects or other aspects covered through an intervention. A detailed assessment of the 35 indicators in question shows that 14 metrics relate to the number of infrastructure or transport assets constructed or strengthened, 11 metrics focus on the number of projects implemented or supported, and four metrics showing the number of solutions supported. Three indicators present the number of policies and plans, two define the number of businesses supported and one metric, the number of financial solutions provided.

Table 1.4

Impact framework metrics in use by multilateral and bilateral providers

Indicator Metric	Number of indicators	Adaptation	Mitigation	Cross-cutting	Other (non-climate)	Sector
Number of beneficiaries	38	22	4	5	7	multiple
Number	35	15	7	10	3	multiple
hectares	13	13	–	–	–	multiple
Km	8	1	2	5	–	Transport
Monetary unit (USD/EUR/GBP)	8	1	1	6	–	multiple
MW	7	–	7	–	–	Energy
tCO_2e	7	–	7	–	–	multiple
Tonnes	4	4	–	–	–	Waste
m^3	2	1	1	–	–	Water
m^3 / MW	2	2	–	–	–	Water
t/day	2	–	2	–	–	Energy (Hydrogen)
Per cent %	1	–	–	1	–	multiple
MJ	1	–	1	–	–	Energy / Transport
MWh	1	–	1	–	–	Energy
qualitative	1	1	–	–	–	Waste
(Other)	6	3	–	3	–	indicators under development

Sources: ABD, AfDB, WBG, UK ICF, IKI and KFW.

99. While results and impact frameworks are continuously updated and improved over time, a diversity of metrics exist as presented in the analysis above. Given the complexity of sector specific mitigation and adaptation activities, it can be noted that the majority of the granular results sub-indicators are not reported on portfolio level by climate finance providers. Where available however, sub-indicators can be retrieved from the project websites of climate finance providers for each project individually. 93 of such sub-indicators have been identified for the multilateral climate funds alone based on the analysis conducted for table 1.3. Multilateral and bilateral climate finance providers report that a main challenge consists of designing quantitative results indicators for which coherent data availability is ensured and that can meaningfully be aggregated over a sufficiently large range of projects of diverse sectoral and sub-sectoral characteristics (AF, 2021; GCF, 2021).[36]

100. One objective of the multilateral climate funds is to increase transformational and systemic impacts of climate finance. Initial advances have been made to measure long-term institutional, human and socio-economic effects of projects. The GCF for example has introduced a paradigm shift potential measurement in its IRMF to capture transformational impacts along the three dimensions of scale, depth and sustainability via a qualitative scorecard and narrative reporting in Annual Project Reports. However, the mapping conducted confirms the analysis of the review of GEF Results Based Management in so far as the current status of results measurement frameworks of the funds does not provide for a systematic quantification of transformational or long-term results across sectors or themes (GEF, 2021).[37] Most core indicators addressing institutional transformation or human capacity building remain on the level of reporting the number of assets, systems, policies or institutions introduced or addressed, while time-considerations or longevity of past interventions are absent from results frameworks reviewed.

101. A persistent challenge in climate finance measurement frameworks is that direct project output indicators are more easily defined than outcome-level indicators, especially for adaptation or those covering socio-economic aspects. Many reviewed core and sub-indicators in use provide a descriptive metric, for example on number of beneficiaries or staff targeted (total or percentages), area of terrestrial or maritime land covered, or number of assets, institutions or policies introduced. While these measures offer information on the immediate output from interventions, desired outcomes such as increased resilience, adaptative capacities, diversified and low-carbon based incomes or jobs, are less visible in current frameworks.

102. Some institutions are undertaking efforts to diversify outcome and impacts tracked, in order to design tailored indicators for sectors and to increase transparency on outcomes for cross-cutting societal issues. **KFW Bank** has developed a comprehensive new impact management system, that will be reported on from 2022 onwards with 22 impact categories covering all three dimensions of sustainability (economic, environmental and social) that are oriented on the 2030 Agenda and the 17 SDGs. 44 qualitative and quantitative core KFW indicators are reported, alongside 38 secondary-indicators. Where possible, KFW's impact indicators are based on the Green Bond Principles or internationally harmonised impact investing indicators IRIS+ that measure the social, environmental or financial performance of organisations or businesses. The indicators will result in a KFW-wide 'impact balance sheet'. These can be quantitative (e.g. number of jobs secured) or qualitative/quantitative (e.g. SME business ratio based on local/internal SME definition). The indicators can be measured at output, outcome or impact level depending on data availability and are thus to be interpreted in part as estimates for particular impact goals. Some impact categories capturing in particular social, equity and gender dimensions are still under development. This concerns for example Impact category (7): creating and securing decent work, (16): empowered communities or (20): inclusion and equality.

103. In 2019, the **CIF** introduced the SEDICI workstream to understand and quantify the SEDICI, across its component funds. Three econometric modelling tools are used to derive estimates for employment effects, induced jobs and economic value added, generated by salaries, taxes and profits of operations both direct and supply chain. Pilot studies by the CTF and SREP emphasise that current sectoral and country-level data availability often constrain the efficiency of applied methodologies. It is noted that as with other economic models - because they are based on macroeconomic country and sector averages as well as project assumptions and conversions - results may differ from actual practices due to unique company and project characteristics that cannot be observed at

36) AF. 2021. Annual Results Report 2021. Available at https://www.adaptation-fund.org/wp-content/uploads/2022/01/AF_APR_2021_English_final.pdf and GCF. 2021. Integrated Results Management Framework. Available at https://www.greenclimate.fund/sites/default/files/document/gcf-b28-09.pdf.

37) GEF. 2021. Annual Results Report 2021. Available at https://www.thegef.org/sites/default/files/2021-11/EN_GEF.E.C.61.Inf_.02_Annual_Performance_Report_2021.pdf.

an aggregate level. While these models can well apply to agricultural and forestry activities such as in the case of the FIP, ecosystem focused interventions may be most difficult to quantify. The CIF is, since 2020, refining the methodological estimation approach in consultations with MDB partners and relevant stakeholders and is, in a second step, conducting a mixed-methods evaluation. The evaluation will focus not only on economic impacts, but also on other social, environmental, and market impacts that are more qualitative in nature such as in the area of health, energy security or competitiveness. (CIF, 2021).[38]

1.5. Emerging methodologies relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

104. Since the fourth (2020) BA, a number of methodologies and metrics have been developed by private and public actors relevant to the goal under Article 2, paragraph 1(c), of making finance flows consistent with a pathway towards low-emission and climate-resilient development (hereafter referred to as Article 2.1c). The methods and tools are developed to respond to two key drivers:

- Commitments by public and private actors to align their activities with the goals of the Paris Agreement, particularly for financial sector actors to ensure their financing activities are consistent with the goals of the Paris Agreement, for example through the increasing adoption of net zero commitments under the umbrella forum GFANZ covering asset owners, asset managers and investors, banking, and insurance communities;
- Increasing number of regulatory and supervisory authorities mandating climate-related risk disclosures in financial markets, including physical and transition-related climate risks, for example in the EU, Brazil. USA, UK, Australia and others.

105. A common building block for methodologies and tools are the choice of appropriate reference pathways or scenarios to use in assessing consistency/alignment and/or exposure to climate-related risks. How these reference pathways are used can differ in the way consistency/alignment and/or exposure for actors in the real-economy and the financial economy. This section discusses in turn:

- Updates to reference pathways in use;
- Methods and metrics applied to corporate or real economy actors;
- Methods and metrics applied to investor portfolios;
- Updates on climate-related risk disclosure frameworks for managing physical and transition risks.

1.5.1. Updates of reference pathways in use

106. For assessing the consistency of actions with the long-term goals of the Paris Agreement, a common approach is the identification of transition pathways of investments or financed activities, in particular with regards to emission reductions. Such pathways often apply decarbonization scenarios based on forward-looking integrated assessment models or national pathways for projected GHG emission reduction targets. Climate scenario analysis is increasingly being applied with regards to both climate change mitigation and climate adaptation and resilience. They can facilitate the determination of emission reduction trajectories and target setting as well as inform climate risk assessments and risk management approaches including stress testing.

107. For financial and non-financial private actors as well as governmental and supervisory authorities, the selection of appropriate climate scenarios for mitigation and resilience alignment pathways is subject to a variety of design characteristics, depending on the objective, scope and needs of consistency measurement. This matters for setting adequate ambition levels for alignment to account for geographical and socio-economic context, economic sector under consideration and for purposes of aggregate portfolio- or more detailed asset-level measurement. Next to temperature alignment, scenarios and derived pathways can, amongst others, vary in granularity with regards to geographical coverage (global, national), global or sectoral estimation, or reliance on carbon offset and removal technologies.

108. Since the fourth (2020) BA, a number of new scenarios and models have been developed to directly support investor action on measuring consistency with Paris goals. They have been recommended by initiatives because of their established authoritative methodologies

38) CIF. 2021. Annual Portfolio Report Available at https://climateinvestmentfunds.org/cif_enc/sites/cif_enc/files/meeting-documents/scf_tfc_15_3.1_fip_orr_final.pdf and CIF 2021. Estimating the Social and Economic Development Impacts of Climate Investments: Initial Findings from CIF's Clean Technology Fund. Available at https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/ctf_social_and_economic_development_impacts_of_climate_investments.pdf.

or use-case specificity with regards to geographical disaggregation, sector coverage or target users.

- The scenarios contained in the **IEA Net Zero by 2050 Report** and the **OECM** provide global models but are in particular employed in alignment approaches to determine sectoral pathways, in the energy and other high-emitting sectors. In its target setting protocol, the NZAO recommends both models for setting sectoral targets and especially considers the OECM. The OECM provides sector specific five-year targets compatible with a 1.5°C pathway no – overshoot scenario (SSP1) for 12 industry sectors according to the Global Industry Classification Standard (GICS) and splits GHG emissions into Scope 1, 2, and 3, which is not offered in the IEA model (NZAOA, 2022);
- Data from the **IEA Energy technology perspectives** is of particular use for the determination of sectoral pathways and company assessments based on technology mix and production-based metrics and is applied amongst others in the PACTA tool or TPI sectoral decarbonization pathways that covers10 industrial sectors (Dietz et al., 2022). Sector- and technology specific energy, emissions and investment information is thereby translated into production-based forecasts and metrics for a given sector that align with specified carbon budgets;
- The **NGFS** has published an updated version of its climate transition scenarios covering the three conceptual dimensions of orderly transition, disorderly transition and hot house world (global warming significantly above 2C degree by 2100), that are designed in particular for use by central banks and financial supervisors and to reflect policy and coordination uncertainties in addition to optimal climate action scenarios. The six available scenarios cover global and sectoral pathways and can be downscaled to 132 countries on main transition indicators such as emission and energy consumption. By providing detailed and publicly available detailed data for both transition and physical risk indicators across regions, countries and sectors, the NGFS is tailored to conduct financial risk management assessments. As one example, NGFS model outputs on emissions, investment needs estimates or revenue impacts can be applied to the UNEP-FI Risk Factor Pathway methodology that signal main commercial credit risk factors (NGFS, 2021);
- As an investor-led initiative and commissioned by the PRI, the IPR has developed an **IPR Forecast Policy Scenario (FPS)** that can be contrasted with an ideal-type 1.5°C RPS. The objective of the IFP is to model the most likely evolution of global climate policies and technological developments in conjunction with macro-economic, energy and land use forecasts. The FPS is based on IEA Net Zero Scenario (2021) and assumes an 80 per cent reduction of total C02 emissions by 2050, with 50 per cent likelihood of limiting global warming to below 2°C (1.8°C). Valuable for transition risk analysis in the private sector as a policy-oriented forecast scenario, it has been taken up by more than 100 PRI signatories as of December 2021 and is integrated into the PACTA Transition Disruption Metric (TSD) that measures on a 6-point scale how strongly financial portfolios would be impacted if full alignment with the FPS scenario by 2030 was implemented (IPR, 2021);
- The **Mission Possible Partnership** is an industry-led collaboration to define 1.5 degree aligned sectoral decarbonization pathways. It provides a detailed indication on expected technology changes and investment estimates required to achieve modelled climate outcomes that are specified as sectoral annual GHG emission reductions and cumulative GHG emissions. Detailed pathways are available for the aviation, trucking and shipping sector, while further sectoral guidelines are currently under development.

109. A review of climate mitigation scenarios in use by methodology providers noted how the absence of agreed approaches to disaggregate or downscale the global temperature goal is a source of uncertainty and variation when assessing the alignment of financial assets (Noels and Jachnik, 2022). As scenarios do not often match the sectoral or geographical specificity needed to match with individual financial assets, including the rate of how different sectors or countries may decarbonise over time, it can pose challenges to understand alignment in terms of economic classifications or equity considerations.

110. Table 1.5 presents an overview of some of the most widely referenced publicly available climate scenarios that are applied for alignment pathways and climate risk modelling by private and public actors.

111. As noted in section 1.2.3, green, sustainable and transition finance taxonomies as well as other classification lists of economic activities are increasingly being developed and in use to direct financial flows towards environmentally sustainable sectors and activities. While development is undertaken by public bodies and private sector organizations alike and has

proliferated significantly in recent years, the application of such taxonomy frameworks is mostly directed towards incentivising and regulating private sector financial products that claim a green, sustainable or climate impact or alignment. Across national taxonomies, criteria for different activities often relate to different pathways consistent with political targets on emission reductions and/or best performing practices and processes in the given sector as well as take into account country-and regional specific economic socio- economic profiles. (see section 1.2.3 for a discussion and overview on national green taxonomies).

112. A recent global trend is the formulation of **transition taxonomies** or principle-based frameworks for transition financing. In extension to green classification lists, transition taxonomies are aimed at financing the improvement in environmental performance of all kinds of economic activities, often focussing on hard-to-abate economic sectors and carbon-intensive activities. At least the following transition taxonomies or green taxonomies with transition components have been identified or are currently under development:

- Regional and national jurisdictions: ASEAN, EU, Japan, Malaysia, Russia, Singapore, South Africa;
- Non-state entities (private sector and non-governmental organizations): CBI, ICMA, Natixis, AXA IM, DBS, CSA (Canada), CDP/WWF.

113. What is considered as eligible within a transition finance taxonomy vary based on ambition levels of the decarbonisation pathway. In general, transition finance activities are described as those that are a key component of the current economic system, have no readily available green alternative (substitutability), while it is often specified that they shall avoid a lock-in of fossil fuel-intensive activities over time. A review of existing approaches finds that the commitment to low greenhouse gas emissions pathways is the central aspect of transition finance, and often formulated as alignment to the long term (temperature) goals of the Paris Agreement (OECD, 2021). How these pathways are defined in detail varies among frameworks, and the role of NDCs as guidelines for determining transition trajectories is subject to different interpretations, as is also the case among green taxonomies. The definition of transition criteria or principles reviewed are structured


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Table 1.5

Overview of widely used climate models and scenarios relevant to tracking consistency with Article 2.1c including description of ambition and temperature goal, scope, application, and reference sources

Pathway source	Scenarios	Description of ambition and temperature goal	Scope	Users	Reference information used (if any)
IPCC **IPCC 1.5C Special Report (2018)** **Note: AR6 findings (2022) not yet incorporated in most models)**	-no/limited overshoot scenarios: P1 – P3 (LED, S1, S2) (AR6 SSP1-1.9) -Below 2°C scenario (AR6 SSP2-2.6)	-No or limited overshoot of 1.5°C, global net anthropogenic CO_2 emissions decline by about 45% from 2010 levels by 2030, reaching net zero around 2050 (2045–2055 interquartile range). -Below 2°C: CO_2 emissions are projected to decline by about 25% by 2030 in most pathways and reach net zero around 2070.	Global	Widely in use e.g. NZAOA TSP2 for portfolio-level, CDP-WWF temperature rating methodology, TCFD recommendation 2c) for climate scenarios	
IEA **Net Zero by 2050 Report (2021)** **Energy Technology Perspectives**	-Net-Zero Scenario (NZE) -Sustainable Development Scenario (SDS) -Stated Policy and Announced Pledges Scenarios (SPS / APS) - B2DS: Beyond 2°C Scenario - 2DS: 2°C Scenario	-50% likelihood of limiting global warming to 1.5C, with carbon budget of 500Gt C02 between 2020 to 2050 -Integrated model for achieving universal energy access, reducing air pollution and combat climate change (SDG7, 3.9, 13) - Scenarios reflecting current stated climate policies (STEPS) and assuming meeting current NDC and climate pledges (APS) – Global temperature rise is kept well below 2°C, and until 2060, the pathway is equivalent as to limit warming to 1.5°C (with an overshoot) -global temperature rise of between 1.7°C and 1.8°C	Global, (limited sectoral) Global	Widely in use e.g. basis of SBTI, IPR models, recommended a.o. by NZBA TPI, PACTA, Arabesque S-Ray Temperature Score	IEA World Energy Model (WEM) Also including IEA Policy and Measures Database, IEA SDG7 Tracker
OECM (2021)	OECM 1.5˚C Trajectory	67% likelihood of limiting global warming to 1.5C, with carbon budget of 400Gt C02 between 2020 to 2050, covering 12 industrial sectors	Global and sectoral	NZAOA TSP2 for sectoral pathways Recommended by NZBA	Energy Balances: IEA GDP: World Bank, Population UN Projections
NGFS **V.2 (2021)**	Orderly scenarios: Net Zero 2050, Below 2°C Disorderly scenarios: Divergent net zero, Delayed transition Hot house world: NDCs scenario, Current Policies	-Orderly: Net Zero 2050 limits global warming to 1.5°C and reaches net zero by 2050; Below 2°C gradually increases policy stringency for 67% chance of limiting warming to below 2°C. - Disorderly: Divergent Net Zero reaches net zero by 2050 but with higher costs due to divergent policies; Delayed transition assumes emissions increase until 2030 and strong policies are needed to limit warming to 2 °C. -Hot house world: Current Policies follows the trajectory of current climate policies resulting in global warming above 3°C, while NDC scenario assumes implementation of current national pledges resulting in global warming of below 2.5°C.	Global and sectoral, downscaling methodology for 132 countries	Central banks and financial supervisory authorities, Recommended by NZBA	Based on existing transition scenario databases for the IPCC Special Report on 1.5 °C and relevant physical risk data

Table 1.5 (continued)

Overview of widely used climate models and scenarios relevant to tracking consistency with Article 2.1c including description of ambition and temperature goal, scope, application, and reference sources

Pathway source	Scenarios	Description of ambition and temperature goal	Scope	Users	Reference information used (if any)
Inevitable Policy Response - IPR (2021)	IPR Forecast Policy Scenario (FPS) IPR '1.5°C RPS'	Assumes 80% reduction of total C02 emissions by 2050, with 50% likelihood of limiting global warming to below 2°C (1.8°C). Policy forecast of anticipated policy and technology developments and macroeconomic, energy and land use models. Net Zero total CO_2 emissions by 2050 (no likelihood, carbon budget or reliance on negative emissions stated).	Global and sectoral	Financial Institutions, commissioned by PRI and supported by industry and NGO stakeholders, integrated in PACTA Transition Disruption Metric	IEA Net Zero Scenario (2021) RPS: Building on IEA NZS, deepening analysis on policy, land use, emerging economies, NETs and value drivers.
Mission Impossible Partnership	Net-zero Pathways for specified economic sector	Definition of sectoral emission reduction pathways and cumulative GHG emissions until 2050, based on technology mix, policy and investment input of factors Sectors covered Trucking, Shipping, Aviation, to be developed Aluminium, Chemicals, Concrete/Cement, Steel	Sectoral	Industry collaboration (real-economy and financial sector)	Aviation: IPCC 1.5 scenario disaggregated to sector through BNEF NEO an IEA NZE report Trucking: BP Energy Outlook 250 for carbon costs Shipping: UMAS model (2019). Reducing the Maritime Sector's Contribution to Climate Change and Air Pollution. model

along science-based targets, best in class performance benchmarking or regional and local level socio-economic considerations. The Russian taxonomy for example exhibits a focus on the commodity sector and includes transition projects in its green taxonomy that enable the transformation and improvement of activities, although they are not featured in other taxonomies.

114. A core design features of transition finance taxonomies that differ from green taxonomies are to incorporate several classifications based on climate performance, as opposed to binary green taxonomies. The ASEAN and Singapore taxonomy as well as the EU taxonomy extension proposal build upon a traffic light system of green, amber and red activities, depending on their climate-specific performance. The amber label is set to describe transitioning activities that are on a trajectory towards achieving green status (positive climate contribution) or significantly improve environmental performance. Similar sub-categories are also visible in non-state frameworks, such as CBI's green transition and interim transition or medium and light green in the Cicero framework.

115. Typically, transition frameworks encompass a range of sectors, and often do not specify an activity-eligibility list. Most commonly cited sectors that are exposed to high transition risks and therefore require particular attention for transition finance are fossil fuel power generation, oil & gas extraction, aviation and shipping, transport, steel, cement, chemicals, paper and energy efficiency in manufacturing and construction. The Japan transition taxonomy consists of formulating sector- and technology specific transition roadmaps according to which corporates shall align operations in order to access transition-eligible financing.

116. A dedicated focus on entity level transitions, as opposed to individual activities, is visible in many frameworks. In particular the Japan and Malaysia approaches, as well as private sector and non-state

transition finance frameworks, emphasise eligibility in the case of proven efforts of corporations to decarbonise business models over time. Often, transition finance is made conditional on the formulation of credible transition plans, such as in the extension proposal for the EU taxonomy (EU PSF, 2022). In light of the global developments around transition finance, the International Platform on Sustainable Finance has initiated work to enhance the interoperability and standardisation of transition finance approaches.

1.5.2. Updates on metrics for climate-related physical and transition risks and portfolio performance

117. Another building block for measuring the alignment of real economy and financial activities to the goals of the Paris Agreement are the use of appropriate metrics to measure impact over time and against the reference pathways identified above. Table 1.6 provides an overview of metrics. With regards to climate change mitigation, GHG accounting methods such as financed emissions (absolute GHG emissions of financed entities) as well as the carbon footprint, and revenue and physical based average carbon intensity are widely used concepts (JP Morgan, 2021).

- Financed emissions (tonnes CO_2e): The PCAF standard calculates absolute financed emissions as the product of individual portfolio holdings emissions and the financial attribution factor of the investee, using different approaches per asset class. For corporate assessments, the PCAF standard takes into account Scope 1 and 2 emissions of all entities and Scope 3 value-chain emissions for energy (oil and gas) and mining companies (PCAF, 2020). Other frameworks such as the NZAOA alliance target setting protocol 2 recommend inclusion of scope 3 emissions into a range of priority sectors utilities, steel, aviation, shipping and light duty road transport. The SBTi target setting guidance for financial institution foresees in principle the consideration of scope 3 financed emissions, but allows target setting institutions to report on targets otherwise through sectoral GHG intensity-based metrics from the sectoral decarbonization approach or temperature rating scores of specific asset classes (SBTi, 2022);
- Carbon footprint (tonnes CO_2e/million invested): Portfolio carbon footprint allows to compare portfolio performances by normalizing total financed emissions by the investment value;
- Weighted average carbon intensity-WACI (tonnes CO_2e/million revenues): Indicates exposure to emission intensive entities in portfolio by calculating and aggregating GHG emissions as a share of revenues of invested entities;
- Physical carbon intensity (tonnes CO_2e/unit of production): Allows sector-specific analysis and comparison by calculating the amount of GHG emissions per share of unit of production, according to varying output measures.

118. Intensity-based measurements in general allow for a comparison of portfolio, sectoral and entity-level emissions performance and enable target setting while accounting for economic or output growth. Physical intensity based measures have the advantage to be independent of economic and price volatility, but necessitate however highly granular sector specific data on production metrics. Intensity-based measurements are also subject to concerns related to decreasing the transparency on absolute emissions and decarbonization trajectories. Many governmental and non-governmental actors therefore recommend disclosures and alignment metrics that provide information on both absolute and intensity-based GHG emissions (NGFS, 2022; TCFD, 2022).

119. Further tools developing climate-adjusted financial risk metrics include, for example, PACTA from the 2° Investing Initiative, the CISL's Climate Wise tool, and the Climate Risk Toolkit from Vivid Economics. Bingler and Colestani-Senni, 2020 identify and assess 16 of these tools to assess climate transition risks for financial decision-making. It was found that there are differences in underlying assumptions or scenarios of baseline and transition developments, as well as data input and modelling choices, that call for a more systemic approach towards meaningful climate risk inclusion that can provide consistent results. These tools, however, support the mainstreaming of climate risk in business operations.

120. The measurement of physical climate risk and exposure is less unified and subject to geographical, sector and asset class differences. Measures that can be employed range from number or value of assets in zones of high risk, average climate risk scores by geography or sector, or revenues associated to specific activities. Financial industry frameworks such as the TCFD or International Sustainability Standards Board, in combination with various regional and national non-

Table 1.6

Overview of metrics for climate impact and risk assessment and alignment in use in the financial sector

Type of Indicator	Example metrics
GHG Emissions (Absolute Scope 1,2, and Scope 3 GHG emissions.)	· Financed emissions by asset class. · GHG emissions per MWh of electricity produced. · Gross global Scope 1 GHG emissions covered under emissions-limiting regulations
Portfolio Carbon Footprint.	· Total carbon emissions for a portfolio normalized by the market value of the portfolio, in tons CO_2 emissions/$M invested.
Carbon Intensity	· WACI: Volume of carbon emissions per million dollars of revenue in tons CO_2 emissions/$M revenue. · Physical: Volume of carbon emissions per unit of output in tons CO_2 emissions/unit of output (sector-specific).
Exposure to Carbon-Related Assets (Transition Risks)	· The amount or percentage of carbon-related assets in the portfolio, expressed in $M or percentage of the current portfolio value. · Volume of real estate collaterals highly exposed to transition risk. · Concentration of credit exposure to carbon-related assets. · Percent of revenue from coal mining.
Physical Risks (Amount and extent of assets or business activities vulnerable to physical risks)	· Proportion of property, infrastructure, or other alternative asset portfolios in an area subject to flooding, heat or water stress. · Proportion of real assets exposed to 1:100 or 1:200 climate-related hazards · Physical risk indicator at sector level of portfolio, based on geographical and sectoral risk information
Climate-Related opportunities. (Revenue & assets aligned with climate-related activities)	· Revenues from products or services that support the climate transition · Green Asset Ratio – GAR (Ratio of exposures to green taxonomy aligned activities) · Net premiums written related to energy efficiency and low-carbon technology opportunities · Proportion of homes delivered certified to a third-party green building standard.
Capital Deployment (Capital expenditure, financing, or investment deployed toward climate-related risks and opportunities)	· Percentage of annual revenue invested in R&D of low-carbon products/services · Percentage of capital expenditures that are green taxonomy aligned · Investment in climate adaptation measures (e.g., soil health, irrigation, technology)

Source: Authors analysis adopted from NGFS 2022, TCFD 2021, ECB 2021.

financial disclosure regulations, have advanced the level of detail of climate-related information available.[39] In 2022, the IMF Climate Change Indicators Dashboard, that is linked with the proposed New Data Gaps initiative under the G20, has been launched and includes a suite of financial, physical and transition risk indicators (IMF, 2022). It presents amongst others, metrics for carbon footprint-adjusted loans to total loans disaggregated by country, average non-life insurance premium to GDP, and a country-level physical risk index covering the three dimensions of climate hazards and exposures, climate vulnerability, and lack of coping capacity.

1.5.3. Updates on assessment of real-economy alignment

121. Methods for assessing corporate alignment assessments continue to evolve. More data and application of methods on to the climate performance of individual corporates can help feed into improving methods to determine financial portfolio alignment with the goals of the Paris Agreement. Current methods included that focus on quantitative metrics include:

- **Absolute contraction approaches:** Based on climate scenarios, the annual rate of emissions reductions is identified to keep in line with a specified temperature goal and the same rate is applied to corporations. For example, many companies set absolute emission reduction targets within the Science-Based Target initiative (SBTi). Also the EU regulation on climate transition and Paris-aligned benchmarks uses the IPCC 1.5 °C pathway with limited or no overshoot as the reference pathway for the benchmarks, deriving a reduction of 7 per cent in emissions intensity per year (t CO_2 eq/year/€) as the trajectory. Therefore, an index portfolio must

39) The ISSB has published two draft sustainability standards that focus on disclosure of climate-related and sustainability related financial information in April 2022.

follow this decarbonization rate in order to claim to represent a portion of the economy in line with the Paris Agreement (EU, 2020b);

- Economic intensity based **GEVA** approach: Corporate alignment is measured by economy-wide intensity-based GHG performance, which are derived from general climate scenarios, taking into account parameters such as economic growth and population growth. Some low carbon-intensive companies define Paris aligned trajectories through the GEVA approach under SBTi, in combination with reporting on absolute emissions reduction. Also the S&P Trucost Paris Alignment Dataset builds upon the GEVA approach in combination with SDA;
- Physical intensity based **SDA:** SDA approaches define sector or industry specific emissions performance pathways consistent with global temperature goals. SBTi and Transition Pathway Initiative (TPI) apply SDA where the global carbon budget is divided by sector according to the scenario and then emission reductions are allocated to individual companies based on their sector's budget. Companies measure performance using emission reductions or GHG intensity of production (physical intensity targets). SDA approaches therefore necessitate a level of coherence within sectors or sub-sectors with standardized and meaningful output metrics. Depending on granularity, SDA could take into account economic efficiency of decarbonisation rates across sectors or further geographical and regional discrimination;
- **Capacity- / technology-based approaches:** Capacity based approaches compare and translate production and technology use with the alignment to temperature goals. The PACTA tool uses forward-looking scenarios to derive the physical asset level or technology level production or deployment rate in a range of sectors, for example number of vehicles manufactured or GW installed. This provides regional- and industry-specific performance benchmarks to assess alignment of sectors or individual corporates;
- **Avoided/removed emissions approaches:** This approach measures the induced and avoided emissions throughout the life cycle of production at asset level and produces an aggregate corporate-level metric in order to provide an indicator for financial actors to what extent a given investment will lead to additional and avoided emissions. The Carbon Impact Analytics methodology and Mirova carbon alignment employs this approach. Mirova combines avoided/induced emissions calculations together with global investment scenarios of the IEA (2018) and IPCC special report on 1.5 to estimate climate trajectory alignments of portfolios or indices, based on the sectoral composition and expected induced and avoided emissions of underlying financed entities. Compared to other approaches above, the avoided/removed emissions approach is less in use among Paris alignment or net-zero frameworks of financial institutions (SBTi, 2021).

122. In overall methodological approaches, quantitative metrics listed above are complemented by qualitative indicators that can cover risk management strategies as well as corporate governance and management provisions. The TCFD has built a comprehensive framework on how to disclose climate risks and opportunities for financial market participants allows for qualitative indicators and information to be obtained that could be relevant to assessing whether finance flows deriving from these participants may be consistent with a pathway towards low-emission and climate-resilient development. The guidance covering four core elements of governance, strategy, risk management, and metrics and targets, has, since 2018, filtered into: various voluntary reporting frameworks, such as the ISSB, United Nations PRI, CDP; analytical initiatives, such as TPI; mandatory regulatory initiatives, such as the US SEC proposed climate change disclosure rules, the EU non-financial reporting directive and in the Brazilian financial reporting guidelines; and lastly, central banks have adopted mixed assessments in climate stress-test exercises such as in France, Netherlands, the Eurozone and the UK.

123. Since the fourth (2020) BA, Climate Action 100+ has developed the Net Zero Company Benchmark methodology which applies a multi-dimensional approach to assess the alignment of 166 large corporations covering up to 80 per cent of global corporate GHG emissions. It evaluates corporate disclosure frameworks for the existence of long-and short- term GHG reduction targets and further aspects such as capital allocation, governance and just transition, and evaluates alignment of operations for consistency with the goals of the Paris Agreement. In addition, corporate engagement as well as accounting & auditing practices are assessed.

1.5.4. Updates on assessment of alignment of financial portfolios

124. From an assessment of the activities of real economy entities, four general types of portfolio-alignment approaches and methodologies can be identified that are in use in the financial sector (TCFD, 2021; GFANZ, 2022; Noels and Jachnik, 2022):

- **Binary target measurements:** Measurement of alignment of portfolio with a specified climate target or outcome, based on percentage or absolute value of portfolio, such as absolute GHG emissions and GHG intensity and reduction thereof, per cent of investments with net-zero or Paris aligned commitments, or the per cent of assets assessed at high physical climate risk;
- **Benchmark divergence models:** Application of climate scenarios to assess emission performance of financed counterparties against an ideal-type emissions trajectory over time for a specified global warming outcome. Possibility to take into account geographical and sectoral differences through regional and sector specific GHG-benchmarks. Benchmark divergence models therefore allow the direct comparison of intensity or absolute emission performance of financed (sub-) portfolios against a given emissions benchmark or target and to determine under- or overperformance, for example against EU Paris-Aligned Benchmarks that foresee a 7 per cent annual decarbonization rate;
- **Temperature rating models** (Implied temperature rise – ITR): Extension of benchmark divergence models to translate emissions performance of counterparties into a temperature score, that indicates global warming potential if all actors in the economy were to exhibit the given level of climate ambition. Possibility to take into account geographical and sectoral differences;
- **Qualitative/categorical alignment scales:** In current market practice, many financial institutions have adopted categorical alignment scales such as "aligned – aligning - committed to align – not aligned" to assess the alignment of portfolios, (sub-) portfolios or asset classes with decarbonization and temperature pathways. Amongst others, these approaches make recurse to third party providers of alignment assessment such as CPD, TPI or SBTi and can combine qualitative and quantitative elements on decarbonization targets set or the existence of governance mechanisms and transition plans. While alignment scaling can support the understanding of the percentage of portfolios on Paris aligned pathways, the lack of established standards and use of different indicators complicates independent evaluation and transparency of the scaling employed (GFANZ, 2022).

125. At least seven ITR frameworks, and tools are available and in use within the private financial sector, among them the not-for profit tools from PACTA, Transition Pathway Initiative and CDP WWF Temperature Rating Methodology, as well as from private actors such as MSCI, Arabesque, Lombardier Odier, and S&P Trucost. As one of the first central banks, the Bank of England is also applying an ITR portfolio assessment model based on TCFD guidance and the updated NGFS climate scenarios (BoE, 2022). ITR methodologies can differ according to the use of climate scenarios (IPCC, IEA, NGFS or other) and underlying modelling assumptions amongst others on sectoral distribution on carbon budgets that can subsequently alter temperature ratings (NGFS, 2022). Further, the aggregation of entity-/ corporate-level scores to aggregate portfolio ratings can follow different methodologies and therefore impact aggregate temperature estimates. Two common approaches with varying levels of complexity are the weighted average scores, and the aggregate budget approach.

- Weighted average portfolio score: Applies the weighted average (adjusted by share of the financed entity against total assets of financing entity) of the individual entity temperature scores to estimate a portfolio temperature score;
- Aggregate budget approach: Compares financed entities' predicted emissions to a Paris-aligned carbon budget, including geographical and sector-based considerations and estimates a temperature over- or undershoot per individual entity which is allocated to financiers proportionate to the share of financing. Portfolio-level temperature scores are derived by aggregating total temperature over- or undershoot of entities compared to Paris-aligned carbon budget. The aggregate budget approach has been recommended by the TCFD and is in use for example in the Bank of England (TCFD, 2021; BoE, 2022).

126. As a component part of portfolio alignment methodologies and target setting protocols, a variety of engagement and capital allocation strategies are discussed within the financial sector to foster decarbonisation and enhance climate resilient development. Most widely cited options include:

- Engagement: i) Active engagement with counterparties to facilitate ambitious decarbonisation and transition plans and physical risk management; and ii) international and national policy engagement to support regulatory framework and methodological development as well as climate ambition.;
- Capital allocation and deployment i) strategic capital deployment towards increasing both green and transition financing to improve emissions performance and climate resilience within high-emitting industries; ii) capital allocation strategies including sectoral and within-sector weighting of portfolios towards low-carbon or best in class activities; and iii) exclusion policies and divestment approaches.

1.5.5. Commonalities, divergences and gaps across methods in use

127. Various net-zero target setting initiatives and frameworks within the financial sector, employ a variety of corporate and portfolio alignment methods and tools as well underlying climate scenarios and climate impact and risk metrics to guide their alignment approaches towards the temperature goals of the Paris Agreement. While many frameworks are still under development notably among some of the GFANZ alliances, published guidelines by the NZBA, NZAOA, SBTi or the Net Zero Investment Framework by PAII allow the drawing of indicative conclusions on commonalities and divergencies of approaches.

- Ambition levels are generally defined to align financial portfolios with net zero emissions by 2050 with differing approaches to temperature alignment depending on climate scenario choice;
- Target setting involves both long term 2050 and interim short and mid-term targets for example by 2030 (the latest) for the NZBA and NZIF, in 5-year intervals starting from 2025 according to the NZAOA target setting protocol TSP2 or covering a period of 5 to maximum 15 years starting from the target setting year in the SBTi guidance for financial institutions;
- Alignment targets can be set for portfolio, per asset classes, and specific sectors using different metrics, including absolute and intensity based emissions targets, and applying benchmark divergence or temperature rating models for assessment of counterparts;
- Further, avoided emissions and carbon removals or offsets beyond the value chain as part of net-zero commitments are approached differently across individual institutions and alliances, although a minimum point of convergence can be identified in limited, conservative dependence on emission offsets, ensuring permanent removal and the need for the creation of a robust global regulatory framework that can enable adequate accounting. (GFANZ, 2021; Race to Zero, 2022).

128. Based on the discussion above, Table 1.7 below provides an overview of widely applied tools, methods and frameworks that track consistency with Article 2, paragraph 1(c) of the Paris Agreement, from private and public financial institutions, non-governmental organisations and governments or financial supervisors.

Table 1.7

Overview of emerging methods relevant to tracking consistency with Article 2.1(c) including source, target users, relevance to Article 2.1(c), scope/coverage, references used for consistency, key indicators/metrics

Source	Target users	Relevance to 2.1c	Scope/coverage	References for consistency	Key indicators/metrics
SBTi Net Zero Standard (CDP, WRI, World Wildlife Fund, United Nations Global Compact) **SBTi Net-zero finance standard currently under development (tbd 2023)**	Companies Financial institutions (banks, investors	Setting near term 5 to 10 years corporate GHG emission reduction targets in line with well-below or 1.5C climate scenarios and long term targets to reduce emissions by at least 90% by 2050 with neutralisation of residual emissions. Align financing with net-zero and to limit warming to 1.5C with no or low overshoot and the SDGs	1082 companies with approved targets (and 1171 companies that have committed to setting a target, across sectors and with global cover Over 100 FIs have set alignment targets under SBTIage	SBTi cross-sectoral and sectoral pathways with at least 50% likelihood of limiting warming to 1.5 °C. Cross-sectoral pathway reduces global emissions by 42% by 2030 and 90% by 2050 from 2020 levels before considering carbon removals. References for development: • for cross-sectoral: IEA (2021) Net-Zero Emissions (NZE) scenario, • for Forestry, land use and agriculture (FLAG): land-sector roadmap in Roe et al. (2019) • Scope 3: 2% average annual linear reductions in emissions intensity over time period or 7% for economic intensity	• Absolute GHG reductions compared to base year • Sector-specific GHG physical intensity (e.g. t CO_2/MWh) • GHG economic intensity (e.g. t CO_2/ global value added in USD) • Per cent annual GHG reductions For financial institutions: tbd considered are a.o. absolute emissions (tCO_2), portfolio carbon intensity (tC02/ revenue), sector based physical intensity (tC02/output measure), capacity based, binary target measure, Implied Temperature Rise (ITR), green metrics (e.g. share of taxonomy-aligned investments)
Transition Pathway Initiative	Investors	Assesses progress being made by the world's biggest and most emissions-intensive public companies on the transition to a low-carbon economy Mitigation focus	479 listed companies globally across 16 sectors	Three pathways are used to measure consistency:[40] • National Pledges pathway that incorporates NDCs, resulting in 2.6 °C warming by 2100 • "Below 2 Degrees" pathway, • "1.5 Degrees" pathway, The main references are the IEA Net Zero by 2050 report, the IEA World Energy Outlook 2021 and 2020, and the IEA Energy Technology Perspectives 2020 and 2017 reports In the Automotive and Aviation Sector, scenarios from the Global Transportation Energy and Climate Roadmap (2012) and the ICAO Revenue Passenger Kilometres Forecast Scenarios (2021) have been incorporated	Sector-specific GHG intensity and GHG coverage by Scope 1–3 Oil and gas: gCO_2e/MJ (Scope 1–3) Electricity utilities: MtCO_2/MWh (Scope 1) Automobiles: gCO_2/km of new vehicles on average (Scope 3, Scope 1–2 not assessed) Aviation: gCO_2/ revenue tonne kilometre (Scope 1) Shipping: gCO_2/tonne-km (Scope 1) Cement: tCO_2/t cement (Scope 1 and excluding emissions from on-site power generation, emissions from alternative fuels and raw materials) Diversified mining: tCO_2/ tCuEq (Scope 1–3) Steel: tCO_2/t steel (Scope 1–2) Aluminium: tCO_2e/t aluminium (Scope 1–2) Paper: tCO_2/ t pulp, paper and paperboard (Scope 1–2)

40) In the auto and aviation sectors, different approaches are used for 2 Degrees and Below 2 Degrees scenarios because of the uncertainties regarding the extent to which modal shift plays a role in meeting emission trajectories. For the auto sector, 2 Degrees refers to a scenario to "avoid-shift-improve", which emphasizes avoiding and shifting to energy-efficient modes. The Below 2 Degrees scenario emphasizes improving the carbon efficiency of vehicles. Both scenarios were developed by TPI (LSE), which was informed by 2012 modelling by International Council on Clean Transportation. For the aviation sector, the 2 Degrees scenario is based on the IEA 2 °C Scenario. The Below 2 Degrees scenario consists of TPI's own calculation of a high-efficiency scenario, which is more ambitious than the IEA Beyond 2 °C Scenario.

Table 1.7 (continued)

Overview of emerging methods relevant to tracking consistency with Article 2.1(c) including source, target users, relevance to Article 2.1(c), scope/coverage, references used for consistency, key indicators/metrics

Source	Target users	Relevance to 2.1c	Scope/coverage	References for consistency	Key indicators/metrics
PACTA tool (2° Degree Investing Initiative)	Regulators, Banks, Investors	Calculates the extent to which corporate capital expenditures and industrial assets behind equity, bond or lending portfolios are aligned with various climate scenarios Mitigation focus	Energy transition alignment Listed equity and corporate bond markets consisting of 40 000 companies, 30 000 securities across 7 sectors (power, auto, oil and gas, coal mining, aviation, cement and steel, shipping to be added)	IEA: B2DS 1.75C temp rise estimate by 2100 (ETP 2017) Power and Auto only, Global IEA SDS 1.7-1.8C (WEO 2018) Power, fossil fuels, auto, Global IEA SPS 2.7C (WEO 2018) as above IEA CPS 3.3C (WEO 2018) as above Greenpeace: Energy Revolution 2C Power only, All regions except Europe BNEF: outlook reference scenario, Power only, Global SBTI: Steel, aviation, Shipping, cement, Global	Power capacity by technology in megawatt (MW). Oil production in barrels per year. Gas production in billions of cubic feet per year. Coal production in tonnes of coal equivalent per year. Auto production per year GHG emissions pathways in the aviation, shipping, cement, and steel sectors.
CA100+ Net Zero Benchmark	Corporations, Investors	Assess the disclosure and alignment of the largest companies with the goals of the Paris Agreement	166 large corporations covering up to 80 per cent of global corporate GHG emissions Covers Disclosure, Alignment Assessment including targets and Capital expenditures, as well as corporate engagement practices and accounting and auditing practices	Disclosure Framework assessment : TPI Target Alignment Assessment: TPI CAPEX alignment assessment: CTI / 2DII (PACTA) Corporate engagement practices: Influence Map Accounting & Auditing: CTI and CAAP	Existence of qualitative and quantitative GHG reduction targets (net zero 2050, 2036–2050, 2026–2035, up to 2026), Decarbonisation strategy and disclosures of GHG emissions incl. Scope 3 Target alignment with 1.5C scenario based on TPI SDA Company emission intensity (tC02/unit of output) CAPEX: Distance to alignment with IEA Beyond 2C scenario in 2030 (PACTA)

Table 1.7 (continued)

Overview of emerging methods relevant to tracking consistency with Article 2.1(c) including source, target users, relevance to Article 2.1(c), scope/coverage, references used for consistency, key indicators/metrics

Source	Target users	Relevance to 2.1c	Scope/coverage	References for consistency	Key indicators/metrics
TSP2 (NZAOA)	Asset Owners, mainly institutional investors	Iterative 5-year decarbonisation targets starting from 2025 for net-zero alignment of portfolios by 2050	(Sub-) portfolio and sectoral decarbonisation targets applied to listed equity, listed corporate bonds, infrastructure and real estate assets (Private equity, mortgages and sovereign debt for inclusion in 2023) Engagement, Stewardship and policy advocacy towards corporates and governments and Financing the transition targets	Sub-portfolio targets (later portfolio targets) IPPC 1.5C Special Report no- or limited overshoot scenarios P1-P3 (Rogeli et al., 2018) 2025: absolute CO_2 emission reduction range between 22% to 32% on equity and debt to listed corporates and infrastructure, and same reduction or CRREM 1.5C national pathways for real estate absolute CO_2 emissions reduction range for 2030 between 49% to 65%, compared to the base year 2020. Sector targets to all material sectors: Sectoral decarbonisation pathways using OECM 1.55C reference Model or IEA Net Zero 2050 sectoral scenarios	Sub-portfolio (later portfolio): Absolute or intensity-based based reduction KPIs Real estate intensity-based metrics: tCO_2 e/asset value Sector targets: 3 types of sectoral intensity-based KPIs product/production metric-based sector targets (CO_2 per unit of output, e.g. per tonne, MWh, gCO_2/km) carbon intensity-based metrics (CO_2 emissions per EV or revenue) absolute intensity-based metric Financing the transition targets: percent of climate solution investments of assets under management measured by portfolio revenue share in "green/brown activities" for listed or private equity/debt, EU taxonomy compliant (optional)
Guidelines for Climate Target Setting for Banks (NZBA, UNEP-FI / PRB)	Banks	Setting portfolio alignment targets for net-zero emissions until 2050 and 5-year interim targets (starting from 2030 or sooner) in lending and investment activities	Inclusion of Scope 1, 2, and 3 (where material and data allows) GHG emissions of clients, and shall cover lending and should cover investment portfolios Setting of sector-specific targets for a list of carbon-intensive sectors	Flexible - Banks shall use no- or low overshoot scenarios, with indication of IPCC 1.5 Special Report P1 and P2; IPCC-derived models such as OECM or NGFS scenarios; IEA SDS or Net-Zero Scenarios Sector-specific scenarios such as Poseidon Principles for shipping sector; Scenarios shall conservatively rely on negative emissions and reasonable assumptions on carbon sequestration from land use and nature-based solutions	Absolute emissions; and/or sector-specific emissions intensity (e.g. CO_2 e/ metric), whereby physical metrics (e.g. kWh, m2, tonne of product) are recommended but financial metrics can also be used Portfolio-wide emissions intensity (e.g. CO_2 e/$ lent or invested)

Table 1.7 (continued)

Overview of emerging methods relevant to tracking consistency with Article 2.1(c) including source, target users, relevance to Article 2.1(c), scope/coverage, references used for consistency, key indicators/metrics

Source	Target users	Relevance to 2.1c	Scope/coverage	References for consistency	Key indicators/metrics
Paris Aligned Investment Initiative Net Zero Investment Framework (NZIF)	Investors	A framework that allows investors to align with the goals of the Paris Agreement	Four investor networks in Asia, North America, Australasia and Europe working to develop a methodology covering sovereign bonds, corporate listed equity and fixed income, and real estate (future work focuses on infrastructure and private equity and alignment with adaptation/resilience)	At a minimum, pathways should: • limit warming to 1.5°C with 50 per cent probability; and reach global net zero emissions by 2050 including 2030 interim targets; • differentiated pathways for regions and sectors which may require net zero emissions earlier or later, consistent with the global goal. • Have a global peak emissions year of the current year or later.. • Rely on a limited volume of Negative Emissions Technologies (NETs) to 2050. Source Methodologies per Asset classes: Sovereign Bonds: Germanwatch Climate Change Performance Index Listed Equity/Corporate fixed income: Climate Action 100 benchmark; TPI, SBTi Real Estate: Carbon Risk Real Estate Monitor (CRREM)	At portfolio level • Absolute or intensity based (CO_2e/$mn invested), GHG reductions at portfolio level • Allocation to climate solutions based on percentage of revenues or capex from assets under management • At asset class level • percentage of assets under management invested aligning to net zero • Percent of financed emissions subject to direct or collective engagement and stewardship actions • Average climate performance of assets under management • Percent of climate solution revenues of assets under management • allocation to green bonds
EU climate transition and Paris-aligned benchmarks (EC)	Index providers	Sets the minimum requirements for benchmark indices claiming climate transition or Paris aligned labels, in line with EU regulations on disclosure for ESG index providers.	Indices based on asset classes: listed equity, fixed income, hedge funds, private equity/ debt, infrastructure, commodities	IPCC 1.5C with no or limited overshoot (Years 2020–2030, Table 2.1 Rogelj et al., 2018): To follow this trajectory the global economy should decrease its emissions at 7 per cent per year.	7 per cent on average per annum reduction of GHG intensity at portfolio (index) level (tCO_2e/year/M€) of which € represents enterprise value (sum of market capitalization and book values of total debt minus cash)

Table 1.7 (continued)

Overview of emerging methods relevant to tracking consistency with Article 2.1(c) including source, target users, relevance to Article 2.1(c), scope/coverage, references used for consistency, key indicators/metrics

Source	Target users	Relevance to 2.1c	Scope/coverage	References for consistency	Key indicators/metrics
Taskforce for Climate related Financial Disclosures (TCFD)	Financial and non-financial corporations	Development of climate-related financial disclosure framework of global reach (3000+ corporations) including recommendations for incorporation of climate-related scenario analysis and metrics and target setting.	All financial and non-financial corporations. Supplementary guidelines for financial sector (Banks Insurance Companies Asset Owners Asset Managers) and four groups of non-financial companies assessed with most material risks (Energy, Transportation, Materials and Buildings, Agriculture Food and Beverages)	Scenario analysis not prescriptive, on the basis of a 2°C or lower scenario, in addition to other scenarios reflecting NDCs and local and regional circumstances, as well as "disorderly" scenarios. TCFD scenario guidance recommends companies should consider using or developing a 1.5°C scenario for the "2°C or lower scenario" (e.g. IPCC or IEA scenarios)	Recommended disclosures and examples - GHG emissions: Absolute Scope 1, Scope 2, and Scope 3 (tC02); emissions intensity, financed emissions Further metrics on Transition Risks, Physical risks, Transition Opportunities both mitigation and adaptation, capital deployment, carbon pricing, climate-related renumeration policies
Network for Greening the Financial System (NGFS)	Central banks and regulators, Banks	Scenario analysis of potential economic and financial impacts of physical and transition risks related to climate change and Paris Agreement goals	Depending on the objectives of the assessments, the depth of analysis can differ from a focus on a small number of firms and asset classes or system-wide stress tests of financial and macro channels	NGFS scenarios Phase II (see above)	Suggested metrics to translate financial risks to inform decision-making: • Asset impairment, • Mark-to-market valuation, • Risk weighted asset ratios, • Capital buffer depletion, • Return on equity, and • Change in business model (portfolio allocation, lending paths, insurance coverage and pricing)

Table 1.8

Methodological and implementation challenges of portfolio alignment approaches.

Category	Issue	Challenge
Methodology	Benchmark emissions scenarios	Lack of standards for established 1.5/2C emissions scenarios, for specific portfolio alignment use cases
Methodology	Distribution of carbon budget	Lack of established guidance for fair-share carbon budgets
Methodology	Emission units	Lack of established standards and guidance for representative emission units, by sector (for example Oil & Gas)
Methodology	Evaluating issuer-level emissions	Lack of guidance to assess credibility of investees emission reduction commitments and plans
Methodology	Time horizon for alignment	Lack of clarity for selecting appropriate time horizon of alignment targets, that also reflect real-economy trajectories
Methodology	Alignment metric selection	Lack of standards for portfolio alignment metrics/outcomes
Methodology & Implementation	Underlying modelling assumptions	There is a lack of transparency regarding: underlying model complexities; the relevance of assumptions; and the appropriateness of modelling. Transparency also varies depending on metric provide
Implementation	Data gaps	Lack of guidance for reporting on financed Scope 3 emissions and materiality of emissions by sector, insufficient corporate disclosures in particular on Scope 3 emissions
Implementation	Coverage of asset classes	Lack of portfolio alignment metrics for all asset classes (e.g. Sovereign debt)
Implementation	Impact of financing climate solutions	Current portfolio alignment practices do not enable to capture the impact of financing climate solutions

Source: Adopted from GFANZ, 2022, p.32 - Table 4: Summary of Barriers to Adoption.

129. Methodological uncertainties result from the heterogeneity and complexity of applied approaches and frameworks for target setting towards the goals of the Paris agreement. Literature reviews of science-based target setting initiatives and methodologies underline many issue areas and decision points that remain under discussion for enhancing the robustness of approaches (Noels and Jachnik, 2022; Bjorn et al., 2022). These are, amongst others:

- How to assess progress toward long-term targets in the absence of clearly defined interim or annual emission trajectories;
- Adequate choice of emissions scenarios;
- Ensuring alignment between aggregate individual targets using various approaches with the global carbon budget;
- GHG accounting methods and in particular the inclusion of scope 3 emissions;
- Ways of ensuring the implementation of decarbonization targets, through transition plans, financing strategies or other means.

130. As portfolio alignment methodologies are developed with increasing level of granularity, a number of detailed methodological and implementation challenges have been identified through the GFANZ workstream on Portfolio Alignment Measurement (GFANZ, 2022).[41]

131. In response to these methodological challenges, initial and harmonization efforts are underway. One such initiative is the UN High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities founded in 2022 that will develop recommendations on i) current standards and definitions for setting net-zero targets by non-state actors; ii) credibility criteria to assess commitments, measurement and reporting; iii) processes for the international community to verify and monitor the progress made towards meeting net-zero commitments and decarbonization plans from non-state entities; and iv) a roadmap for integrating standards into national and international regulatory frameworks (UN Climate Action, 2022).

41) This exercise forms part of the public consultation until September 2022 for the GFANZ Portfolio Alignment Measurement report set to be published in advance of COP27 in 2022.

132. The lack of sufficient data availability on GHG emissions, transition strategies and physical risk exposure to climate change impacts is a widely recognized challenge for the integration of robust climate related financial risk management frameworks into financial supervisory, as well as public and private banking and investment practices. In particular, the need for further granular information on the national, sectoral and corporate or asset-level is reported as an obstacle by financial institutions to assess the climate impacts of their portfolios, as well as to evaluate their own and counterparties' risk exposure to transition and physical risks. With regards to emissions and carbon accounting that forms a key baseline of such assessments, difficulties to establish reliable Scope 3 value chain emissions data is most frequently cited (NGFS, 2022).

133. In response to data challenges, the NGFS workstream on bridging data gaps has conducted a comprehensive mapping of available climate information and metrics and constructed a public directory to improve transparency and knowledge-sharing among all public and private actors in the financial system. The directory, as at July 2022, compiles more than 1200 data entries and classifies each entry by use-case and metric type (NGFS, 2022).

- Use cases are financial stability monitoring, stress testing, exposure quantification, investment and lending decisions, climate related financial disclosure, scenario analysis, macroeconomic modelling, and economic growth analyses;
- Metric types are physical vulnerability, transition sensitivity, footprint, mobilization, alignment, combined metrics, and others;
- The main findings of the workstream are that key gaps exist in the provision of biophysical impact, geospatial (geographical data at entity and asset levels in particular lack specific location information) and emissions data, which impede the usefulness of existing physical vulnerability and transition sensitivity metrics. The category of forward-looking climate risk and vulnerability information therefore suffers in particular from data gaps. Further, it was highlighted that a large number of data items are not publicly available due to proprietary information especially in the realm of scenario modelling and estimation, from which arises an increased need to enhance external capacities to understand and evaluate the offered approaches.

134. A second challenge for the development and integration of robust climate related financial risk management frameworks into financial supervisory, banking and investment practices is posed by the forward-looking nature of climate risks that contrast conventional risk management tools, based on historical time series data. Varying time horizons and climate impact and risk scenarios therefore increase uncertainty around adequate responses and approaches to risk management, including the discussion on the systematic evaluation and regulatory measures relating to capital and liquidity requirements of financial institutions (Coelho/Restoy 2022; FinanceWatch, 2022).

135. With regards to currently employed climate scenarios, the adequate representation of physical risks and consequent impact on financial valuation and system stability remains a technical challenge. The World Bank identifies several material risk drivers that are consistently underestimated in current scenarios notably i) extreme weather events ii) uncertainty ranges in climate models; iii) compound scenarios; iv) indirect economic impacts of climate shocks; and v) real-economy and financial sector feedback dynamics (Ranger et. al., 2022). In addition, it is highlighted that current climate scenarios that build-upon top-down climate models, most often do not enable one to disaggregate risks at the geographical scale necessary to assess financial risks for individual financial institutions, e.g. at the city- or local level (Pitman et al., 2022).

OVERVIEW OF CLIMATE FINANCE FLOWS IN 2019–2020

INSIGHTS ON GLOBAL CLIMATE FINANCE

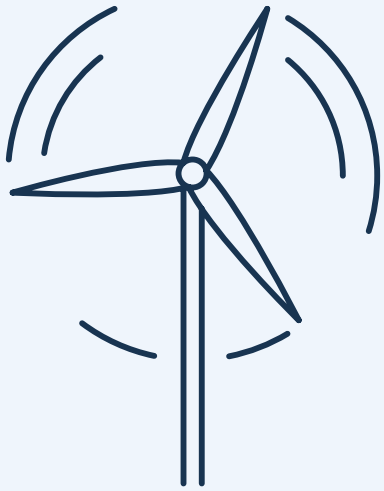
12%

Global climate finance flows were 12 per cent higher in 2019–2020 than in 2017–2018, to reach an annual average of USD 803 billion

The main drivers of growth of climate finance are mitigation action in buildings and infrastructure (+USD34bn); sustainable transport (+USD28bn); and adaptation finance (+USD20bn)

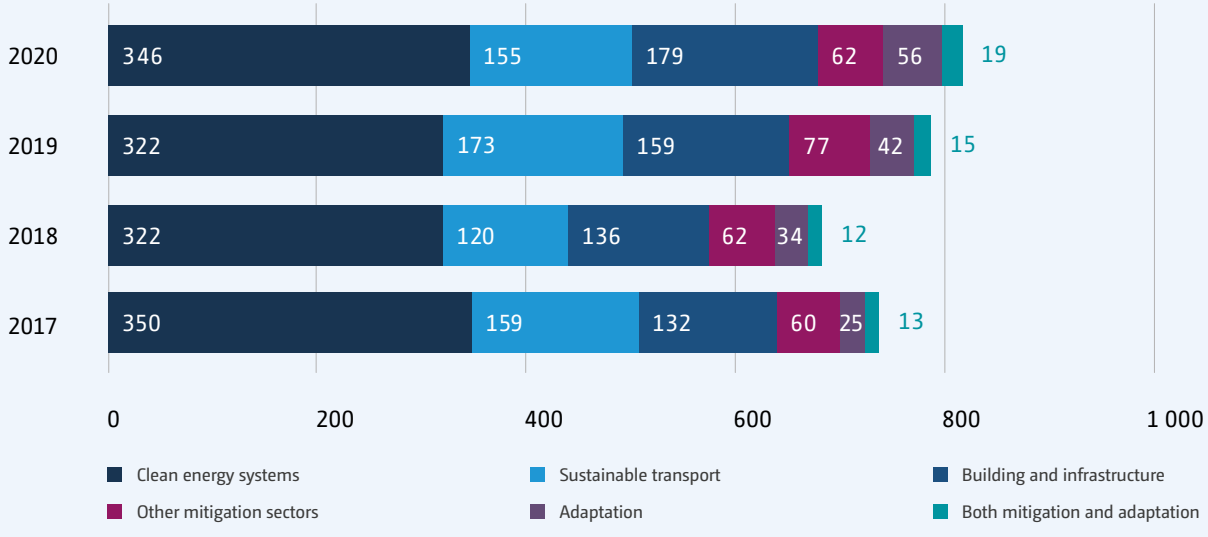
21%

of total spending in government recovery packages amounted to USD 513 billion allocated to green or climate-related measures by the end of 2020



Renewable energy investment was close to record highs, even while costs continued to decrease by 13% for onshore wind, 9% for offshore wind and 7% for solar

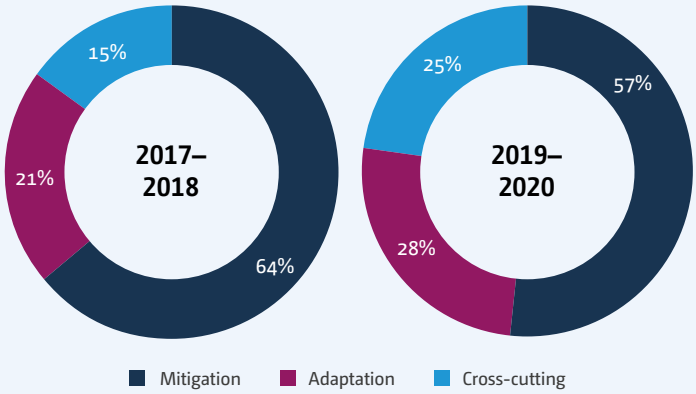
Global climate finance flows in 2017–2020 (billions of USD)



INSIGHTS ON FLOWS FROM DEVELOPED TO DEVELOPING COUNTRIES

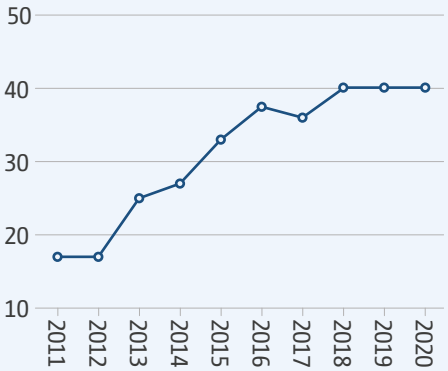
Mitigation finance remains the largest share of climate-specific financial support

Through bilateral channels at 57 per cent but the share of adaptation finance continues to increase from 20 per cent in 2017–2018 to 28 per cent in 2019–2020



Climate-specific finance reported by Annex II

Parties increased by 6 per cent in 2019–2020 compared to 2017–2018, reaching USD 40.1 billion per year on average



6%↓

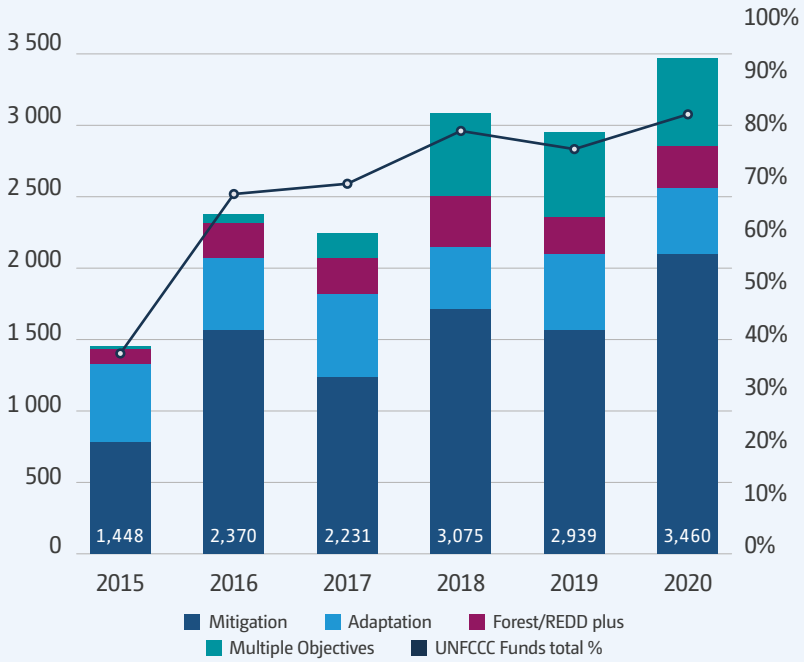
Private climate finance flows mobilized by public interventions was USD 13.8 billion in 2019–2020, a 6 per cent decreased compared to 2017–2018

MDBs provided 17 per cent more climate finance in 2019–2020 compared to 2017–2018, rising to USD 45.9 billion per year on average

Trends in South-South climate finance flows varied depending on the sources of finance

Multilateral climate funds provided 21 per cent more finance in 2019–2020 compared with 2017–2018; and the share of UNFCCC funds rose to 83 per cent in 2020

Overview of commitments to projects approved by multilateral climate funds (millions of USD)



2.1. Introduction

136. This chapter provides an overview of climate finance flows in 2019 and 2020 with data gathered and compiled from multiple sources to arrive at aggregate estimates for global climate finance flows (see section 2.2). Sections 2.3, 2.4 and 2.5 focus, respectively, on estimates of domestic climate finance flows, estimates related to South–South cooperation on climate finance and estimates on finance flows from developed to developing countries. Section 2.6 provides an update on available datasets that integrate climate change considerations into insurance, lending and investment decision-making and that include information relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement.

137. Estimates of climate finance flows are based on activities that correspond to the operational definition of climate finance adopted in the 2014 BA report (see section 1.4 in chapter I). It is important to note that in determining the amounts to be reported as climate finance, reporting entities rely on their own operational definitions of the underlying concepts, such as climate finance, climate change and sector delineations.

138. Several data source are used to illustrate flows from developed to developing countries, without prejudice to the meaning of those terms in the context of the Convention and the Paris Agreement, including but not limited to Parties included in Annex II/Annex I to the Convention to Parties not included in Annex I, to the Convention and MDBs; OECD members to non-OECD members; OECD DAC members to countries eligible for OECD DAC official development assistance; and other relevant classifications from various sources. However, any such reporting differences are explicitly laid out throughout this chapter.

2.1.1. Data quality and remaining data gaps

139. The fifth BA adopts a revised structure of breaking down global climate finance by sector in line with the latest available data (CPI, 2022). Compared to previous BAs, this includes changing renewable energy systems to clean energy systems which now also includes investments in transmission and distribution infrastructure and energy storage; and changing energy efficiency investments to considering these investments within buildings and industry separately. Notwithstanding these changes in presentation, there still remains a significant gap in the coverage of data on sectors and sources of climate finance, particularly with regard to private investment. Comparable data on energy efficiency, AFOLU, buildings, industrial sectors and adaptation are scarce, particularly from the private sector. Also, regular collecting, tagging, and reporting of domestic public budget expenditures on climate projects, at national and sub-national levels, is still emerging.

140. The estimates for global climate finance flows for 2019 and 2020 are provided in table 2.1. In order to obtain accurate, comprehensive and comparable global climate finance estimates, data sources referenced below have been assessed against the following markers (detailed in Annex G):

- Data quality denoting the quality of financial transaction information. Project- or product-level data, including geographic source and destination of flows, tend to be reliable. A high level of data quality is important to ensure that the finance flows counted result in projects that are consistent with low GHG emissions and a climate-resilient pathway;
- Completeness of the data denoting the estimated level of coverage of all climate-related flows in a given sector. A high level of completeness for a database would mean the availability of full and granular data on sources, sectors and instruments.

141. Based on these markers, the aggregate global estimates (table 2.1) are estimated. The first, lower estimate aggregate sectoral numbers from data sources with a high level of data quality markers such as where project or activity level data is available (CPI, 2022), while the second, higher estimate includes available data from medium-high data quality sources which includes a mix of project level and aggregate level data (CPI, 2022 and IEA, 2021). In previous BAs, when reconciling the data for the higher estimate, newly emerging data on EV investments was discounted from IEA estimates on energy efficiency in transport as the latter also included the incremental cost of investments from EVs. As EV investments have grown exponentially, they make up a majority share of transport energy efficiency estimates (IEA, 2021) and therefore the BA no longer includes transport energy efficiency investments to avoid double counting with the EV investments included under the sustainable transport segment. These changes have been retroactively applied to the 2017–2018 data to facilitate trend analysis leading to an estimate of USD 715 billion per year in 2017–2018 compared to USD 775 billion per year published in the fourth (2020) BA.

142. Flows to developing countries (section 2.5) comprise finance tracked through different sources and channels

Figure 2.1

Climate finance flows in 2019–2020
(Billions of United States dollars, annualized)

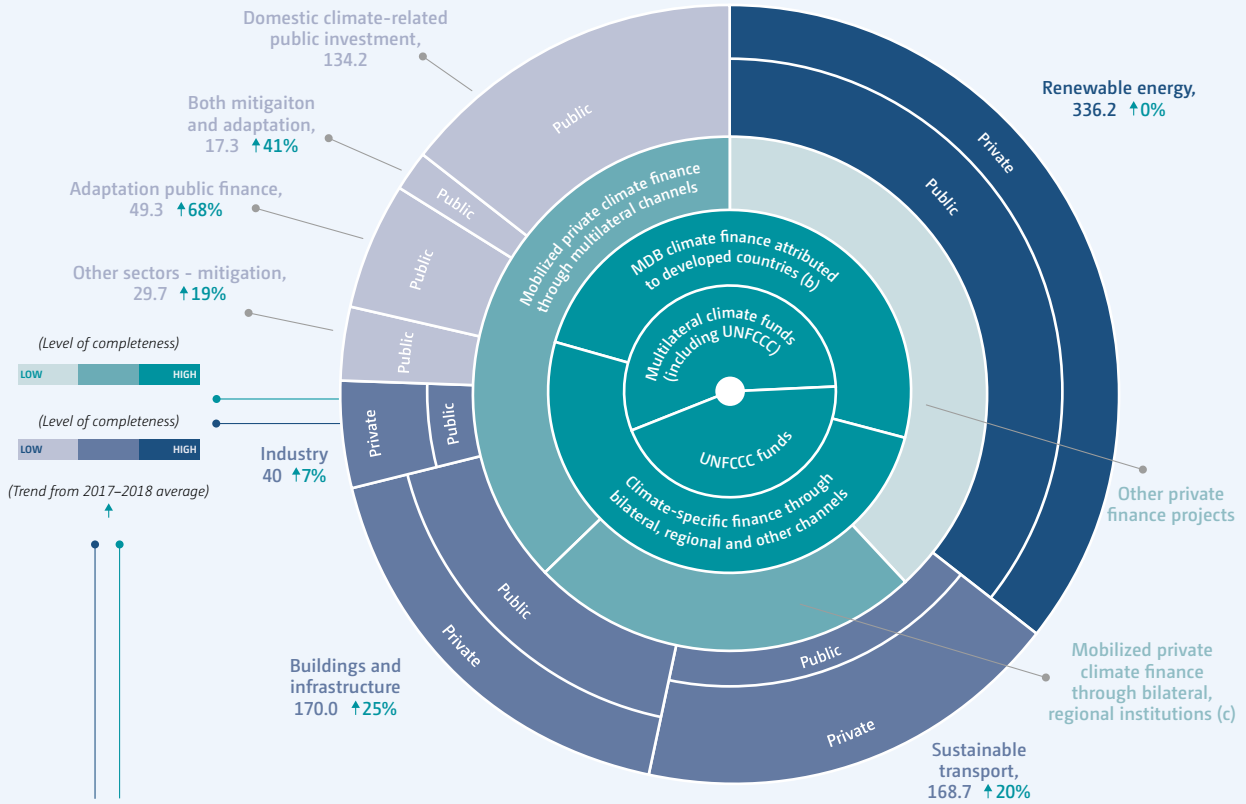


Figure 2.1 (continued)

Climate finance flows in 2019–2020
(Billions of United States dollars, annualized)

		2019	2020	Sources of data and relevant section
Global total flows	Renewable energy	325.1	347.3	Section 2.2.3 CPI 2022 based on multiple sources
	Public	108.2	115.7	
	Private	216.9	231.6	
	Sustainable transport	175.2	162.2	Section 2.2.4 IEA 2021b, CPI 2022 based on multiple sources
	Public	112.1	85.8	
	Private	63.1	76.4	
	Buildings and infrastructure	160.0	180.0	Section 2.2.5 IEA 2021b, CPI 2022 based on multiple sources
	Public	26.0	40.0	
	Private	134.0	140.0	
	Industry	45.0	35.0	Section 2.2.6 IEA 2021b, CPI 2022 based on multiple sources
	Public	9.0	4.9	
	Private	36.0	30.1	
	Other sectors - mitigation[a]	32.2	27.1	Section 2.2.7 and 2.2.8 CPI 2022 based on multiple sources
	Adaptation public finance	42.4	56.2	Section 2.2.9 CPI 2022 based on multiple sources
	Both mitigators and adaptation	15.3	19.3	CPI 2022, based on multiple sources
	Domestic climate-relate public investment	134.2	134.2	Section 2.3 Country level reporting, BURs, CPEIRs, various government reports, CPI
Flows to non-Annex I Parties	UNFCCC funds	2.2	2.9	Section 2.5.2 Fund financial reports, CFU
	Multilateral climate funds (including UNFCCC)	2.9	3.5	
	Climate-specific finance through bilateral, regional and other channels	31.9	31.4	Section 2.5.1 Preliminary data from Annex II Parties, subject to change
	MDB climate finance attributed to developed countries[b]	30.5	33.2	Section 2.5.2 OECD 2022a
	Mobilized private climate finance through multilateral channels	8.6	8.0	Section 2.5.4 OECD 2022a
	Mobilized private climate finance through bilateral, regional institutions[c]	5.8	5.1	
	Other private finance projects[d]	7.3	9.6	Section 2.5.4 CPI 2022 based on multiple sources

Notes: (1) Figure note (a): other mitigation investments include industry, waste and wastewater, information and communications technology and other cross-sectoral investments; (2) Figure note (b): includes investments from amounts listed by sector above that are discounted when calculating the global aggregate to avoid double counting; (3) Figure note (c): flows are from developed to developing countries, see section 2.5.2 of the technical report of the fifth BA for further information; (4) Figure note (c): estimates include private finance mobilized through public interventions by developed countries; (5) Figure note (d): this includes private finance in addition to finance mobilized through bilateral and multilateral channels and institutions.

(multilateral and bilateral and private finance flows). It is important to note these numbers are not aggregated in the global estimates to avoid issues of double counting across databases.

143. In compiling global estimates, efforts have been made to avoid the double-counting of financial flows that may go through multiple stages of the development of a project. The aggregated estimates only track primary financial transactions and investment costs (i.e., the financing for a new physical asset or activity with direct or indirect greenhouse gas mitigation or adaptation benefits). Secondary market transactions do not represent new investment targeting climate-specific outcomes, but rather money being exchanged for existing assets. The use of proceeds data from private and municipal green bond issuances (Climate Bonds Initiative) is included only for finance representing new investments and not re-financing. Policy-induced revenue support mechanisms such as feed-in tariffs or other public subsidies whose primary function is to pay back investment costs are also not included to avoid double-counting with investment estimates.

144. It is important to acknowledge that global climate finance flows are reported in USD-denominated figures and at face value in the given reporting year. This may introduce uncertainty in year-on-year comparative analyses in case there are significant fluctuations in foreign exchange rates and inflation.

2.2. Global climate finance

2.2.2. Overview of global climate finance

145. Based on the best available data, this section provides an overview of global public and private climate finance flows between 2015–2020, by sector, in sections 2.2.3–2.2.8. Figure 2.1 provides an overview of global climate finance flow estimates broken down by sector and by public and private sources. Table 2.1 presents the estimates of global climate finance flows, considering the quality and completeness of data gathered from multiple data sources.

146. Climate finance flows in 2019–2020 increased by 12 per cent compared to 2017–2018, reaching an annual average of USD 803 billion. The increase was driven primarily by investments in the energy efficiency of buildings which grew by USD 34 billion (25 per cent), sustainable transport investments at USD 28 billion (20 per cent), and adaptation finance which grew by USD 20 billion (65 per cent).

147. A breakdown of the financial instruments deployed in global climate finance flows is available where data is most granular i.e. the lower bound estimates of USD 653 billion annual average for 2019–2020 (table 2.1). Project-level market rate debt comprised 36 per cent of the flows followed by balance sheet equity (24 per cent) and balance sheet debt (17 per cent). Low-cost project debt and grant finance represented 9 per cent and 6 per cent of total global finance flows, respectively (see figure 2.2).

148. At the geographical level, the majority of global climate finance flows was in East Asia and Pacific (43 per cent, USD 282 billion annual average) during the 2019–2020 biennial. This was followed by Western Europe and North America, accounting for 20 per cent and 13 per cent, respectively. All other regions together received slightly less than a quarter (see figure 2.3). The regions are based on the regional classification followed by reporting institutions (see Annex A). One study focusing on the Africa region, (CPI 2022b) estimated that Africa received USD 29.5 billion of the total global climate finance in 2019/2020.

2.2.3. Investments in clean energy systems

149. Investments in new renewable energy generation projects reached USD 325 billion and USD 347 billion in 2019 and 2020, respectively. Despite the economic slowdown caused by the COVID 19 pandemic, this represents almost a 7 per cent nominal increase

Table 2.1

Estimates of global climate finance

Sources	2017	2018	2019	2020
CPI (2022)	607	542	640	665
CPI (2022) and IEA (2021)	744	685	789	817

Note: When aggregating global climate finance, sector totals are reconciled with the adaptation total and both adaptation and mitigation segment total to avoid double counting. Data for 2017 and 2018 has been revised since the fourth (2020) BA to maintain a common methodological approach to 2019 and 2020 in reconciling both datasets.

Figure 2.2

Breakdown of global climate finance by financial instrument, average for 2019–2020

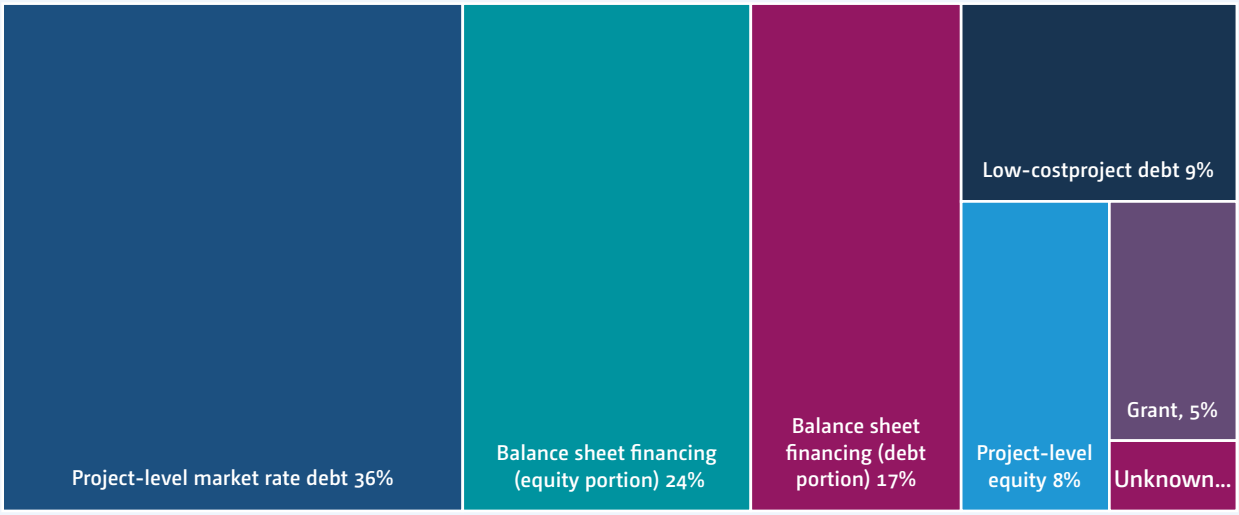
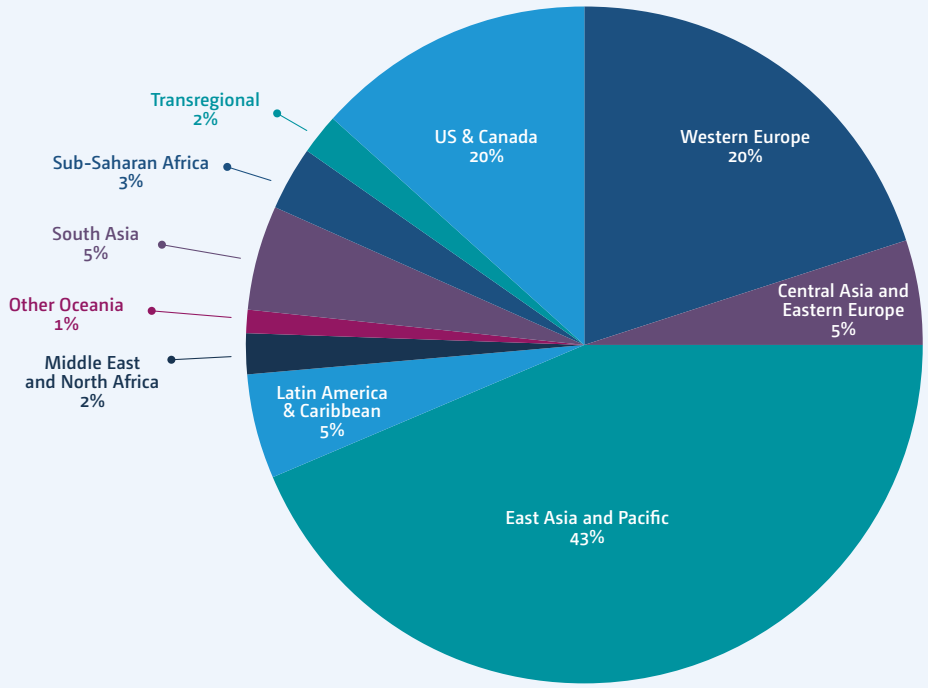


Figure 2.3

Breakdown of global climate finance by geography, average for 2019–2020



year-on-year but remains closer to the record amounts in 2017 (USD 351 billion). While investment levels show little significant growth, renewables' new installed capacity registered a record, increasing by more than 30 per cent in 2020. The cost of solar and wind power technologies continued to decrease in 2019 and 2020 (figure 2.4), making the global weighted average LCOE, on average, 7 per cent (solar, 9 per cent (offshore wind) and 13 per cent (onshore wind) cheaper than in 2018 (IRENA, 2021a). In other words, each dollar invested in these technologies bought more generating capacity than in previous years. This downward trend of LCOE was mainly due to progress

in innovation and production upscaling as well as an overall price drop caused by the economic downturn.

150. Furthermore, government recovery packages, as well as private initiatives, increased finance flows in the energy sector strengthening the resilience of renewables and contributing to overall positive growth (CPI, 2021a and REN21, 2021). From January 2020 to April 2021, USD 53.1 billion was allocated on renewable energy as part of stimulus packages. There is limited granular information on whether these stimulus packages were transacted through government agencies, state-owned enterprises, and national financial institutions. Consequently, they are not added to the global estimates to avoid double counting issues. Still, this figure is almost six times less than the support directed to fossil fuels-intensive sectors, which accounted for 42 per cent of the total, USD 309.9 billion (REN21, 2021).

151. During 2019–2020, solar PV, wind energy and hydropower consolidated their dominance in the renewable energy market, accounting for more than half of total investment in the sector. Commitments targeting more than one renewable energy technology also represented a significant share of total investments in renewable energy, accounting for about 41 per cent in 2019. Other technologies, such as bioenergy geothermal and marine energy, on average, only contributed to less than 5 per cent of total finance (IRENA, 2021b; CPI, 2022).

152. Other crucial investments in upscaling renewable usage include energy storage, CCS and hydrogen. CCS systems could potentially capture a high level of carbon emissions (IPCC, 2005). Similarly, hydrogen has the potential to significantly accelerate the clean energy transition and has benefitted from recent policy focus. According to IRENA, 2021b energy storage investments (excluding pumped hydropower, compressed air, and hydrogen) remained stable at USD 3.6 billion in 2019 and 2020. Investments in CCS grew significantly in 2020 despite the economic slowdown. These were almost four times higher than in 2018, reaching an all-time high value of USD 2.97 billion (BNEF, 2022). Flows towards transmission and distribution remained stable at USD 8 billion over 2019 and 2020 (CPI, 2022).

2.2.4. Investments in sustainable transport

153. Based on CPI (2022) and IEA (2021) estimates, global investments in transport increased significantly in 2019 and 2020, reaching USD 175 billion and USD 162 billion, respectively. Expenditure by public actors on transport decreased from USD 112 billion in 2019 to USD 86 billion in 2020, a drop of about 23 per cent, while private investments increased by 82 per cent, reaching an all-time high value of USD 95 billion in 2020.

154. Similar to previous years, EVs investment (excluding charging infrastructure) accounted for 41 per cent of total transport investments both from the public and the private actors in the transport sector. Although the Covid-19 pandemic severely affected the global vehicle market by causing a one-third drop in sales during the first half of 2020, the global stock of electric passenger vehicles continued to increase, reaching 10 million in 2020. This represents a 43 and 96 per cent nominal increase with respect to 2019 and 2018, respectively. Nonetheless, EVs represented only 5 per cent of global vehicle sales. Indeed, while BEV and PHEV vehicles became 3 to 8 per cent cheaper in China and the EU, direct purchase incentives and tax deductions rose by 25 per cent year-on-year, increasing the market competitiveness of EVs. Also, several supporting

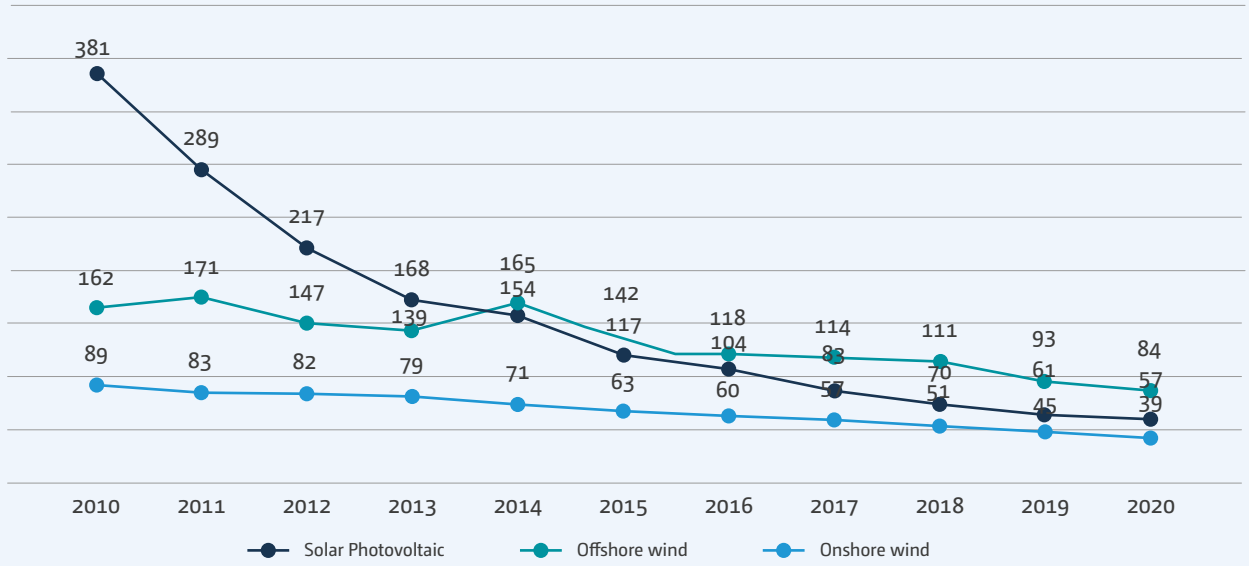
Table 2.2

Estimates of global investment in renewable energy technologies, 2011–2018 (billions of USD)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CPI – total	–	265	239	289	321	269	351	322	325	347
Public	–	–	35	47	62	52	66	51	108	116
Private	–	–	204	242	259	217	285	271	217	232
GSR	287	252	233	288	318	294	325	288	297	304
BNEF (Renewable Energy)	266	241	211	264	301	280	314	285	317	359
BNEF[a] (Energy Transition Investments)	267	241	211	295	334	316	355	336	369	420

Figure 2.4

Global weighted levelized cost of electricity for solar PV, onshore wind and offshore wind (2010–2020, USD/MWh



Notes: The LCOEs are in real 2020 USD adjusted for the effects of inflation.

Source: IRENA, 2021a.

regulatory frameworks were implemented over 2019–2020. As in the previous biennium, China remained the largest electric vehicle market, followed by Europe and the United States (IEA, 2021b).

155. In line with the increase in EVs, the installation of charging infrastructure also increased globally. In 2020, the estimated number of private light-duty vehicle chargers and publicly accessible chargers reached 9.5 million and 1.3 million units, respectively (IEA, 2021). In monetary terms, the total EV charging infrastructure investments remained stable at USD 4.3 billion in 2019 and 2020 but registered an overall 27 per cent increase with respect to 2018 (IEA 2019a and CPI 2022). Out of this, public spending was estimated at USD 1.6 billion and USD 2 billion for 2019 and 2020, respectively. The corresponding estimates for private spending were USD 2.7 billion and USD 2.3 billion.

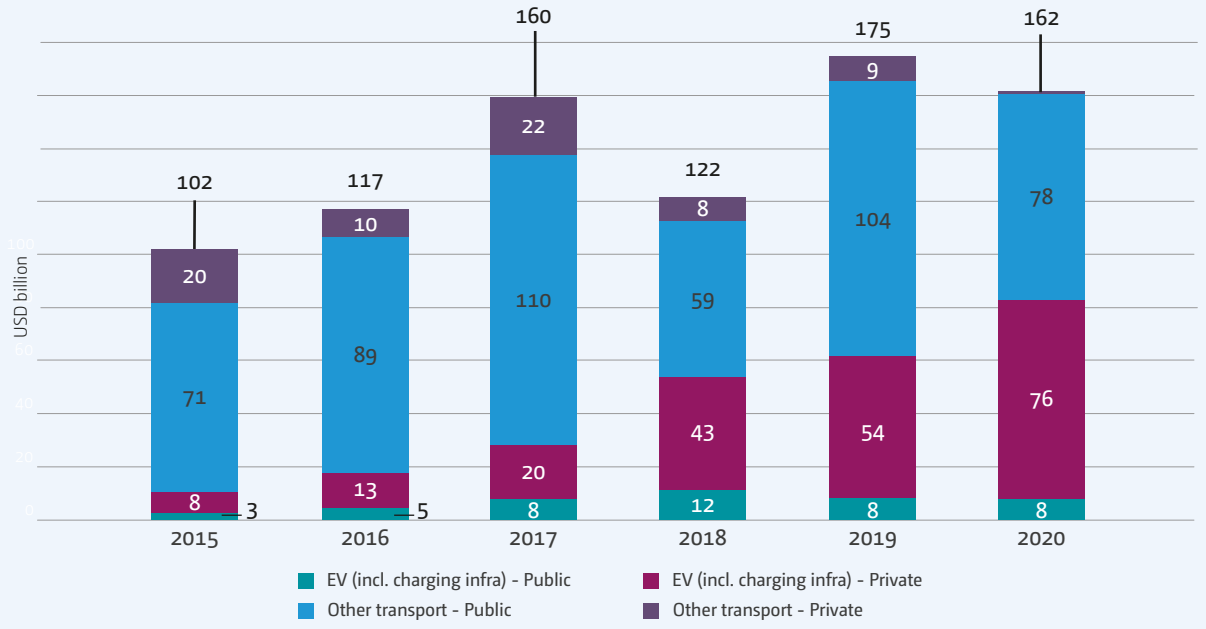
156. Investments in urban transport modal change and inter-urban transport projects showed a 67 per cent increase in 2019 to reach USD 113 billion, compared to 2018 (see figure 2.5). This underlines growing public sector commitments to pursue low-carbon transport as a key component of climate-smart investment strategies and support from the private sector. However, transport sector investment declined in 2020 to USD 79 billion, a 30 per cent fall. This decline is mainly due to decreased public sector investment on sustainable transport infrastructure projects in the East Asia and Pacific region (IDFC, 2020).

2.2.5. Investments in buildings and infrastructure

157. Tracking energy efficiency investments is not straightforward. Often there is no common agreement on how to calculate the counterfactual baseline which remains uncertain and subject to change, nor is there a common understanding of the extent to which those investments are consistent with low-carbon and climate-resilient pathways as minimum performance standards varies. Moreover, as energy efficiency projects are often components within larger programmes, these investments are difficult to isolate.

Figure 2.5

Estimates of global investment in transport, 2015–2020 (billions of USD)



Source: IEA, 2021; CPI, 2022, IJ Global and Convergence.

Notes: IEA and CPI collected data on the country-level sales, prices and technical specifications of all the EV models available in different countries, together with the incentive structure for EV adoption like direct rebates for retailers, manufacturers and consumers, tax exemptions or differentiated taxes for EVs compared with diesel and petrol vehicles. These data are then used to impute the total investments in the EV sector as a sum of domestic public investment (total subsidy contribution/value of tax break) and private investment (total consumer spending in the form of subsidized price/pre-tax sale price). EV investment exlcudes partial hybrid electric vehicles (PHEV).

158. According to CPI estimates, investments in building and infrastructure stood at USD 47 billion and USD 58 billion, in 2019 and 2020, respectively. For the first time, investments in energy efficiency in certified green buildings were estimated (CPI, 2021b) using an 'energy efficiency cost premium', improving data coverage for the sector. The cost premium refers to the incremental investment on energy efficiency improvement above a baseline of spending for conventional (less efficient) equipment or service. Estimated incremental investments in new certified green buildings averaged USD 10.5 billion in 2019–2020, which represent only 5 per cent of the total construction cost for the tracked green buildings.

159. According to IEA (IEA, 2021a), energy efficiency investment in buildings increased to USD 180 billion in 2020 from over USD 160 billion in 2019. This was a 13 per cent increase in investments despite the negative impact of the COVID pandemic on the global building construction sector. The increase was mainly attributed to the boost from existing emissions reduction policies and stimulus-related government programmes in Europe. More specifically, KFW's efficient construction and renovation programmes in Germany doubled in 2020. IEA measures incremental investment in the building sector as the change in cost for services (design, delivery, installation) and products (lighting, appliances, equipment and materials) that achieve increased energy efficiency performance beyond the investment required for the minimum performance legally allowed.

2.2.6. Investments in industry

160. Data on climate finance in the industrial sectors remains limited due to confidentiality restrictions on industrial processes as well as methodological issues on what activities and solutions should be included (CPI, 2021a). Tracked investments, based on project level data, to industrial sectors averaged around USD 7 billion per year in 2019 and 2020, from bilateral and multilateral DFIs. IEA estimates incremental investment in the industry sector at USD 45 billion and USD 35 billion in 2019 and 2020, respectively. IEA's estimate these investments based on the average technology efficiency in a recent base year, modelled on a regional basis considering realised level of energy savings in a sector.


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Table 2.3

Estimates of global investment in renewable energy technologies, 2011–2018 (billions of USD)

Source	2014	2015	2016	2017	2018	2019	2020
CPI*	–	–	–	**36.5**	**34.5**	**47**	**58**
Public	–	–	–	35.6	34.5	26	40
Private	–	–	–	0.9*	.05*	21	18
IEA	108	118	133	140	139	160	180

Source: IEA; 2021a; CPI, 2022 and CPI, 2021b. CPI numbers in 2019 and 2020 aren't directly comparable to previous years due to inclusion of new data sources and changes in the methodology. Estimates of global climate finance takes the IEA data as total and includes CPI public finance data to derive the public/private split.

Table 2.4

Estimates of global investment in renewable energy technologies, 2011–2018 (billions of USD)

Source	2017	2018	2019	2020
CPI*	–	–	9.0	4.9
IEA	35	40	45	35

2.2.7. Investments in sustainable agriculture, forestry and land use

161. Agriculture, forestry, and other land use (AFOLU) sector is a significant net source of GHG emissions, contributing to almost 22 per cent of global emissions in 2019 (IPCC, 2022). On the other hand, reforestation and forest sinks as well as ecosystem protection and restoration, hold huge carbon sequestration potentials, which are essential to meeting net-zero targets. However, the lack of comprehensive global datasets make it difficult to track the related adaptation and mitigation investments in the sector.

162. According to CPI estimates, average annual investment in mitigation, or measures with both mitigation and adaptation benefits related to AFOLU, as well as natural resource management, stood at USD 14.5 billion and USD 17.8 billion in 2019 and 2020, respectively. These went into projects targeting mitigation (53 per cent), adaptation (34 per cent) and both areas (13 per cent). Almost all of these investments were by public actors (98 per cent) as data on any private finance in the sector remains largely unavailable. Agriculture received 39 per cent of the total AFOLU sector investment followed by forestry with 27.5 per cent while 29 per cent of the investment could not be allocated to a specific sub sector (CPI, forthcoming).

163. In 2019, global conservation financing was estimated to be in the range of USD 124–143 billion, though the climate finance component is difficult to verify. This figure comprises domestic budgets and tax policy (USD 75–78 billion), natural infrastructure (USD 27 billion), biodiversity offsets (USD 6–9 billion), official development assistance (USD 4–10 billion), sustainable supply chain (USD 5–8 billion) green financial products (USD 4–6 billion), philanthropy, conservation NGOs (USD 2–3 billion) and nature-based solutions and carbon markets (USD 0.8–1.4 billion). However, government spending on support activities potentially harmful to biodiversity was between USD 273.9 – 542.0 billion, three to five times the total spending for biodiversity. This estimate excludes an additional USD 395–478 billion spent on fossil fuel subsidies (Deutz et al., 2020). Other estimates from an OECD report include economic instruments like biodiversity-relevant taxes, USD 8.9 billion in revenue per year, 2016–2019 averages (OECD, 2021).

164. The global estimates for biodiversity flows are not comprehensively reported. However, the International Development Finance Club (IDFC, 2021), a network of 27 national and regional development banks from both developed and developing countries, conducts a periodic survey among its members, and estimated about USD 14 billion spent on biodiversity projects in 2020. IDFC members based in non-OECD countries committed the majority of finance, accounting for about 90 per cent of the total amount. East Asia and the Pacific region attracted 84 per cent of commitments and Latin America and the Caribbean 10 per cent, with the remaining 6 per cent going to other continents. In terms of sector allocations, most of the biodiversity finance was deployed in preservation projects (24 per cent), wastewater treatment (16 per cent) and natural resources (15 per cent). However, only 61 per cent of total biodiversity finance was explicitly directed to climate finance-related projects which are included in the global estimates.

165. Other estimates of finance in sustainable agriculture, forestry and other land uses do not offer global breakdowns of finance flows to these sectors, nor clarify how the flows are consistent with a low GHG emissions and climate-resilient development pathway. 'Forests and Finance', an initiative by several campaigns and research organizations, provides an assessment of over 300 companies whose operations may lead to deforestation in South East Asia, Central and West Africa, and part of Latin America According to their database, investments of USD 43.5 billion and USD 33.1 billion in 2019 and 2020, respectively, were made in the "forest-risk sector" in the form of loans and underwriting facilities. This forest-risk sector covers the beef, soy, palm oil, pulp and paper, rubber and tropical timber supply chains (Forests and Finance, 2022).

2.2.8. Investments in climate mitigation in other sectors

166. Mitigation investment in other sectors and cross-sectoral activities was estimated at USD 18 billion on average in 2019–2020. These includes investments in health, education, biodiversity, land and marine conservation, disaster risk management, public resource management, financial sector, tourism, trade areas amongst others. 13 per cent of these cross-sectoral investments went into projects targeted to provide policy & national budget support & capacity building. Other mitigation expenditures were directed to waste and water sectors and averaged around USD 3 billion in 2019–2020.

2.2.9. Investments in climate adaptation and resilience

167. Although progress has been observed across all sectors and regions, this has been not evenly distributed, and gaps remain between estimated costs and allocated finance in adaptation (IPCC, 2022). According to CPI (2021), adaptation finance reached USD 42.4 billion and USD 56.2 billion in 2019 and 2020, respectively. A 65 per cent average increase with respect to 2017–2018 was mainly driven by bilateral and multilateral DFIs,


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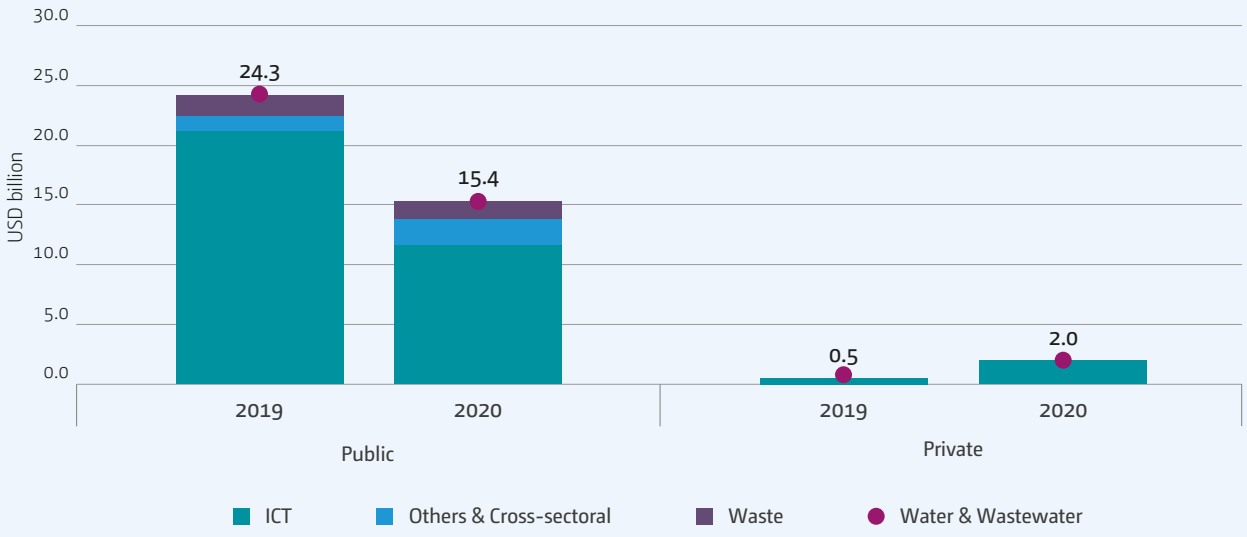
Figure 2.6

Estimates of global mitigation investment in other sectors, 2015–2020 (billions of USD)



which in 2020 increased investments by 66 per cent. Multilateral DFIs remain the main investors in climate adaptation, financing 35.6 per cent of the total followed by national DFIs (32 per cent), bilateral DFIs (14 per cent) and governments (13 per cent). About 35 per cent of adaptation finance was spent in the water sector, and almost 42 per cent on cross-sector measures such as disaster-risk management and policy and national budget support and capacity building, with the remaining in AFOLU (11 per cent) and transport (9 per cent). Regarding the geographical distribution, almost 41 per cent was directed to East Asia and the Pacific and about 17 per cent to Sub-Saharan Africa. All other regions received, on average, less than 10 per cent of total flows. Still, despite the critical importance of tracking adaptation finance, significant data and reporting barriers limit the ability to capture global flows. Therefore, the reported values are likely to underestimate actual flows.

168. Identifying whether an investment has positive adaptation outcomes is particularly challenging as it depends on regional or local vulnerabilities assessments; the more vulnerable the region and the sector, the most impactful an investment is likely to be. The lack of impact metrics and reporting requirements, along with data confidentiality, limit adaptation investment tracking for both private and public actors. Some private reporting is encouraged, though optional, via CDP, SASB, TCFD, and GRI responses, but this reporting is not regulated and, thus, companies and financial institutions are not incentivized to report as rigorously as in regulatory financial filings.

169. CPI, 2022a found that an annual average of USD 31.3 billion went towards climate resilient infrastructure projects in 2019 and 2020. This amount includes USD 18 billion of tracked global climate finance reported above, out of which 64 per cent was adaptation finance, 16 per cent mitigation and 20 per cent toward both mitigation and adaptation. The methodological approach (see section 1.2.2) revealed an additional USD 5 billion of infrastructure investment that included full or partial adaptation solutions. Most climate-resilient infrastructure investment was in the water and wastewater sector (42 per cent, USD 13.1 billion) followed by AFOLU (20 per cent, USD 6.4 billion), transport (9 per cent, USD 2.9 billion), energy systems (3 per cent, USD 867 billion) while other cross-sectoral projects received 26 per cent (USD 8 billion).

2.3. Domestic public climate finance

170. Data on domestic climate finance expenditures is improving as more countries establish monitoring and reporting systems through green budget tagging (see section 1.2.3 for further information). Annualized estimates

for 2019–2020 amount to USD 134 billion from 27 countries (Annex F). The total was split equally between developed and developing countries with twenty-one developing countries equalling the total of 6 developed countries.

171. Although the countries where data is available has increased since the fourth (2020) BA from 24 to 27, not all countries report consistently, almost half are countries reporting data for the first time. Most of the countries that report consistently do so using established processes such as budget tagging systems or CPEIRs while those reporting data through BURs are the least consistent. Data is derived from budget tagging systems in 16 countries, 7 BURs submitted to the UNFCCC, 3 CPEIRs and 1 other source of a study of climate-related investments.

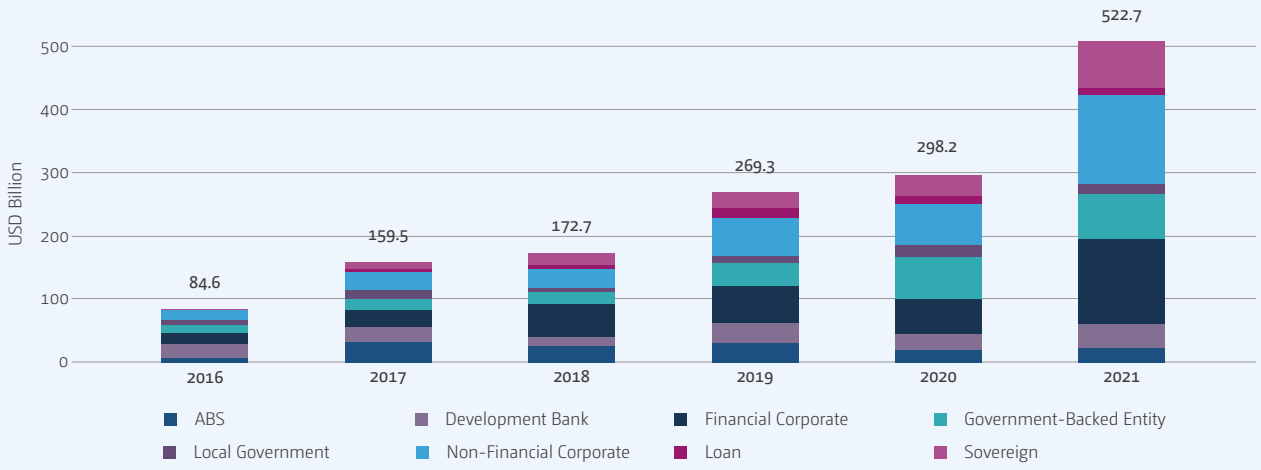
172. As outlined in section 1.2.3, data on climate-related spending as part of COVID recovery measures is available through a variety of sources. Data based on the most representative dataset estimates that 21 per cent or USD 513 billion of USD 2.5 trillion in recovery spending up to the end of 2020 was on green or climate-related measures (O'Callaghan et al., 2022). Approximately 76 per cent or USD 392 billion was set aside for investment by developed countries with the remainder in developing countries, particularly Republic of Korea and China. The category which attracted the most spending at 29 per cent of the total, green-related measures was investment in promoting the creation of green markets and participation in transition activities such as promoting low carbon manufacturing and transformation of auto and energy sectors. Clean energy infrastructure investment and transportation investments attracted 15 per cent each of spending, and disaster preparedness expenditures a further 13 per cent.

Box 2.1

According to CBI (2022), from 2018 to 2021, the green bond market almost tripled in size and the number of bonds issued reached an all-time high value of USD 523 billion. In the first half of 2020, the volume of issuances was negatively impacted by the Covid-19 pandemic. However, as interest rates remained low, the demand increased in the second half of the year and the market continued to grow significantly in 2021. Financial institutions and corporations remained the main issuers, representing about 44 per cent of cumulative green bond volumes, at the end of 2021. However, sovereign bond issuances also expanded significantly over the last three years, contributing about 10 per cent to cumulative volumes at the end of 2021.

More than 70 per cent of green bonds issued in 2021 came from issuers in developed economies, especially the EU (USD 265 billion) and the US (USD 82 billion). The great majority of those, about 81 per cent of the 2021 total, went to energy, buildings, and transport. Allocations to industry increased substantially from USD 1 billion in 2020 to USD 9.1 billion in 2021.

To date, there is no official definition of what constitutes a green bond and the establishment of a taxonomy or other related requirements to ensure credibility are still undergoing. CBI (2021) defines green bonds as 'a financial debt instrument that is almost entirely linked with green and climate friendly assets or projects'; whereas BNEF (2021) labels a bond as green 'when an issuer self-labels its bond as 'green' or identifies it as an environmental sustainability-oriented bond issue with clear additional statements about the company's commitment to



deploy funds toward green projects and activities'. In response to the lack of legally binding guidelines, the International Capital Market Association Green Bond Principles (2021) defined a so-called 'Voluntary Process Guidelines for Issuing Green Bonds'. This constitutes an attempt to better evaluate the legitimacy of green bonds, avoiding greenwashing. However, as reporting impacts are not mandatory, bonds usually lack this crucial information.

Due to these differences in the underlying definition, methodology and database updates, CBI and BNEF green bond estimates for 2021 differ in size. While CBI estimates the total volume of issuances to be around USD 523 billion, BNEF (2022) estimates it to be more than USD 100 billion higher, about USD 629 billion.

Another relevant issue characterising green bonds concerns whether they represent new or additional financial flows. For instance, the share of green bonds issuances in China (between 2016 and 2019) that specify the use of proceeds, 28 per cent was reported as going to new projects, 10 per cent towards debt refinancing or for existing projects and 51 per cent was not specified. Often financial bond issuers do not disclose information at this level of detail.

2.4. South-south cooperation on climate finance

173. This section captures data on climate finance flows to developing countries based on voluntary reporting on development assistance to the OECD CRS by developing countries, flows from IDFC member institutions in non-OECD countries or other non-OECD countries, MDBs' and climate funds financing that is attributed to developing countries based on their shareholding.

174. A number of non-Annex I Parties, such as the Republic of Korea and the United Arab Emirates, report on their development assistance to the OECD CRS and others to the TOSSD reporting framework. According to TOSSD (2022), financial resources allocated under south-south cooperation framework of collaboration to address SDG 13, i.e., climate action, accounted for USD 0.1 billion and USD 1.8 billion in 2019 and 2020, respectively. In both years, the great majority of the financing (99 per cent) is allocated to activities addressing multiple SDGs. In 2019 and 2020, the energy sector attracted the majority of financing, about 55 per cent, followed by water supply and sanitation (23 per cent), multisector activities (16 per cent) and AFOLU (5 per cent). General environment protection and humanitarian aid, together with unspecified sectors, accounted for the remaining 1 per cent.

175. IDFC member institutions based in non-OECD countries committed USD 1.7 billion and USD 2.2 billion in 2019 and 2020 to projects in other non-OECD countries, mostly for mitigation projects (91 per cent). This represents a substantial decrease from 2018 when USD 4.1 billion was reported with mitigation consisting of 84 per cent and adaptation finance 16 per cent.

176. Several developing countries are shareholders of MDBs. Around 25–28 per cent of the climate finance provided by MDBs can be attributed to non-Annex II Parties, which amounts to USD 12.0–12.6 billion for 2019 and USD 9.4–13.2 billion for 2020.

177. The GCF during the Initial Resource Mobilisation (IRM), for the period up to 2020, received pledges amounting to USD 119.5 million from nine non-Annex I Parties (Chile, Colombia, Indonesia, Mexico, Mongolia, Panama, Peru, Republic of Korea, and Vietnam), all of which stands disbursed (as of March 2022) except Peru's unconfirmed pledges. Further, the GCF for its first replenishment, for the period between 2020 and 2023, has raised contributions from two non-Annex I Parties namely Indonesia (USD 0.5 million) and the Republic of Korea (USD 200 million). Out of which disbursed amount for Indonesia and the Republic of Korea stands at USD 0.3 million and USD 26.5 million, respectively.

178. According to CPI estimates, USD 3.8 billion and USD 2.0 billion were invested in renewable energy and sustainable transport by private actors from non-Annex I countries in other non-Annex I countries in 2019 and 2020, respectively.

179. Renewable energy investments from Chinese-based public and private financial institutions to other projects in other non-Annex I Parties averaged at USD 2.2 billion per year in 2019/2020, out of which 74 per cent was in hydropower (WRI, 2022). In 2017–2018 investments were at USD 8.5 billion per year, illustrating the supporting role south-south investment may have in supporting clean energy development in developing countries.

Table 2.5

Estimated South–South climate finance flows, 2015–2020 (billions of USD)

	2015	2016	2017	2018	2019	2020
Bilateral flows						
BURs: finance provided through bilateral and multilateral channels	0.3	0.3	0.3	–	1.5	–
Non-DAC members to ODA eligible countries	0.5	0.3	0.3	0.2	0.1	0.0
IDFC non-OECD based member institutions to non-OECD countries	8.2	5.8	5.9	4.1	1.7	2.2
Multilateral flows						
GCF – confirmed pledges from non-Annex I Parties	–	0.1	–	–	0.2	
MDB attributed financing from non-Annex II Parties[a]	3.1–4.7	3.5–5.9	7.8–8.0	10.2–10.4	12.0–12.6	9.4–13.2
New Development Bank	–	0.6	0.3	0.6	–	–
Private finance						
RE and sustainable transport projects (CPI 2022)	2.6	1.1	3.5	2.9	3.8	2.0

a. This includes financing from AfDB, ADB, AIIB, EBRD, EIB, IDBG and WBG.

2.5. Climate finance flows from developed to developing countries

180. This section provides information on public and private climate finance flows from developed to developing countries for 2019 and 2020. Data on the flows of public climate finance are of higher quality and consistency as international public climate finance is periodically reported through bilateral channels (government agencies and DFIs) or multilateral channels (multilateral climate funds and MDBs). While private finance flows are often confidential in nature, consisting of flows from either multinational commercial banks or international investors in the form of FDI. However, such private finance flows often do not have the level of granularity required to understand whether the financing is related to climate change mitigation or adaptation activities or whether they originate in a developed country.

181. It is important to note that several databases are used to illustrate flows from developed to developing countries, without prejudice to the meaning of those terms in the context of the Convention and the Paris Agreement, including but not limited to Parties included in Annex II/Annex I to the Convention, to Parties not included in Annex I of the Convention; OECD member countries to non-OECD member countries; OECD DAC members to countries eligible for OECD DAC official development assistance; and other relevant classifications from various sources (see Annex A). To avoid overlaps, no aggregation is made across channels and data sources.

182. The available data on bilateral and multilateral flows are first discussed separately. This is followed by a consideration of the perspective of the recipients of public climate finance. Available estimates of private finance flows from developed to developing countries are then presented. A summary of all flows from developed to developing countries is provided at the end of the section.

183. This BA does not report on progress on the USD 100 billion climate finance goal by 2020 as this is considered in a separate report in 2022 by the SCF in accordance with decision 4/CP.26, para 19. It is widely accepted that the goal has not been achieved in 2020 (UNFCCC, 2022).

2.5.1. Bilateral flows

184. This section provides information on bilateral climate flows in 2019–2020 from several sources. These are a) preliminary data on financial support reported by Annex II Parties through bilateral, regional and other channels, and multilateral channels; b) bilateral assistance reported by OECD DAC members;[42] c) bilateral flows from OECD-based IDFC member institutions to non-OECD countries; and d) climate-related officially supported export credits from the OECD Export Credit Group statistics.

185. The fifth biennial reports are due to be submitted by the end of 2022. Preliminary data was collected from

42) When reporting to the UNFCCC on climate finance in their BRs, many OECD DAC members draw on their climate-related development finance reporting to the OECD DAC but adjust the amounts reported to better reflect the financial contribution of the respective activities to the objectives of the Convention (see section 1.2.1).

17 Annex II Parties in response to the call for evidence for preparation of the fifth BA. Proxy data was available for a further six Annex II Parties and no data was yet available for one Party. Based on preliminary data that may change once fifth biennial reports are officially submitted, climate-specific financial support reached an annual average of USD 40.1 billion in 2019–2020, an increase of 6 per cent on the 2017–2018 biennium (see figure 2.7). Climate-specific finance delivered through bilateral, regional and other channels represented 79 per cent of the total climate-specific finance with finance delivered through multilateral channels, 21 per cent, consisting generally of contributions or inflows to multilateral climate funds and multilateral financial institutions.

Figure 2.7

Climate-specific financial support provided as reported by Annex II Parties, 2011–2020

	Bilateral, regional and other channels					Multilateral channels					Total climate-specific finance[a]	Core general[b]	Grand total
	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific			
2011	8.79	2.64	2.00	0.65	14.08	1.33	0.44	0.96	0.17	2.90	**16.98**	11.78	**28.76**
2012	9.91	2.00	1.79	0.68	14.38	0.99	0.44	1.22	0.05	2.70	**17.08**	11.83	**28.92**
2013	15.17	4.25	3.02	0.71	23.15	0.58	0.43	1.20	0.06	2.27	**25.42**	15.11	**40.52**
2014	17.08	3.55	2.50	0.74	23.87	0.45	0.29	1.88	0.12	2.74	**26.60**	16.63	43.24
2015[c]	19.73	4.14	2.29	3.34	29.49	0.67	0.22	1.94	0.19	3.02	**32.51**	14.64	**47.16**
2016[c]	23.95	5.19	3.13	1.08	33.35	0.47	0.41	2.91	0.19	3.98	**37.33**	14.01	**51.33**
2017	20.30	5.66	3.52	–	29.48	3.42[d]	0.68	1.91	–	6.02	**35.50**[e]	13.32[e]	**48.83**
2018	20.80	7.16	5.34	–	33.30	3.82[d]	0.87	2.02	0.00	6.71	**40.02**[e]	15.30[e]	**55.32**
2019[e]	19.85	6.62	5.38	–	31.85	0.57	0.51	3.45	3.79	8.26	**40.17**	12.33	**52.50**
2020[e]	15.92	11.31	4.16	–	31.39	0.95	0.98	3.40	3.40	8.73	**40.12**	12.49	**52.61**

Note: Data as of November 2021.

a. Sum of mitigation, adaptation, cross-cutting and other climate finance provided via bilateral, multilateral, regional and other channels.

b. Support provided to multilateral and bilateral institutions that Parties do not identify as climate specific.

c. Data for 2015 and 2016 are updated to data received by November 2021 and therefore differ from data previously published in the third and fourth BAs and in the compilation and synthesis of third biennial reports.

d. In its BR4, the EU reported climate-specific finance related to the EIB under multilateral channels and in its BR1–3 under bilateral, regional and other channels. In 2017, a further USD 44 million in climate-specific finance and USD 22 million in core-general funding was voluntarily reported by other Annex I Parties, resulting in a grand total of USD 48.89 billion. In 2018 a further USD 79 million in climate-specific finance and USD 58 million in core-general funding was voluntarily reported by other Annex I Parties resulting in a grand total of USD 55.45 billion.

e. Preliminary data submitted by Parties upon request of SCF. Subject to change upon the final data officially submitted as part of the fifth biennial reports.

Source: Preliminary data received from Annex II Parties for 2019 and 2020. BA 2014, 2016 and 2018 for the years 2011–2016.

186. Mitigation finance constitutes the largest share of climate-specific financial support through bilateral channels at 57 per cent of the annual average 2019–2020. However, the share of adaptation finance increased from 21 per cent on average in 2017–2018 to 28 per cent on average in 2019–2020, particularly due to significant increases in 2020 flows. In the 2019–2020 period, adaptation finance through bilateral, regional and other channels grew 40 per cent while mitigation finance decreased by 13 per cent. Preliminary data also reported includes core general contributions to multilateral institutions of USD 12.4 billion per year on average in 2019–2020 that Annex II Parties are unable to confirm as climate-specific.

187. Table 2.6 shows the total bilateral climate-related development finance reported by OECD DAC members for projects with climate change mitigation and adaptation objectives. As mentioned in section 1.2.1, this data is based on the Rio markers and is not downscaled to climate-specific components. Bilateral assistance provided by OECD DAC members averaged at USD 31–33 billion between 2016–2019 but increased by 24% in 2020 to reach USD 44.2 billion. This is primarily due to financing to projects with significant adaptation benefits which increased to USD 23.7 billion in 2020 from USD 15.0 billion in 2019.

188. Other bilateral flows include financial commitments for bilateral development finance institutions and export credit agencies. According to IDFC, bilateral climate finance flows from OECD-based institutions to projects in non-OECD countries increased from an annual average of USD 18 billion in 2017–2018 to USD 20 billion in 2019–2020. (IDFC, 2021). No data is available on the share of concessional and non-concessional finance within these flows. Climate-related officially supported export credits amounted to an annual average of USD 2.25 billion in 2019–2020, a decline of 21 per cent from the 2017–2018 period (OECD, 2022).

2.5.2. Multilateral flows

189. This section discusses multilateral flows from two sources namely the multilateral climate funds and MDBs. Multilateral climate funds include flows reported by the operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol (GCF, GEF and AF), other funds established under the UNFCCC (LDCF, SCCF), and other multilateral climate funds including those operating under the CIF. The CIF is administered by the World Bank and is made up of two funds, namely the Clean Technology Fund and the Strategic Climate Fund. The latter serves as an overarching framework for three programmes: PPCR, FIP and SREP. MDBs includes AfDB, ADB, EBRD, EIB, IDBG and WBG (including IFC) which have been reporting jointly since 2011 on their climate financing. This group was joined by IsDB in 2019 and AIIB in 2020.

Table 2.6

Bilateral assistance reported by OECD DAC members for climate change mitigation- and adaptation-related projects, 2011–2020 (billions of USD)

Year	Mitigation		Adaptation		Overlap*		Total		
	Principal	Significant	Principal	Significant	Principal	Significant	Principal	Significant	Principal + Significant
2011	7.7	4.7	2.0	5.9	1.3	2.3	8.5	8.4	**16.8**
2012	9.6	5.0	2.7	7.1	1.8	2.3	10.5	9.8	**20.3**
2013	10.5	5.5	3.4	7.2	1.6	2.5	12.2	10.2	**22.4**
2014	12.1	5.7	3.7	8.0	1.9	3.2	13.9	10.5	**24.4**
2015	10.0	11.5	3.8	12.6	2.0	4.7	11.8	19.4	**31.2**
2016	9.5	14.8	4.7	11.2	2.7	4.1	11.5	21.9	**33.4**
2017	9.3	12.5	5.6	13.7	3.5	5.1	11.3	21.1	**32.5**
2018	7.8	16.7	3.3	13.2	2.3	6.0	8.9	23.9	**32.8**
2019	9.1	14.6	5.3	15.0	2.7	5.5	11.7	24.1	**35.8**
2020	11.1	14.5	5.8	23.7	4.1	6.8	12.8	31.4	**44.2**

Note: (1) Adaptation projects were not tracked before 2010; (2) *Many activities target multiple climate objectives, so the total nets out this overlap to ensure there is no double counting or triple counting in the data; (3) No attempt is made to estimate the climate-related share of the project budget by applying country-level coefficients.

Source: Authors' analysis based on OECD DAC CRS statistics, accessed August 2022.

Table 2.7

Overview of commitments to projects approved during 2015–2020 by multilateral climate funds (millions of USD)

	Pledged through 2020 FY	Commitments during 2015 FY	Commitments during 2016 FY	Commitments during 2017 FY	Commitments during 2018 FY	Commitments during 2019 FY	Commitments during 2020 FY
Adaptation funds	**4 323.9**	**544.5**	**504.1**	**569.1**	**422.7**	**532.7**	**454.8**
Adaptation for Smallholder Agriculture Program	381.7	84.0	35.0	2.2	–	–	–
Adaptation Fund[a]	956.6	59.6	32.3	84.8	69.2	188.9	57.1
Least Developed Countries Fund[a]	1 463.5	100.1	74.2	157.3	72.6	128.8	81.6
Pilot Program for Climate Resilience[b]	1 144.8	172.3	10.4	31.6	24.2	10.4	0.8
Special Climate Change Fund[a]	377.4	10.1	7.6	1.0	1.1	2.0	2.1
Green Climate Fund – adaptation commitments	–	118.3	344.5	292.2	255.7	202.7	313.3
REDD+ funds	**2 727.6**	**108.5**	**244.5**	**254.5**	**361.7**	**255.8**	**302.4**
Forest Carbon Partnership Facility – Readiness Fund	449.9	65.8	–	–	–	–	–
Forest Carbon Partnership Facility – Carbon Fund	878.3	–	–	–	–	–	–
Forest Investment Program[b]	725.6	11.0	48.8	88.7	61.6	27.2	34.3
UN-REDD Programme	318.6	5.4	32.2	4.3	4.1	–	–
Biocarbon Fund	355.2	20.0	–	12.0	50.8	–	–
Green Climate Fund[a] – REDD+ commitments	–	6.2	163.5	150.0	245.0	228.6	268.1
Mitigation funds	**9 203.2**	**783.0**	**1 561.6**	**1 244.2**	**1 716.7**	**1 563.3**	**2 096.3**
Clean Technology Fund[b]	5 404.3	451.7	498.5	342.8	395.8	458.0	478.6
GEF Trust Fund 5th Replenishment[a]	1 152.4	–	–	–	–	–	–
GEF Trust Fund 6th Replenishment[a]	1 117.2	212.8	191.1	151.4	256.8	1.8	–
GEF Trust Fund 7th Replenishment[a]	654.2	–	–	–	–	814.0	588.1
Scaling Up Renewable Energy Program in Low Income Countries [b]	744.4	76.3	73.5	184.8	89.5	56.0	10.9
Partnership for Market Readiness	130.7	–	0.4	9.5	3.0	–	–
Green Climate Fund[a] – mitigation commitments	–	42.3	798.2	556.0	971.6	233.6	1 018.7
Multiple-objective funds	**1 332.9**	**11.8**	**59.9**	**162.9**	**573.9**	**587.4**	**606.5**
Global Climate Change Alliance	1 332.9	–	51.4	–	–	148.7	74.4
Green Climate Fund	–	11.8	8.5	163.0	574.0	438.7	532.0
Total	**27 246**	**1 447.6**	**2 370.0**	**2 230.7**	**3 075.0**	**2 939.3**	**3 459.9**

Source: CFU, 2022.

Notes: Amounts may not sum to the total because of rounding; GCF funding in 2020 includes both First Replenishment (GCF-1) and Initial Resource Mobilisation.

Abbreviations: Pledged = contributor pledges, FY = the fund's fiscal year ending during the specified calendar year.

a. Denotes a fund under the UNFCCC.

b. Denotes a fund that is part of the CIF.

190. Table 2.7 provides an overview of the inflows to multilateral climate funds in the form of pledges, as well as the outflows from the funds to climate projects in the form of commitments approved by all multilateral climate funds for the time period up to 2020. The funds are categorized thematically as "adaptation funds", "REDD+ funds", "mitigation funds" and "multiple-objective funds"; the last category refers to funds supporting both mitigation and adaptation.

191. In terms of outflows from the funds to climate projects in developing countries, as a group, multilateral climate funds, including the UNFCCC funds, committed USD 2.9 billion in 2019 and USD 3.5 billion in 2020. The annual average (USD 3.2 billion) represents an increase of 21 per cent over the 2017–2018 average. Together, the UNFCCC funds committed USD 2.2 billion in 2019 and USD 2.9 billion in 2020 to climate projects.

192. In terms of inflows to the funds, GCF in its initial resource mobilization period conducted in 2014, received announced pledges of USD 10.3 billion from 45 countries, 3 regions and 1 city with USD 8.3 billion confirmed as of 31 July 2022.[43] In the first replenishment conducted in 2019 for the programming period between 2020 and 2023, the GCF received USD 10 billion in announced pledges from 32 countries and 2 regions, a decline of 3 per cent from the IRM. As of 31 July 2022, USD 9.87 billion has been confirmed, an increase of 19 per cent of confirmed pledges from the IRM. The second GCF replenishment will conclude in 2023.[44]

193. The GEF raised USD 5.33 billion in replenishments under the GEF-8 replenishment in 2022 from 29 contributors for the programming period 2022–2026, an increase of more than 30 per cent from GEF-7.[45] USD 852 million is allocated to the climate change focal area for mitigation actions, an increase over 6 per cent on GEF-7. In addition to the focal area allocation, the GEF also aims to ensure at least 80 per cent of all GEF funding commitments over the period include direct or indirect climate benefits, with a minimum of 45 per cent with adaptation benefits and 65 per cent with mitigation benefits.

194. The LDCF, SCCF and AF raise funds on an annual basis rather than through replenishment cycles. In 2022, the LDCF raised USD 44.5 million in 2022 from two countries.[46] The AF raised USD 356 million in new pledges from 16 donors at COP26 including first-time contributions from the United States and Canada. These new pledges surpass the Fund's 2021 resource mobilization goal of USD 120 million while more than tripling the amount it raised in 2020 (the USD 116 million).

195. MDBs play a significant role in channelling climate finance to developing countries. In addition to managing specific climate funds on behalf of provider countries, and receiving core capital contributions, MDBs also raise capital through the capital markets (such capital constitutes what is referred to as their own resources). The first two activities are reflected in figure 2.7, which shows data on the finance inflows from Annex II Parties managed by multilateral institutions, as well as on their core general or non-climate specific contributions to MDBs. Table 2.8 provides an overview of the climate finance outflows provided by MDBs to developing countries from their own resources.

196. According to MDBs' joint annual reports, MDBs committed USD 46.4 billion and USD 45.4 billion in climate finance in developing and emerging economies in 2019 and 2020. The annual average of USD 45.9 billion represents a 17 per cent increase compared to 2017–2018.[47] A variety of approaches may be used to estimate the attribution of MDBs' climate finance to developed countries, with some resulting in a 76 per cent aggregate share and others up to a 90 per cent aggregate share.[48] Two different approaches are highlighted (1) based on the ownership shares held by developed countries in each MDB (CPI, 2019a), resulting in an aggregate share of 70 per cent and 75 per cent; and (2) based on replenishments of concessional finance and grant windows in different funding rounds) and, for institutions raising additional funds from the capital markets, further considerations of paid-in and on-call capital, the latter being the amounts that shareholders have committed to provide in exceptional circumstances (OECD, 2020a), resulting in an aggregate share of 72 and 75 per cent of finance to developing countries attributed to "developed countries" (Annex II Parties and all EU member States, Lichtenstein and Monaco) in 2019 and 2020.

43) Seven developing countries contributed in the IRM amounting to 1.4 per cent of the total confirmed pledges https://www.greenclimate.fund/document/status-pledges-all-cycles.

44) Two developing countries confirmed pledges amounting to 2 per cent of the total in GCF-1.

45) Seven developing countries pledged 1.85 per cent of the total. https://www.thegef.org/who-we-are/funding/gef-8-replenishment.

46) https://www.thegef.org/newsroom/news/gef-climate-adaptation-funds-plan-more-targeted-support.

47) The Joint MDB report no longer provides a breakdown of themes, instruments, regions or sectors for the total climate finance to emerging economies and developing countries but does provide information by income group.

48) Refer to box 1.1 in the fourth (2020) BA.

Table 2.8

Climate finance commitments by MDBs from their own resources that are attributable to Annex II Parties, 2013–2020 (billions of USD)

	Approach based on ownership shares held by developed countries in each MDB					Approach based on share of paid-in capital and callable capital (mobilization effect) of each MDB [b]		
	Total climate finance outflows reported by MDBs from own resources	Less commitments to Annex 1 Parties [a]	Total climate finance outflows to non-Annex I Parties	MDB climate finance to non-Annex I Parties attributable to Annex II Parties	Share of total outflows	Total MDB outflows to developing countries reported to OECD DAC	MDB outflows to developing countries attributed to developed countries [c]	Share of total outflows
2013	20.8	-3.3	17.5	11.9	65%	15.7	13.0	83%
2014	25.7	-6.3	19.5	12.7	65%	21.0	18.0	86%
2015	23.4	-3.0[c]	20.4	15.7	77%	19.1	14.4	75%
2016	25.8	-2.6	23.2	17.3	74%	22.3	15.7	70%
2017	34.1	-3.4[e]	30.7	23.3	76%	36.4	23.8	65%
2018	41.5	-3.1[e]	38.4	28.0	73%	33.7	26.7	79%
2019	45.8[d]	-3.9	41.9	29.3	70%	42.5	30.5	72%
2020	42.7[d]	-5.1	37.5	28.2	75%	46.4	33.2	72%

a. Commitments of MDB resources to Annex I Parties, in particular EU member states. See previous BAs for details on years before 2019.

b. For paid-in capital contributions, both historical and recent contributions are taken into account. For institutions raising additional funds from the capital markets, callable capital, consisting of on-call capital which shareholders have committed to provide in exceptional circumstances, supports the ability to raise funds. For callable capital, only shareholders with credit ratings of A or above are taken into account and such capital is weighted at 10 per cent of total attribution compared to 90 per cent for paid-in capital.

c. For 2013–2016, developed countries are classified as Annex II Parties plus Czechia, Poland, Slovakia and Slovenia, and developing countries as non-Annex I Parties and/or the OECD DAC list of ODA-eligible recipients (see annex A). For 2017–2020, developed countries are classified as Annex II Parties, EU member States, Lichtenstein and Monaco, and developing countries as non-Annex I Parties and/or the DAC list of ODA recipients for 2018.

d. For 2019–2020, the proportion of each MDBs own resources to total climate finance in Table 4 in AfDB et al., 2020, 2021 (both developed and developing countries) is applied to the total for each MDBs climate finance to emerging economies and developing countries (Figure A.F.1 in AfDB et al., 2020, 2021).

Source: Authors analysis of AfDB et al., 2020, 2021, OECD 2022.

197. The two aforementioned approaches were applied separately to obtain the estimates presented in Table 2.8. The remainder of the climate finance committed to non-Annex I Parties by MDBs is treated as South–South climate finance.

2.5.3. Recipient perspective on climate finance flows

198. The bilateral and multilateral finance flows discussed above are channelled through a wide range of public and private recipient entities. Many of these recipients are intermediaries, such as banks, and channel the finance to end-users. However, there is a lack of comprehensive information on the recipient entities of climate finance in data on climate-related spending. This section sheds light on available information on the recipient of international public climate finance from the BURs, MDBs' annual reports and reporting from OECD DAC members.

199. The growth in BUR submissions from non-Annex I Parties has resulted in a greater amount of information on climate finance received, however, as in previous BAs, the time lag in reporting means that 35 per cent of Parties reporting (28) report data on climate finance received in 2019–2020. Due to this factor, the most comprehensive data is typically available for the first year in the reporting period. USD 10 billion was reported as received for projects starting in 2019 and USD 1.6 billion in 2020 (see Annex C for further information). The amount for 2019 is an increase of 22 per cent from 2017. Approximately 81 per cent of the 2019 amount was specified as from bilateral institutions in developed countries or multilateral institutions, while 15 per cent was derived from institutions based on developing countries, with the remainder unspecified as to the origin of the finance.

200. OECD climate-related development finance data provides information on the primary channel of delivery of bilateral assistance like governments, private and

non-governmental entities in recipient countries. On average, 65 per cent of the bilateral climate-related assistance in 2017–2020 was channelled through public sector institutions (central, local public corporation and other public entities in donor country) followed by multilateral organizations (8 per cent), NGOs (8 per cent), UN entities (6 per cent) and private sector institutions (6 per cent).

201. MDBs report on the nature of first recipients or borrowers of MDB climate finance (those to whom finance will flow directly from the MDBs), differentiating between public and private recipients, with "public recipients" defined as organizations with more than 50 per cent public ownership. Of the total climate finance committed by MDBs from their own resources, 71–74 per cent was channelled to public sector recipients between 2015 and 2020. The majority of the adaptation finance (90–97 per cent) went to public sector entities between 2015 and 2020, while the corresponding estimate for mitigation was 64–65 per cent.

202. A key factor from a recipient perspective is net climate finance flows and the amount of climate finance received that will be retained in the recipient country rather than be returned to international capital providers through debt repayments or investment returns. Approximately 71–76 per cent of public climate finance to developing countries takes the forms of loans each year while grants made up 23–26 per cent each year over the 2016–2020 period (OECD, 2022) (See section 3.2 for a further breakdown on public climate finance by instruments).

203. A number of Annex II Parties emphasise grant finance in their reporting on climate-specific finance provided through bilateral, regional and other channels, while MDBs dominate the provision of loans due to the nature of their business model. Ten Annex II Parties reported only grants or grant-equivalent values for climate-specific finance provided through bilateral, regional or other channels in their fourth biennial reports covering the 2017–2018 biennium (Australia, EU, Germany, Greece, Iceland, Luxembourg, Netherlands, New Zealand, Portugal and Sweden). Two Parties (UK, Belgium) reported reflows in the reporting period in the form of debt repayments from active or closing projects in their portfolio. The reflows amounted to 0.2–0.6 per cent of the total climate finance committed or disbursed, which is then deducted by the respective Party to provide a net figure.

2.5.4. Private finance flows from developed to developing countries

Private finance mobilized by official development finance interventions through bilateral channels

204. OECD DAC, in consultation with bilateral and multilateral providers, has developed and implemented an instrument-specific methodology to collect data on private climate finance mobilized by official development finance interventions. In order to avoid double-counting, when multiple official financiers invest in the same project or vehicle together with the private sector, the OECD methodology takes into account the role (e.g., arranger of syndications) and position (investment seniority) of each official international and domestic actor.

205. Private finance mobilized by bilateral providers was estimated at USD 5.8 billion and USD 5.1 billion in 2019 and 2020, respectively. The increase over 2017 and 2018 numbers (USD 3.9 billion) could also be partly attributed to improved data coverage as it was only until 2019 that almost all OECD DAC members and multilateral institutions started reporting to OECD DAC as part of their annual data (OECD, 2021). Direct investments in companies and special purpose vehicles mobilized the most private finance (33 per cent of the total), followed by guarantees (20 per cent), credit lines (20 per cent) and simple co-financing (14 per cent).

206. IDFC members have included private sector mobilization since 2014, but comprehensive estimates remain difficult due to varying methodologies, and not all members reporting on it. In 2019, nine institutions (out of 26 members) reported private co-financing of USD 7 billion. Out of these, mitigation projects (USD 5 billion) received the largest share of co-finance (USD 5 billion) in the form of non-concessional loans (61 per cent). While in 2020, six institutions reported only USD 3.6 billion of private co-financing. Because IDFC does not report on the source and destination of mobilized private finance, it is not possible to separate the finance flows from developed to developing countries.

Private finance mobilized through public interventions and deployed via multilateral channels

207. The level of private sector engagement of multilateral climate funds varies across climate funds depending on their specific mandates. Based on OECD data, private climate finance mobilized by the GEF and GCF were estimated at USD 2.5 and USD 2.2 billion between 2016 and 2020. Private finance mobilized by

Table 2.9

Private climate finance mobilized by multilateral funds to developing countries reported by OECD DAC members, 2012–2019 (millions of USD)

Fund	2012	2013	2014	2015	2016	2017	2018	2019	2020
Climate Investment Funds	–	–	–	–	–	–	376	–	–
Global Environment Facility	–	–	–	–	722	381	118	650	644
Green Climate Fund	–	–	–	–	540	372	538	16	698
IFAD	15	3	70	51	20	18	98	12	9

Source: OECD.Stat. Availale at https://www.oecd-ilibrary.org/economics/data/oecd-stat_data-00285-en.

GEF was in the form of simple co-financing (65 per cent) and shares in a collective investment vehicle (CIVs) (35 per cent). While the majority of the finance mobilized by GCF was through CIVs (36 per cent), credit lines (31 per cent) and direct investment in companies and SPVs (25 per cent) and simple co-financing (8 per cent).

208. In their annual report, MDBs bifurcate the total private co-financing figures into two key elements, namely private direct mobilization and private indirect mobilization. Private direct mobilization refers to financing from a private entity on commercial terms, due to the active and direct involvement of an MDB that leads to the commitment of the private entity's finance. Private direct mobilization does not include sponsor financing. While private indirect mobilization refers to financing from a private entity supplied in connection with a specific activity for which an MDB is providing financing, where no MDB is playing an active or direct role that leads to the commitment of the private entity's finance. Private indirect mobilization includes sponsor financing if the sponsor qualifies as a private entity. MDBs mobilised USD 21.9 billion and USD 9.9 billion of private finance for low and middle-income economies in 2019 and 2020, respectively.

Other private finance flows

209. According to UNCTAD, the Covid-19 pandemic significantly affected greenfield projects which fell by 33 per cent in 2020, reaching USD 564 billion, the lowest value ever recorded. The most affected sector was the manufacturing sector, while the most resilient was energy generation and distribution which registered an overall increase of 143 per cent, accounting for USD 99 billion in 2020. Private finance flows from developed to developing countries were USD 7.3 billion in 2019 and USD 9.6 billion in 2020 (CPI, forthcoming). In both years, about 76 per cent, was allocated to the energy sector, mainly in mitigation projects concerning power and heat generation. Cross sectoral projects (8 per cent) and AFOLU (4 per cent) sector received the remaining private finance while sector(s) for 8 per cent of the finance could not identified. The 36 per cent decrease compared to 2018 was partially due to the Covid-19 pandemic, which caused an overall decrease in climate finance flows.

210. According to FDI Intelligence (FDI, 2021), global capital investments in renewables were higher than coal, oil and gas sector investment for the first time since 2011. Even though the renewable energy sector saw a drop of about 13 per cent in 2020, it still mobilised USD 101 billion in FDI in 2020, more than any other sector. However, granular information to estimate the flows from developed to developing countries is not available.

2.5.5. Summary: estimates of climate finance flows from developed to developing countries

Table 2.10

Summary of estimated climate finance flows from developed to developing countries, 2015–2020 (billions of USD)

	2017	2018	2019	2020	Geographical split		Notes
					Developed	Developing	
UNFCCC funds	1.5	2.4	1.4	2.3	NA	Non-Annex I Parties	Outflows to projects in developing countries
Bilateral							
Biennial reports (bilateral, regional and other channels only, preliminary data for 2019 and 2020)	29.5	33.3	31.9	31.4	Annex II Parties	Non-Annex I Parties	Changes to number of Parties reporting and methodological changes hinder comparisons across the years
OECD DAC climate-related development finance database	13.0–31.9	11.0–33.3	11.7–24.1	12.8–31.4	OECD DAC	List of ODA recipients	–
IDFC	21.5	24.0	20.0	20.0	OECD-based DFIs	Projects in non-OECD countries	–
Bilateral public climate finance provided (OECD, 2022)	27.0	32.0	28.7	31.4	Annex II Parties, EU member States, Lichtenstein and Monaco	List of ODA recipients and/or non-Annex I Parties	Estimates exclude coal-related financing and export credits
Multilateral							
Multilateral climate funds (including UNFCCC funds)	2.2	3.1	2.9	3.5	NA	Developing countries	Outflows to projects in developing countries
MDB climate finance attributed to developed countries (own resources only)	23.3–23.8	26.7–28.0	29.3–30.5	28.2–33.2	Annex II Parties	Non-Annex I Parties	Range of approach A and B in Table 2.8
BR (multilateral flows, preliminary data for 2019 and 2020)	5.9	6.6	8.3	8.7	Annex II Parties	Non-Annex I Parties	Primarily inflows to multilateral institutions
Total multilateral climate finance provided and mobilized (OECD, 2020)	27.1	30.5	34.7	36.9	Annex II Parties, EU member States, Lichtenstein and Monaco	List of ODA recipients and/or non-Annex I Parties	Inflows considered for institutions only where data on outflows are unavailable
...Of which inflows into multilateral institutions where outflows unavailable	0.5	0.3	0.3	0.2	–	–	–
...Of which multilateral climate funds	2.9	3.5	3.8	3.5	–	–	–
...Of which MDBs	23.8	26.7	30.5	33.2	–	–	–
MDB climate finance (own resources only)	34.1	41.5	45.8	42.7	Non-attributed	Developing and emerging economies	–

Table 2.10 (continued)

Summary of estimated climate finance flows from developed to developing countries, 2015–2020 (billions of USD)

	2017	2018	2019	2020	Geographical split		Notes
					Developed	Developing	
Private finance							
Mobilized through bilateral channels							
Private climate finance mobilized through bilateral public interventions from developed countries (OECD, 2020)	3.7	3.8	5.8	5.1	Annex II Parties, EU member States, Lichtenstein and Monaco	List of ODA recipients and/or non-Annex I Parties	–
Mobilized through multilateral channels							
Private climate finance mobilized through multilateral public interventions attributed to developed countries	10.8	10.8	8.6	8.0	Annex II Parties, EU member States, Lichtenstein and Monaco	List of ODA recipients and/or non-Annex I Parties	This includes private finance mobilized by both multilateral climate funds and MDBs
Climate funds	0.6	0.1	–	–	–	–	–
MDBs direct and indirect	21.8	28.2	–	–	Developed countries	Developing countries	–
FDI							
Other private sector projects	5.3	11	7.3	9.6	OECD	Non-OECD	–

Abbreviation: NA = "not applicable".

Note: Colours indicate data used for diagram. (1) The private mobilized finance in 2016 and 2017 are not directly comparable to previous years' estimates due to the implementation of enhanced measurement methodologies in 2015.

2.6. Available datasets that integrate climate change considerations into insurance, lending and investment decision-making

211. Since the adoption of the Paris Agreement in 2015, many initiatives, methodologies and approaches are being developed to help understand the contribution that public and private stakeholders can make toward achieving the goal outlined in Article 2, paragraph 1(c), which specifically targets "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development". However, there is currently no comprehensive view of progress across the financial system and real economy in relation to alignment with the Paris Agreement.

212. This section provides a non-exhaustive list of existing public and proprietary data sets capturing different responses of private capital owners and decision makers, to align their actions with Article 2, paragraph 1(c) of the Paris Agreement. Data sets are listed by sources, specific asset classes or financial instrument, actors covered, description of data set, and example datapoints (table 2.11). Each data set is also categorized by three dimensions - targets, integration and flows – to see progress from intentions to actions and results. Targets refer to signalling intent to respond, potentially resulting in future engagement and flows. This dimension tracks indicative qualitative commitment and quantitative targets adopted to address climate change, as well as membership of initiatives that may influence future capital alignment. Integration measures whether climate considerations are factored into decision-making processes, potentially resulting in future flows. This dimension looks at concrete qualitative changes to institution policies, governance, and investment approach that may influence future capital alignment. Thirdly, the flows track finance allocated to climate solutions via investment into productive assets/activities and capital markets (CPI 2021, NZFT).

Table 2.11

Available data sets relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

Source	Instrument type	Investor Type	2019 - USD billion	2020 - USD billion	Dimension*	Description
Aon – Weather, Climate & Catastrophe Insight Annual Report	Insurance and reinsurance	Insurance companies	USD 232 billion in 2019, out of which USD 71 billion was insured.	USD 268 billion in 2020, out of which USD 97 billion was insured	Flows	Provides estimates of economic losses from natural disasters
Banking Environment Initiative (BEI)	Loans	Banks	–		Integration	Comprises 10 banks from Asia, Europe and the Americas committed to pioneering actionable pathways towards a sustainable economy
BloombergNEF	Bonds, loans	Banks, corporations, governments and their agencies, project developers	611.4	811.2	Flows	Provides estimates of volumes of green or sustainability-linked loans
Boston Common – Banking on a Low-Carbon Future: Finance in a Time of Climate Crisis	Loans	Banks	78% are implementing risk assessments or 2°C scenario analysis – an increase from 49% in 2018 64% banks include transition and physical risk in assessments. 29% have adopted an explicit 1.5 or 2°C target in risk assessment or sector-level criteria		Integration, Targets	Surveyed 58 banks to determine which are applying climate risk assessments in their risk assessment processes for loan approval
California Department of Insurance – Climate Risk Disclosure Survey	Insurance and reinsurance	Insurance companies	Two-thirds have a climate change policy for risk and investment management; 60% are taking action to manage risks; One-third have not considered the impact of climate change on its investment portfolio.		Integration	Surveyed 1 000 insurance companies and title insurance on their emission reduction plans, and risk assessment on climate-related risks
Carbon Pricing Leadership Coalition (CPLC)	Government and its entities, SOEs, Banks, Corporations	–	Less than 4% of global GHG emissions are covered by a carbon price in the range needed to meet the 2°C goal of the Paris Agreement,		Integration	Coalition comprises 35 national and sub-national governments, 176 private sector organizations from a range of regions and sectors, and 102 strategic partners (NGOs, business organizations, and universities.)
CDP	–	Corporations, Cities	A TNFD supported pilot showed that 675 (out of 865 organizations responding to CDP's forests Questionnaire) disclosed for a forest risk commodity (FRC); 233 of these disclosed for palm oil.		Integration	Reports on climate-related and TCFD consistent reporting by companies (governance, strategy, risk management, metrics and targets)

Table 2.11 (continued)

Available data sets relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

Source	Instrument type	Investor Type	2019 - USD billion	2020 - USD billion	Dimension*	Description
Climate Assessment for Financial Institutions (CAFI)	Loans	Banks, MDBs and fund managers	USD 8.6 billion of climate loans disbursed to date (May 2022)		Flows	CAFI, a digital, web-based platform, helps banks and other financial institutions to assess the climate eligibility and measure the development impact of the projects they finance.
Climate Bonds Initiative	Bonds	Banks, corporations, governments, municipalities	Green: 269.3 Sustainability: 69.7	Green: 298.2 Sustainability: 162.6	Flows	Tracks issuances of green bonds
Climate Watch (CW)	–	All	- 35 out of 197 countries covering 16.7 % of total GHG emissions have a net zero emission target - 63 covering 48.2 % of total GHG emissions have an economy-wide target in a national law or policy		–	Brings several datasets together to analyze and compare the Nationally Determined Contributions (NDCs) under the Paris Agreement.
DivestInvest	Bonds, listed equity	Private organisations, educational institutions, governments, funds	Database includes 1546 institutions divesting with combined assets of USD 40.57 trillion (to date, August 2022)		Flows	A diverse, global network of individuals and organizations influencing divestment from fossil fuels, and investment in climate solutions.
Exponential Roadmap Initiative (ERI)	–	–	50+ businesses with combined USD 900 billion in revenue are members		Integration	Produces 'Playbook' developed for companies and organisations providing guidelines to set targets, strategy and actions;
EY – Global Climate Risk Disclosure Barometer	Insurance, banking	Insurance companies, financial sector, non-financial sector	41% of the sample conduct scenario analysis; and only 15% feature climate change in their financial statements.		Integration	Provides information on disclosures of over 900 companies on climate-related financial risk disclosures
FinanceMap (2DII)	Listed funds	Asset managers	Portfolios held by the 15 largest asset management groups remain significantly misaligned with the targets of the Paris Agreement		Integration	Provides insights into how the asset management sector is performing on climate change. Currently limited to secondary market activity
Frankfurt School/ UNEP	Equity (listed and private)	Renewable energy companies, corporations	Private: 1.8 Public markets: 6.6		Flows	New public markets investment and venture capital and private equity flows in renewable energy
Glasgow Financial Alliance for Net Zero (GFANZ)	–	Banks, asset managers, asset owners, insurers, financial services providers	450 financial firms from 45 countries with over USD 130 trillion in assets		Targets	–

Table 2.11 (continued)

Available data sets relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

Source	Instrument type	Investor Type	2019 - USD billion	2020 - USD billion	Dimension*	Description
Global Private Capital Association (ex EMPEA)	Private equity	Private equity fund managers, institutional investors	Over 300 private capital investors managing more than USD 2 trillion		Flows	Private equity funds raised and disbursed in emerging markets.
InfluenceMap	–	Financial Institutions	Assessment of 30 largest FIs shows they cumulatively enabled at least USD 740 billion in primary financing to the fossil fuel production value chain in 2020 and 2021 (or 7% of their total primary financing); 15 members lobbied directly in line with fossil fuel interests; 7 have set thermal coal exit plans		Integration	An independent think tank producing data-driven analysis
Investor Agenda (IA)	Bonds, loans, equity	Banks, fund managers, corporations	The Investor Climate Action Plans (ICAPs) Expectations Ladder and Guidance provides steps investors can take to support the goal of a net-zero emissions economy by 2050 or sooner.		Integration	–
Mission Possible Partnership	–	Corporations	Accelerate the decarbonization of heavy industry and transport representing global industries covering 30% of global emissions		Integration	Coalition by Run by the World Economic Forum, Energy Transitions Commission, Rocky Mountain Institute, the We Mean Business Coalition.
NAZCA Global Climate Action Portal (NAZCA)	–	–	Tracks 29 656 actors climate action commitments over 53 sectors in 131 countries			An online platform where actors can display their commitments to act on climate change.
Net Zero Asset Managers Initiative (NZAM)	Assets under management	Asset managers	236 signatories representing USD 57.5 trillion in AUM		Targets	Aligning portfolio with net zero emissions by 2050
Net-Zero Banking Alliance (NZBA)	Loans	Banks	110 banks from 40 countries with over USD 68 trillion in AUM (or two-fifth of global banking assets)		Targets	Aligning lending and investment portfolios with net zero emissions by 2050
Net Zero Financial Service Providers Alliance (NZFSPA)	–	Investment advisors, rating agencies, auditors, exchanges, index providers, auditor	Group of 23 financial service providers		Targets	Committed to support net zero greenhouse gas emissions by 2050 or sooner
Net Zero Investment Consultants Initiative (NZICI)	–	Investment advisors	Group of 12 investment consulting firms, responsible for advising institutional asset owners on assets of USD 10 trillion		Targets	Committed to support net zero by 2050 or sooner, through nine specific action points

Table 2.11 (continued)

Available data sets relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

Source	Instrument type	Investor Type	2019 - USD billion	2020 - USD billion	Dimension*	Description
Paris Aligned Investment Initiative (PAII)'s Net Zero Investment Framework	Assets under management	Institutional investors	118 investors representing USD 34 trillion in AUM		Integration, Targets	Provides actions, metrics and methodologies on decarbonizing investment portfolios
Partnership for Carbon Accounting Financials (PCAF)	Listed equity, bonds, private equity, loans	Banks, asset managers, funds	304 financial institutions with total combined AUM of USD 79.7 trillion		Integration, Targets	Develop and implement a harmonized approach to assess and disclose the GHG emissions by members
Portfolio Decarbonisation Coalition (PDC)	Listed equity, private equity, bonds, loans	Asset managers, funds, insurers, banks	Convenes 32 investors overseeing the decarbonization of USD 800 billion in commitments.		Targets	Mobilize a critical mass of institutional investors committed to gradually decarbonizing their portfolios.
Principles for Responsible Banking (PRB)	–	Banks, Funds	Over 270 banks representing over 45% of banking assets (USD 84 trillion). They provide detailed guidance on target setting and reporting.		Integration	Ensures that signatory banks' strategy and practice align with SDGs and the Paris Climate Agreement.
Principles for Responsible Investment: Climate Snapshot	Asset under management, financial services	Asset owners (insurance, pension funds, SWFs, foundations and endowments, reinsurance companies); investment managers/funds	2 097 investors reporting, with USD 97 trillion in assets, (2020); 3.5 times increase since 2019 because of mandatory reporting since 2020		Integration, Targets	Survey responses from PRI signatories on TCFD alignment across the areas of governance, strategy, risk management and metrics/targets
UNEP's Principles for Sustainable Insurance (PSI)	Insurance	Insurers, Companies	Over 220 organisations joined with USD 15 trillion assets under management		Integration	Suggest best principles and incentivise sustainable practices for the insurance industry
Science-Based Targets Initiative	–	Banks, corporations	SBTi companies covering 20% of global market capitalization are reducing emissions at an accelerating pace, collectively achieving 12% scope 1 and 2 emissions reduction (2020).		Integration, Targets	Tracks number of companies setting science-based GHG emission reduction targets, and their operational emissions
ShareAction	–	Asset managers, Banking	Assessment of 60 of the largest CA100+ signatories shows that climate engagement strategies are often inadequately articulated, or not at all; reporting is inconsistent and vague; rarely report details of activities and outcomes.		Integration	Produce investor guides for asset owners for net-zero and circular economy

Table 2.11 (continued)

Available data sets relevant to tracking consistency with the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

Source	Instrument type	Investor Type	2019 - USD billion	2020 - USD billion	Dimension*	Description
Sustainable Accounting Standards Board	–	Corporations	Developed standards for 77 different industries, including sustainability criteria and GHG emissions reporting		Integration	–
Sustainable Stock Exchanges Initiative	Listed equity	Stock exchanges	34 out of 103 stock exchanges had sustainability bond listing processes in 2020; 24 exchanges had ESG reporting required as a listing rule		Integration	List of "partner exchanges" promoting sustainability in equity markets
SwissRe Institute	Insurance and reinsurance	Insurance companies	USD 146 billion in 2019, out of which USD 60 billion was insured losses	USD 280 billion in 2020, out of which USD 99 billion was insured losses	Flows	Provides estimates of economic losses from natural and human-made disasters
Task Force on Climate Related Financial Disclosure	–	asset managers	- Over 50% of the companies included recommended disclosures (out of 1 651 public companies reviewed) - Only 13% reported on resilience of strategies under different climate-related scenario - Only 20% disclose financial impact		–	Over 2 600 supporters (Financial Institutions:1 069, Other TCFD Supporters:1 547) with a combined market capitalization of USD 25 trillion and FIs AUM of USD 194 trillion
The Transition Pathway Initiative (TPI)	Assets under management	Asset managers	124 investors globally have pledged support representing over USD 40 trillion in AUM and advice (May 2022),		Targets	A global, asset-owner led initiative which assesses companies' preparedness for the transition to a low carbon economy.
UN-convened Net-Zero Asset Owner Alliance (NZAOA)	Assets under management	Institutional investors	Over 70 institutional investors with USD 10.4 trillion in AUM		Targets	Aligning portfolio with net zero emissions by 2050
UN-convened Net-Zero Insurance Alliance (NZIA)	Insurance	Insurance companies	29 insurers representing more than 14% of world premium volume and over 8 trillion USD in AUM		Targets	Transition insurance and reinsurance underwriting portfolios to net-zero by 2050
We Mean Business	Listed equity, bonds	Banks, corporations	Over 1 300 companies are aligning their emission reduction targets with the 1.5°C trajectory.		Targets	List of companies that support TCFD recommendations and commit to implementing them
World Economic Forum / Mission Possible	–	Bankers, corporations	Brings together over 400 companies, along with their customers, suppliers, bankers, shareholders, and regulators, to forge net-zero pathways and the actions necessary to achieve them		Integration	–
World Resource Institute (Green Targets Tool)	Loans	Banks	23 (out of 50 private banks surveyed) had made sustainable finance commitments, as of July 2019		Targets	–

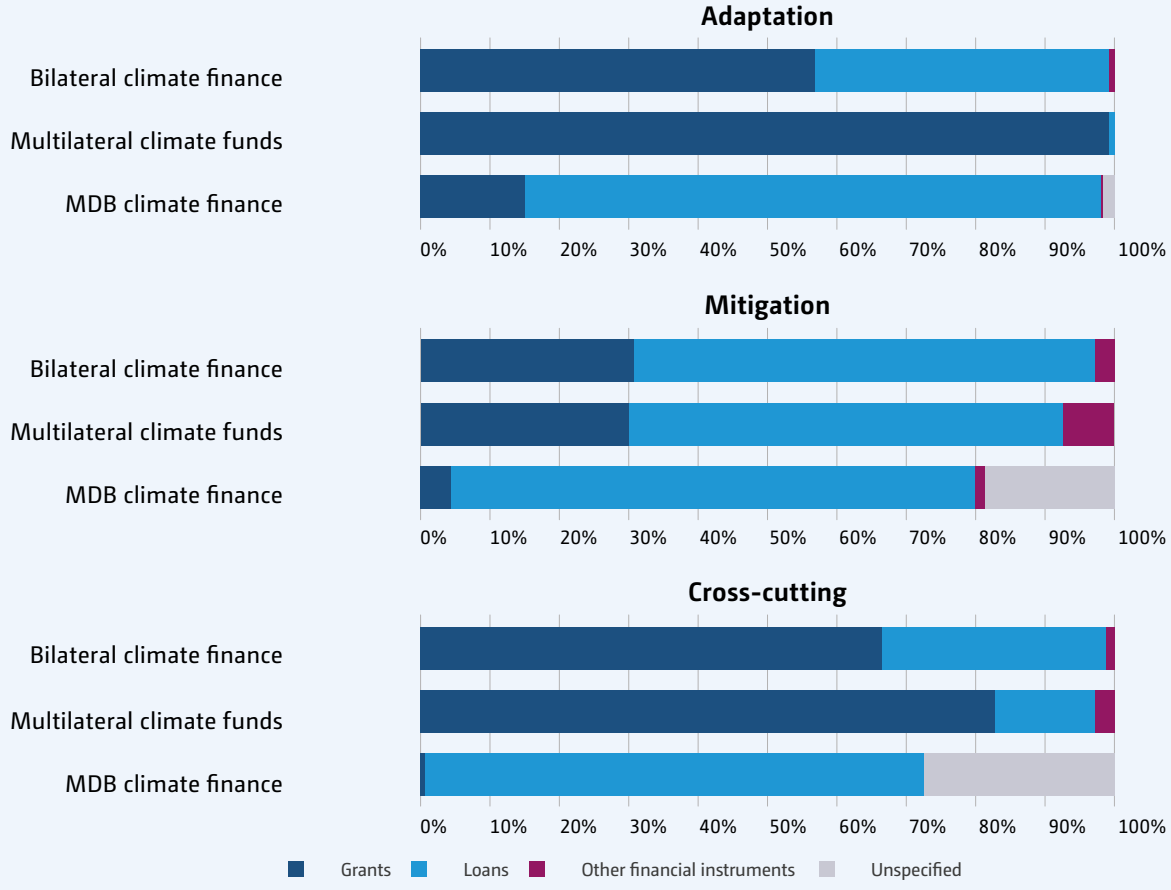
ASSESSMENT OF CLIMATE FINANCE FLOWS

More finance flows to mitigation action than for adaptation, yet adaptation finance through bilateral channels and MDBs has grown significantly.

Adaptation finance has grown by 39 per cent in bilateral climate finance and 48 per cent from MDBs since the 2017–2018 period and stayed constant from multilateral climate funds.

Public climate finance flows contributing towards both adaptation and mitigation from multilateral climate funds rose to 35 per cent in 2019–2020 over 27 per cent in 2017–2018.

Adaptation finance is predominantly delivered through grants while mitigation finance predominantly takes the form of loans

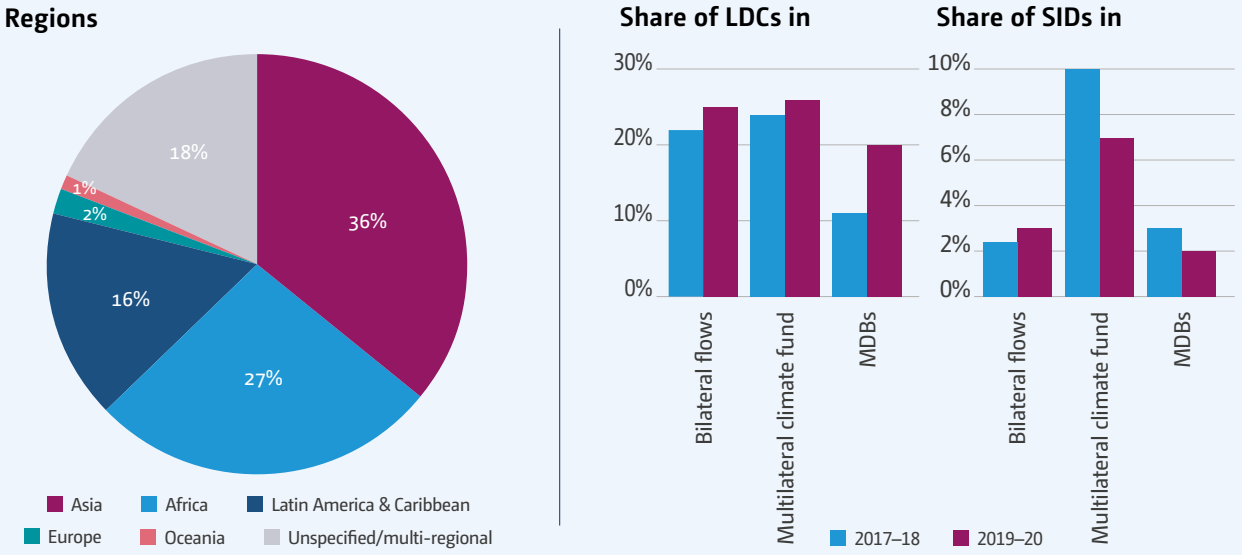


Multilateral climate funds report on 96.3 Mt C02eq emission reductions achieved and 54.8 million beneficiaries reached through their interventions

Expected results from the portfolios of approved or currently implemented projects are of magnitudes higher, for example 1 980 Mt C02eq emission reductions and 588 million direct and indirect beneficiaries in the GCF portfolio alone

Asia and Africa received the largest amount of public climate finance flows to developing countries

Support to LDCs and SIDS as a share of total finance flows remained relatively stable compared to previous years. Finance flows to SIDS are predominantly for adaptation, where grants play a strong role.



In terms of access to climate finance through multilateral climate funds, national and regional institutions total more than half of all accredited entities, yet only account for 10 per cent of the financial outflows

USD 13.6 billion has been committed to projects to date from multilateral climate funds under the UNFCCC (63 per cent) with 26 per cent of pledges received to be committed

Interest in country platforms that facilitate country ownership of climate finance flows and their alignment with national priorities is emerging

Global climate finance in 2019–20 was 31–32 per cent of the annual investment needs to maintain a well-below 2 degree or 1.5C pathway

3.1. Introduction

213. This chapter addresses the nature of major channels of climate finance flows provided and mobilized from developed countries to developing countries for climate action. This is an important sub-set of the climate finance flows presented in chapter II. The public finance flows included in this sub-set can often absorb more risk and accept lower returns than private finance. Concessional public finance, with no or lower return on expectations, has a strong role to play in research, demonstration and in supporting the unlocking of private climate finance flows.

214. The chapter first considers key features of these climate finance flows from developed to developing countries (section 3.2). It reviews: the thematic focus of climate finance (particularly its support for adaptation and mitigation), financial instruments used in climate finance programming and the geographic distribution of flows.

215. The chapter then goes on to present insights into the effectiveness of climate finance flows to developing countries (section 3.3). This explores questions of interest in the context of the Convention's objectives and those of the Paris Agreement such as they relate to the access to and ownership of climate finance, the impact of public climate finance flows and the drivers of climate finance.

216. The chapter concludes with a reflection on the amounts of climate finance in the context of overall finance flows, needs, risks and opportunities (section 3.4).

217. When quantitatively and qualitatively considering emerging trends in international climate finance, this chapter draws on best-available data and research. Quantitative analysis draws on Parties' BRs and the BURs. This data is complemented by data reported to OECD-DAC by members on committed climate-related development assistance (henceforth referred to as 'bilateral finance'), by project-level data supplied by a number of multilateral climate funds and made available on the CFU Data Dashboard, and by recipient perspective reporting to the OECD-DAC on climate finance of the MDBs. Such complementary sources of data are often more complete and more granular, which makes it possible to gain more profound insights into key trends in climate finance than if only BR data were to be used. Where possible these data are analysed in the context of wider flows, for example other DFIs and non-climate spending from trust funds, bilateral contributors and MDBs.

218. Both the Convention and the Paris Agreement incorporate considerations of equity, including through the principle of common but differentiated responsibilities and respective capabilities. Equity is not addressed as a separate section within the Assessment Chapter of the BA. Instead, this chapter explores elements of equity in international public climate finance throughout. For example, in the balance between adaptation and mitigation, the provision of finance to LDCs and SIDS, just transition and the degree to which gender considerations have been integrated in policy and practice of the multilateral climate change funds.

3.2. Thematic objectives and geographical distribution of public climate finance from developed to developing countries

219. This section considers the nature of major channels of climate finance flows that developed countries have made available to developing countries. BR data are used where possible, supplemented by further data sources. Differing classification systems used across data sets make comparisons difficult. For example, the OECD list of ODA-eligible countries does not fully correspond to that of non-Annex I Parties, and the OECD and MDB datasets use different regional groupings (see annex A for details of which countries are included under the various classification systems). The fifth BA attempts to reconcile the regional groupings of datasets by using OECD DAC recipient perspective data for the MDBs, rather than data from Joint MDB climate finance reports. However, each data source is reviewed separately to avoid double counting of climate finance from developed to developing countries.

220. The annual average of bilateral, multilateral and core-general funding as reported in the CTF tables of BRs was USD 31.6 billion in 2019–2020. During the same period, annual average climate-related bilateral flows reported to the OECD were USD 39.0 billion; USD 3.1 billion a year was channelled through multilateral climate funds, including the five UNFCCC funds; and annual average MDB climate finance flows were estimated at USD 38.3 billion (figure 3.1).[49]

49) This estimate of MDB financing, as well as related estimates given in the remainder of this section includes both the banks' own and external resources, unless stated otherwise. In the fifth BA MDB data is derived from the OECD DAC External Development Finance Statistics, 'Climate-related development finance at the activity level' dataset, recipient perspective. The OECD data has the benefit of harmonizing the geographical classification system, country identification and financial instrument analysis by themes and region. MDB reporting to the OECD varies from the MDB internal reporting with respect to the calendar year and on what 'commitment' means. In addition, the Joint Report includes climate finance flows to eight Non-Annex 1 Parties that are non-DAC eligible countries. These countries are therefore not reflected in this analysis based on the OECD DAC External Development Finance Statistics. These countries are Chile, Seychelles, Bahamas, Barbados, Cook Islands, Trinidad and Tobago, Oman and the United Arab Emirates, to which an amount of USD 609 million average over 2019–2020 has been committed from the MDBs. No information is available on the thematic and instrument breakdown of these climate finance flows.

Figure 3.1

Characteristics of international public climate finance flows in 2019–2020 by channel, theme and financial instrument

	Annual average (USD billion)	Area of support				Area of support		
		Adaptation	*Mitigation*	*REDD-plus*[a]	*Cross -cutting*	*Grants*	*Loans*	*Other*
Multilateral climate funds[b]	*3.1*	*19%*	*37%*	*9%*	*35%*	*62%*	*34%*	*4%*
Bilateral climate finance[c]	*31.6*	*28%*	*57%*	*–*	*15%*	*49%*	*49%*	*1.5%*
MDB climate finance	*38.3*	*36%*	*62%*	*–*	*2%*	*8%*	*78%*	*13%*

Note: All values based on approvals and commitments.

a. In decision 1/CP.16, paragraph 70, the Conference of the Parties encouraged developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities: reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks.

b. Including Adaptation for Smallholder Agriculture Programme, Adaptation Fund, Bio Carbon Fund, Clean Technology Fund, Forest Carbon Partnership Facility, Forest Investment Program, Global Climate Change Alliance, Global Environment Facility Trust Fund, Green Climate Fund, Least Developed Countries Fund, Partnership for Market Readiness, Pilot Programme for Climate Resilience, Scaling Up Renewable Energy Program, Special Climate Change Fund and United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries.

c. Bilateral climate finance data are sourced from preliminary BR data provided by Annex II Parties to the Convention (that further include regional and other channels) for the annual average and thematic split. The financial instrument data are taken from the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), referring only to concessional flows of climate-related development assistance reported by OECD-DAC members. Chapter III of the technical report uses 'bilateral finance' to largely refer to concessional flows of climate-related development assistance reported by OECD-DAC members through this channel unless stated otherwise.

3.2.1. Thematic objectives of public climate finance from developed to developing countries

221. The decisions taken by the COP 15 in Copenhagen (2009), COP 16 in Cancun (2010) and COP 17 in Durban (2011) have all sought to achieve a balance between adaptation and mitigation finance. This is also reflected in Article 9.4 of the Paris Agreement, which states that "[t]he provision of scaled-up financial resources should aim to achieve a balance between adaptation and mitigation". Balance, however, is not defined under either the Convention or the Paris Agreement so this section presents the ratios of adaptation to mitigation finance by data source, at face value (box 3.1).

Box 3.1

Informing discussions on the balance between mitigation and adaptation finance

The balance between adaptation and mitigation finance has been a frequent topic during climate finance discussions. The third (2018) BA recommended developed countries and climate finance providers to continue to enhance country ownership and consider policies to balance funding for adaptation and mitigation, taking into account beneficiary country strategies, and, in line with the mandates, building on experiences, policies and practices of the operating entities of the Financial Mechanism, particularly the GCF.

The fifth BA finds progressive absolute and relative increases of adaptation funding over time across all sources (providers). However, there remain significantly lower absolute volumes of finance for adaptation than for mitigation and a continued lack of private sector participation.

The quantitative assessment of balance between adaptation and mitigation finance is complex, however, as a result of:

Adaptation and mitigation often reported and accounted for using different approaches - In the OECD DAC CRS, the Rio markers are used to establish the level of mainstreaming of climate objectives in reported activities. It distinguishes if a climate objective has been targeted, and if that objective is principal or significant. The climate-related development finance as analysed here, includes both principal and significant climate objectives equally and activities that may target both adaptation and mitigation.

Data for the MDBs, as a result of the Common Principles approach, considers only the climate component of a programme or project. Mitigation components can be easier to identify often reported on total project costs (e.g. a renewable energy project) or specific technologies (e.g. energy efficiency). Adaptation activities, on the other hand, require a clear link with climate vulnerabilities and only incremental cost of project activities that respond to the vulnerability are accounted for (see section 1.2.2).

Annex II Parties in their Biennial Reports take different approaches to reporting mitigation and adaptation finance (see section 1.3.1 and 1.3.2 in the fourth (2020) BA). Some apply a fixed coefficient to the Rio Markers reported to the OECD DAC while others take an activity level approach.

The thematic distribution of climate finance through various channels is often reported at face value - This means it does not consider the financial instrument through which the finance is provided. The GCF, in its efforts to seek a balance between mitigation and adaptation, intends to spend 50 per cent of its funding on adaptation (of which 50 per cent is to be spent in the LDCs, SIDS and African States), all tracked on a grant-equivalent basis. This allows for a comparison of funding amounts that consider the financial instruments employed (i.e. grants, loans, equity and guarantees). Of the total GCF portfolio between 2015 and 2021, 48 per cent of approved projects pertain to the adaptation theme and 52 per cent to the mitigation theme in grant equivalents. In the most recent year 2021, 43 per cent of GCF approvals were for the adaptation theme and 57 per cent were for the mitigation theme in grant equivalents (GCF 2022).[50]

The first NDR, published by the SCF in 2021, revealed a larger number of total and non-costed needs for adaptation in developing countries (as compared to mitigation) that could also inform the discussion on balance. Within NDCs 37 per cent of mitigation needs were costed compared to 14 per cent of adaptation needs being costed in NDCs, and 57 per cent to 43 per cent in NCs. Any conclusive assessment on the financial resources required per climate mitigation and adaptation theme would be informed only where there is increased comparability and availability of needs assessments and costing and appropriate balance is likely to vary over time and across contexts.

A further approach to seeking a balance between adaptation and mitigation actions might also consider the number of interventions, projects or activities that would reflect levels of effort to meet needs as well as financial volumes.

50) GCF. 2022. Annual Results Report 2021. Available at. https://www.greenclimate.fund/sites/default/files/document/20220412-arr2021.pdf.

222. The distribution by "type of support" is specified in BRs submitted by developed countries for the funding that they provided to developing countries in 2019–2020 (see figure 3.2). Of the climate-specific financing through bilateral, regional and other channels reported in BRs, 28 per cent had adaptation as a specified objective in 2019–2020, compared to 21 per cent in 2017–2018. While 57 per cent had mitigation as a specified objective in 2019–2020, compared to 65 per cent in 2017–2018. Finance towards projects with both a mitigation or adaptation objective or "cross-cutting" were 15 per cent.

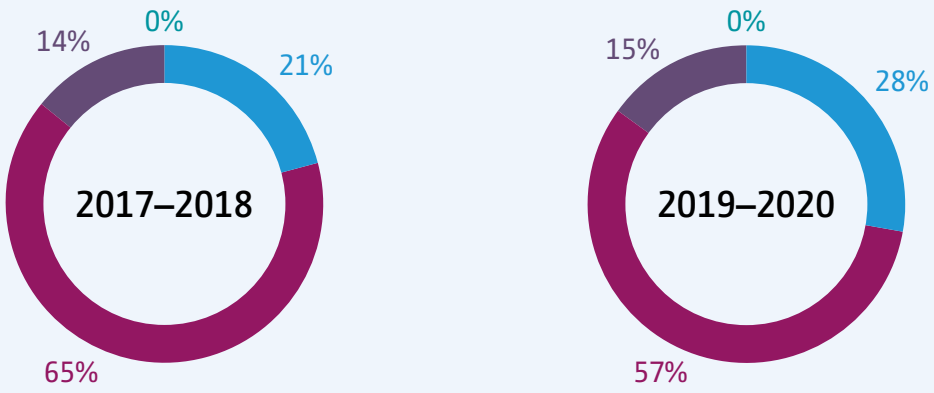
223. Funding channelled through the major multilateral climate change funds amounted to USD 3.1 billion per year in 2019–2020, as compared to USD 2.6 billion per year in 2017–2018. Of the funding channelled through these multilateral climate funds, an average of 19 per cent supported adaptation in 2019–2020, compared to 23 per cent in 2017–2018. An average of 37 per cent supported mitigation in 2019–2020, as compared to 41 per cent in the 2017–2018 period. The slight decline in the share of adaptation and mitigation finance, results from an increase in climate finance with cross-cutting objectives, contributing to both mitigation and adaptation simultaneously. Between 2011 and 2020, finance approved for cross-cutting projects through the multilateral climate funds has increased from 6–35 per cent: making it harder to assess the total adaptation and mitigation finance approved by the multilateral climate change funds (see figure 3.2.b).

224. MDB climate finance flows were estimated at USD 38.3 billion a year in 2019–2020. Similar to the 2017–2018 period of an estimated USD 39.2 billion in flows. Mitigation accounted for 62 per cent of MDB climate finance in 2019–2020. MDBs have been working to redress the mitigation bias in their climate finance portfolios, by increasing total adaptation finance by 48 per cent from average USD 9 354 million in 2017–2018 to average USD 13 811 million in the 2019–2020 period, with a consequent decline in the mitigation share of the total. In 2019–2020, the MDBs provided an average of 36 per cent of climate finance for adaptation projects and activities, compared to 25 per cent of climate finance for adaptation projects and activities in 2017–2018 (see figure 3.2.c).[51]

Figure 3.2

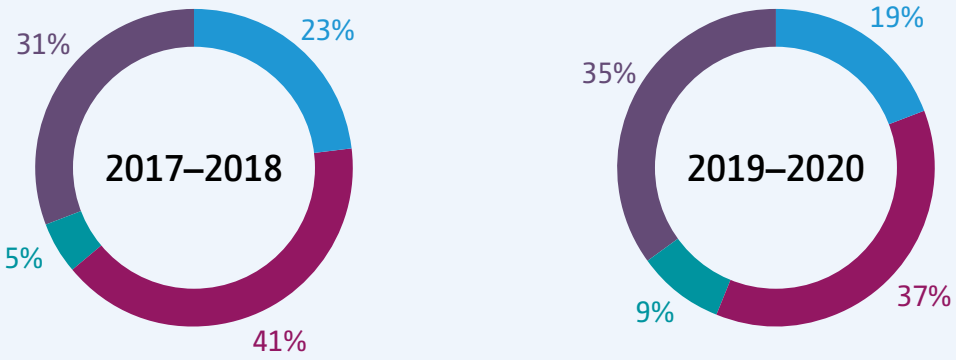
Thematic objectives of reported public concessional climate finance from developed to developing countries

3.2a: Thematic objectives of bilateral climate finance

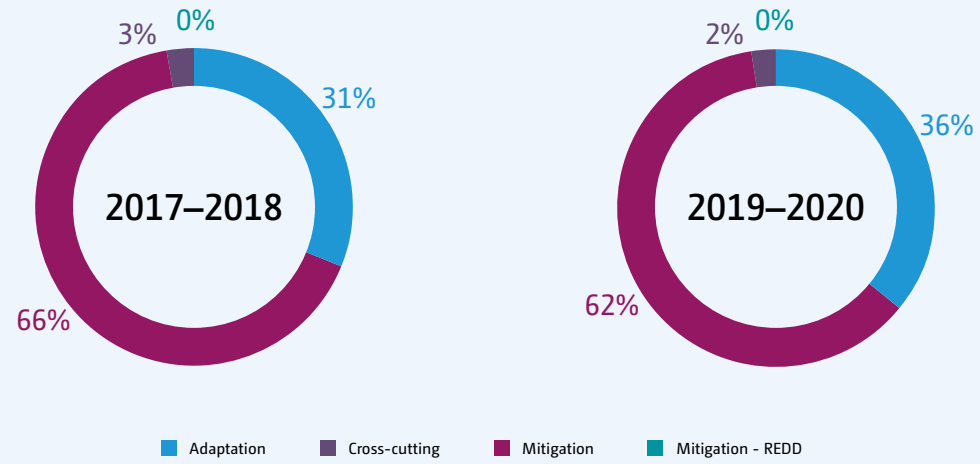


51) In addition to reporting on mitigation and adaptation finance, some MDBs report on volumes of climate finance that have dual, simultaneous benefits: reducing GHGs and promoting adaptation to climate change. In 2020, the AIIB, EBRD and IDBG reported a total of US$ 795 million for dual-benefit projects.

3.2b: Thematic objectives of climate finance reported by dedicated multilateral climate funds



3.2c: Thematic objectives of climate finance reported by multilateral development banks



Note: Prelminary data of fifth biennial reports, Authors own analysis of OECD DAC CRS statistics, CFU, 2022.

Nature-Based solutions as an emerging sub-theme

225. Financing for nature-based solutions is an emerging sub-theme of interest. Nature-based solutions refer to 'actions to protect, sustainably manage and restore natural and modified ecosystems, that address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, simultaneously providing human well-being and biodiversity benefits' (IUCN).[52] Part 1 of the SCF Forum on nature-based solutions further highlighted that such solutions seek to address development, climate and biodiversity priorities and enable sustainable development (UNFCCC).[53] Nature-based solutions financing, therefore includes a wide variety of topics, including avoided deforestation, sustainable forest use and management, restoration and other land-use (including agriculture and food), as well as oceans and fisheries. Nature-based solutions contribute both to adaptation and mitigation to climate change.

226. The SCF Forum, part 1, noted that finance for nature-based solutions will need to be scaled up. According to one estimate, USD 4.1 trillion is needed globally by 2050 to meet climate, biodiversity and land use goals set across Conventions and agreements (UNEP, 2021).[54] The SCF Forum in 2022 further explores the financing of mitigation and adaptation based on the science and principles of nature-based solutions.

227. It remains challenging to estimate finance flows to nature-based solutions. Nature-based solutions activities often sit at the intersection of many sectors

52) https://www.iucn.org/theme/nature-based-solutions.
53) https://unfccc.int/sites/default/files/resource/BN7_SCF27_Forum.pdf.
54) https://www.unep.org/resources/state-finance-nature.

and priorities. There are also multiple and interacting, direct and indirect drivers of land and ocean-use (as is the case for forestry-related funding as identified by the 2015 SCF forum on forests). UNEP (2021) estimated USD 133 billion was channelled to nature-based solutions in 2020, comprised predominantly of public funds, including domestic and international, public and private flows (so not directly relevant to the commitments made by developed countries to mobilize climate finance for climate change mitigation and adaptation actions in developing countries). See also section 2.2.6 for estimates of climate-related investment flows in sustainable agriculture, forestry and land use.

228. When reporting on bilateral climate-related finance, OECD DAC does not presently have a dedicated Rio Marker or relevant sub-thematic designation for nature-based solutions.

Forest finance

229. The OECD DAC CRS identifies ODA provided to the forestry sector, though the applications are broad. The MDBs also do not single out forest- specific finance when reporting on their climate finance. It is only the climate spending of the multilateral climate funds where forestry related funds are more readily identified. This is largely due to the emphasis on REDD+ activities in the UN-REDD Programme, the FCPF and the FIP, though these activities are predominantly readiness based. The GCF USD 500 million pilot programme for REDD+ results-based payments, launched in 2017, has also driven REDD+ action and financing. Finance for REDD+ through the multilateral climate funds amounted to USD 280 million in 2019–2020, or 8.9 per cent, as compared to USD 139 million in the 2017–2018 period, or 5 per cent of the total spending. It is worth recalling that REDD+ finance, however, does not make up all forest-related finance from the multilateral climate funds (Watson et al., 2022).[55]

Financing arrangements relevant to averting, minimizing and addressing loss and damage

230. Financing arrangements to avert, minimize and address loss and damage, particularly in developing countries that are most vulnerable to the impacts of climate change, has become an increasing focus of discussions. Loss and damage, as a concept, recognises the limits to adaptation – be they technical, financial or politically motivated – for human and natural systems, that lead to both economic and non-economic losses (IPCC,

55) https://climatefundsupdate.org/wp-content/uploads/2022/03/CFF5-REDD-Finance_ENG-2021.pdf

SCF Forum on Finance for Nature-based Solutions held from 26 to 28 September 2022 in Cairns, Australia.

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2018).[56] Loss and damage financing needs for averting, minimizing and addressing extreme weather events will be different in nature to that for slow onset events. Extreme weather events often necessitate rapid pay-outs and can lead to more costly capital, for example, as the frequency and severity of such events increase. Slow onset events in contrast, point instead to financial protection for the most vulnerable or cases of human displacement.

231. Article 8 of the Paris Agreement refers to Parties' recognition of the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change. It identifies the cooperation and facilitation to enhance understanding, action and support in areas of: early warning systems; emergency preparedness; slow onset events; events that may involve irreversible and permanent loss and damage; comprehensive risk assessment and management; risk insurance facilities, climate risk pooling and other insurance solutions; non- economic losses; and resilience of communities, livelihoods and ecosystems. Article 8 of the Paris Agreement does not refer to finance, however, other processes are emerging to consider financing of loss and damage head-on.

232. The Warsaw International Mechanism for Loss and Damage associated with Climate Change impacts (WIM) was established at COP19 in 2013 (Decision 2/CP19). Guided by an Executive Committee, it is designed to enhance relevant action and support, including finance, technical and capacity building for loss and damage. At COP25, in 2019, the Santiago Network on Loss and Damage (SNLD) was established under the WIM to further discussions on action and support for loss and damage. In 2022, operational modalities and structure of the SNLD will be discussed at COP27. The government of Germany pledged EUR 10 million in support of the Network. In addition, Parties established the Glasgow Dialogue to discuss the arrangements for the funding of activities to avert, minimize and address loss and damage associated with the adverse impacts of climate change. COP26 also saw regional and national governments and philanthropic foundations commit funding for loss and damage: the committed collectively amounts to USD 6.8 million.[57]

233. A growing body of literature documents the challenges of financing loss and damage (Shawoo et al., 2021;[58] Pandit Chhetri et al., 2021; Schaefer and Kunzel,[59] 2019; Richards and Schalatek, 2017).[60] It documents the challenge of identifying loss and damage finance flows, with no singular or common classification, noting that responses extend to several overlapping domains, including disaster risk reduction and management, risk transfer and pooling, contingency and humanitarian measures, adaptation to climate change and climate-resilient development. Challenges are also documented in generating, collecting and aggregating data and information that can inform modalities relevant to loss and damage and their financing: there is limited recording and reporting of information on loss and damage and related financial needs by countries under the UNFCCC.

234. A 2016 technical paper prepared by the UNFCCC SCF on financial instruments that address the risk of loss and damage associated with the adverse effects of climate change considered potential sources of and modalities for accessing financial support for averting, minimizing and addressing loss and damage (as requested by Parties, Decision 4/ CP22, paragraph 2(f)). The UNFCCC paper concluded that more work was needed to develop appropriate financial instruments for loss and damage. The 2016 UNFCCC SCF Forum, which focussed on financial instruments that address the risk of loss and damage, noted that a holistic and integrated approach is needed, but no one size will fit all, both in the measures taken but especially in the set of financial instruments used to respond to loss and damage and the financial and regulatory infrastructure that these instruments will sit within.[61]

Financial instruments employed by international climate finance from developed to developing countries

235. A variety of financial instruments are used in the provision and mobilization of climate finance from developed to developing countries. Financial instruments indicate how capital is deployed and the conditions upon it. There are four main financial instruments through which climate finance flows from developed to developing countries: grants, loans, guarantees and

56) IPCC (2018) 'Summary for policymakers' in Masson-Delmotte, V. et al. (eds.) Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Geneva: World Meteorological Organization. Available at: https://www.ipcc.ch/sr15/chapter/spm/.

57) Currency conversion for 22 November 2021 based on IMF. 2022. Representative Exchange Rates for Selected Currencies. Washington D.C. International Monetary Fund. Available at https://www.imf.org/external/np/fin/data/rms_mth.aspx?SelectDate=2021-11-30&reportType=REP.

58) Shawoo, Z., Maltais, A., Bakhtaoui, I. and S. Kartha (2021). Designing a fair and feasible loss and damage finance mechanism, Stockholm: Stockholm Environment Institute [online] Available at: https://cdn.sei.org/wp-content/uploads/2021/10/211025c-davis- shawoo-loss-and-damage-finance-pr-2110l.pdf.

59) Schaefer, L. and V. Kuenzel (2019). Steps towards closing the Loss & Damage finance gap: Recommendations for COP25 [online] Available at: https://www.germanwatch.org/en/17312.

60) Richards, J., and Schalatek, L. (2017), Financing Loss and Damage: A Look at Governance and Implementation Options [online] Available at: https://us.boell.org/sites/default/files/uploads/2017/05/loss_and_d amage_finance_paper_update_16_may_2017.pdf.

61) See FCCC/TP/2019/1 available at https://unfccc.int/sites/default/files/resource/01_0.pdf.

equity. These financial instruments have differing roles in mitigating investment risks and attracting private finance (Mustapha, 2022)[62] as well as differing repayment conditions. Considerations related to debt sustainability and the relationship with different financial instruments used to provide and mobilize climate finance have become more prominent in light of the COVID pandemic and high levels of public spending it has required (box 3.2).

236. The reality of financing is that many financial instruments can be combined in a number of ways to fit a given context in a single project. This can bring the added value of, for example, combining technical assistance with capital flows, which can often lead to greater innovation or more sustainable implementation.

62) Mustapha, S. (2022). Independent Global Stocktake. forthcoming.

Box 3.2

Debt sustainability: Indebtedness versus debt vulnerability and distress

The topic of public debt and debt sustainability has risen as governments spend in response to the Covid-19 pandemic. In 2021, 72 developing countries were identified as vulnerable to debt distress – the risk of an inability to service debts – 19 of which are considered severely so (UNDP, 2021). Debt distress, however, cannot be linearly related to indebtedness which is often measured as the total debt or debt-to-GDP ratio, or debt service thresholds. Advanced economies generally register higher public debt stocks in total, and in relation to GDP, than emerging markets and middle income- or low-income developing countries (IMF, 2022a). Yet it is many developing and least-developed countries that are currently facing a situation of debt vulnerability due to their lower debt carrying capacity. This

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Box 3.2 (continued)

is often driven by underlying factors such as weaker policy and institutional capabilities, stagnant public revenue development, slow macroeconomic growth, and high exposure to rollover risks from the financial markets.

Socio-economic pressures resulting from the ongoing Covid-19 pandemic meant that 2020 showed the largest debt increase since WWII: with debt levels rising to 256 per cent of global GDP. An increasing share is shown to be held by governments and the public sector, accounting for 40 per cent of the total (IMF, 2022a). Advanced economies have managed these debt increases with the support of low interest rates and central banks' purchase of sovereign debt, whereas many low-income developing countries have faced limited access to funding and rising borrowing costs (Gaspar, Medas, and Perrelli 2021; IMF, 2022a).[63] About 60 per cent of low-income developing countries are now at high risk or already in debt distress, compared with slightly less than 30 per cent in 2015 (IMF 2022a).

International cooperation is critical to ensure that countries under fiscal pressures or immediate debt distress can continue to address the provision of public goods to protect vulnerable households, step-up actions to ensure energy security and achieve the green transition toward a low-carbon economy (IMF, 2022a). Since 2020, emergency debt rescheduling initiatives have been established, notably through the G20 and Paris Club of Creditors, such as the Debt-service Suspension Initiative (DSSI) until December 2021 and the G20 Common Framework targeting debt restructurings, both with eligibility for 73 of the poorest countries. Progress under the Common Framework has been slow for the three countries that applied (Ethiopia, Chad and Zambia), hampered by difficulties in obtaining coordinated agreements from diverse creditors over their competing claims (IMF, 2022).[64] With respect to financing climate action in light of indebtedness and debt distress, two tools have been proposed:

Donors may choose to provide financial support through Special Drawing Rights (SDRs). SDR are an international reserve asset created and managed by the IMF to supplement the official resources of member countries. SDRs offer members access to liquidity as IMF members can exchange their SDRs for usable currency. In 2021, to help address the long-term need for reserve assets, supporting global recovery from the Covid-19 pandemic, the IMF allocated USD 650 billion worth of SDRs to all IMF members based on their quotas. To maximize the impact of this SDR allocation, G20 leaders articulated a global ambition of up to USD 100 billion in SDR on-lending to support vulnerable countries. Recognising interacting crises and their cascading impacts, the IMF also approved the establishment of the Resilience and Sustainability Trust (RST). With effect from May 1, 2022 the RST will channel donor contributions including SDRs or other usable currencies, through long-term concessional loans to help vulnerable countries build resilience to external shocks and contribute to stability in their balance of payments, with all developing and vulnerable states, low-, and lower-middle income countries being eligible (IMF 2022b).[65] While SDR channeling holds potential to support climate action, there are technical constraints related to the reserve asset nature of SDRs that complicate the on-lending of SDRs to third countries (Mariotti, 2022).[66]

Debt for climate swaps have received increased attention as a form of restructuring of existing debt that is tied to climate action. Debt for climate and nature programme swaps are financing structures where a creditor allows the debt to be reduced – either by conversion to local currency and/or paid at a lower interest rate or some form of debt write-off – given that the money saved is used to invest in poverty-reducing climate resilience, climate emissions mitigation or biodiversity protection initiatives (Steele and Patel, 2020).[67] Three types of debt-for climate swaps can be distinguished, that involve varying stakeholders on the creditor side: i) bilateral, ii) commercial and iii) multilateral debt swaps (Spencer-Henry 2022).[68] Belize and the Seychelles have completed debt for climate and debt for nature swaps in 2021 and 2015 respectively. Debt swaps have been around since the 1980s and past experience highlights challenges and risks that need to be carefully mitigated (Fresnillo, 2020).[69] Debt swaps have typically been small, involve high transaction costs and have uncertain private creditor interest. The limited private sector participation in the broader, more straightforward debt restructuring programme of the G20 Common Framework highlights longstanding challenges with commercial creditor participation in international debt initiatives (Talero, 2022).[70] It is also important to note that debt-climate swaps are not appropriate for countries with major debt issues but could be a useful complement to existing climate finance instruments in countries with sustainable debts but limited fiscal space (Volz et al., 2020).[71]

63) IMF. 2022. FISCAL MONITOR: FISCAL POLICY FROM PANDEMIC TO WAR. Chapter 1. Washington D.C. : International Monetary Fund. Available at https://www.imf.org/en/Publications/FM/Issues/2022/04/12/fiscal-monitor-april-2022.

64) The IMF World Economic Outlook July 2022 World Economic Outlook Update, July 2022: Gloomy and More Uncertain (imf.org).

65) IMF. 2022. Proposal to Establish A Resilience and Sustainability Trust. IMF. Available at https://www.imf.org/en/Publications/Policy-Papers/Issues/2022/04/15/Proposal-To-Establish-A-Resilience-and-Sustainability-Trust-516692.

66) Mariotti, Chiara. 2022. Special Drawing Rights. Can the IMF's reserve currency become a transformative financial resource. European Network on Debt and Development (EURODAD) Briefing Paper April 2022. Available at https://assets.nationbuilder.com/eurodad/pages/2897/attachments/original/1649658655/sdr-briefing-apr10-final.pdf?1649658655.

67) Steele, P. and S. Patel (2020). Tackling the triple crisis. Using debt swaps to address debt, climate and nature loss post-COVID-19. London: IIED. Available at: https://pubs.iied.org/16674iied.

68) Spencer-Henry, N. 2022. Debt Swaps: Go Big or Go Home – the View of the Borrower. The Commonwealth. Small States Matters Number 1 2022. Available at https://www.thecommonwealth-ilibrary.org/index.php/comsec/catalog/view/953/949/8180.

69) https://assets.nationbuilder.com/eurodad/pages/1945/attachments/original/1610462143/debt-and-climate-briefing-final.pdf?1610462143.

70) Reference: https://documents1.worldbank.org/curated/en/099802006132239956/pdf/IDU0766c0f2d0f5d0040fe09c9a0bf7fb0e2d858.pdf#:~:text=Statutory%20approaches%20to%20incentivize%20private%20sector%20creditor%20participation,Mechanism%20%28SDRM%29%20proposed%20by%20the%20IMF%20in%202001.

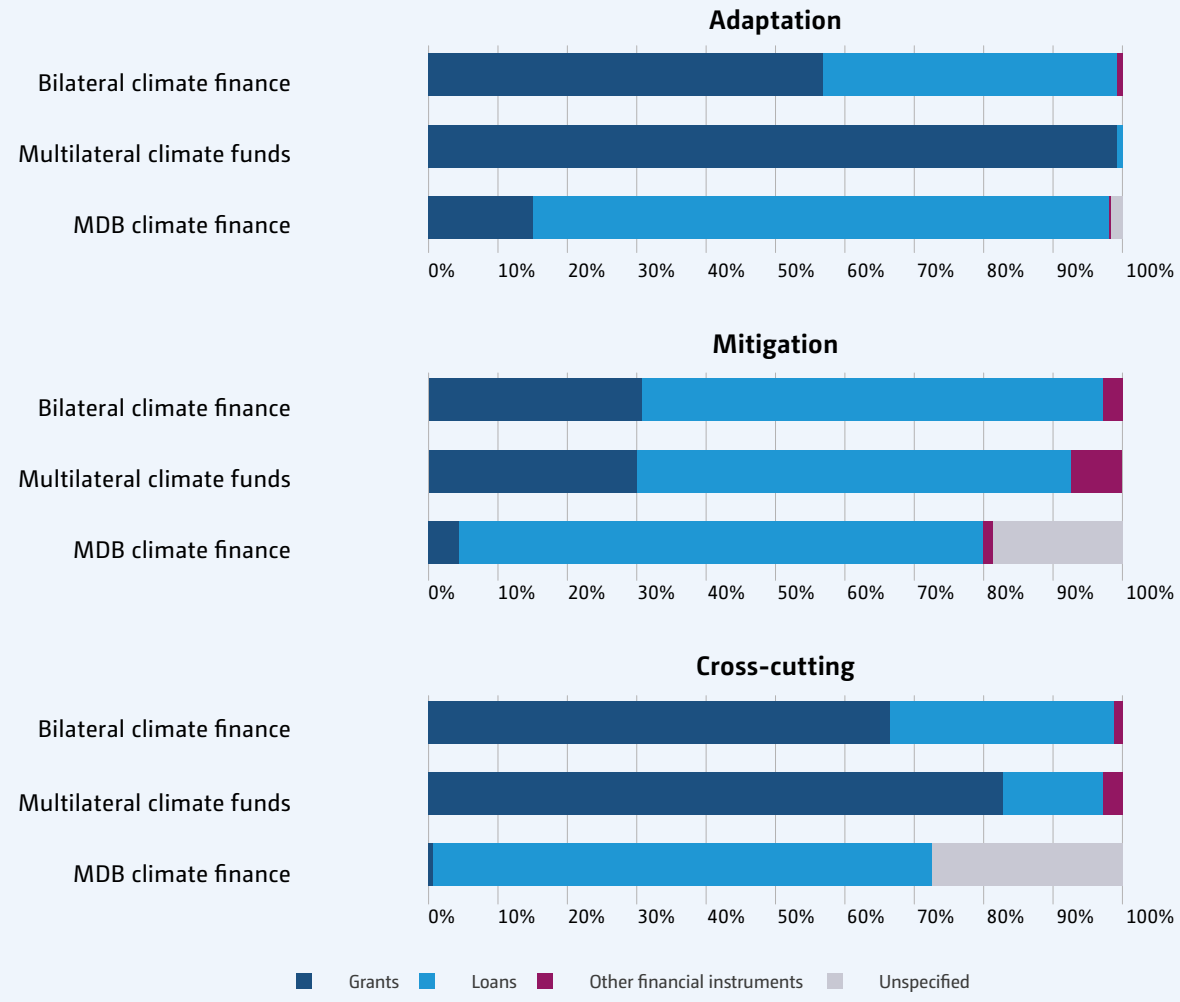
71) Volz, U., Akhtar, S., Gallagher, K.P., Griffith-Jones, S., Haas, J., and Kraemer, M. (2020). Debt Relief for a Green and Inclusive Recovery: A Proposal. Berlin, London, and Boston, MA: Heinrich-Böll-Stiftung; SOAS, University of London; and Boston University.

237. Bilateral climate finance flows and those through the multilateral climate change funds were significantly grant based, particularly for adaptation. MDB finance remains predominantly loan-based (see figure 3.3):

- In 2019–2020, 57 per cent of bilateral climate finance for adaptation took the form of grants, whereas 31 per cent of mitigation finance was grant based (compared to 63 per cent and 28 per cent respectively, in 2017–2018). The remainder was provided mainly via concessional loans with a small amount of equity applied;[72]
- In 2019–2020, over 99 per cent of adaptation finance provided by the multilateral climate funds took the form of grants, compared to 95 per cent in 2017–2018. By contrast, only 30 per cent of mitigation finance from the multilateral climate funds took the form of grants, compared to 38 per cent in 2017–2018, with 63 per cent provided as concessional loans, 7 per cent provided either as equity and or as guarantees;
- In 2019–2020, the MDBs provided 15 per cent of their adaptation finance in the form of grants. This compares to 10 per cent of adaptation finance provided in the form of grants in 2017–2018.

Figure 3.3

Public climate finance flows from developed to developing countries in 2019–2020, by theme, source and financial instrument



Source: Analysis of OECD Development Assistance Committee Creditor Reporting System statistics and Climate Funds Update.

72) The bilateral finance reported in this chapter is only that which is concessional in nature, from the OECD DAC members to OECD DAC recipients. The eligible recipients of such ODA from OECD DAC are exclusively low- and middle-income countries, as based on GNI per capita. The list also includes all least developed countries. The list of possible recipients of the concessional finance is revised every three years and countries that exceed the income threshold for three consecutive years are removed. Climate-related finance flows from OECD DAC donors to countries that have graduated from OECD DAC recipient status – but are still eligible for climate finance – are therefore not represented here.

Investment loans were their instrument of choice, accounting for 83 per cent of adaptation finance and 76 per cent of mitigation finance in 2019–2020.

238. Data on private climate finance flows to developing countries remains methodologically challenging to consider (see section 2.5.4). The OECD estimated that the private finance mobilized by developed countries through bilateral and multilateral channels amounted to an annual average of USD 13.8 billion in 2019–2020, a decrease on USD 14.6 billion in 2017–2018. Of the total mobilized by developed countries for developing countries between 2016–2020, 86 per cent was mobilized for mitigation actions, particularly in the energy sector (53 per cent of total mobilized in the five-year period). Private finance mobilized for adaptation was focused on industry, mining and construction. Direct investment in companies and special purpose vehicles were the dominant mechanisms through which private finance was mobilized (together accounting for 44 per cent of the total), with MDBs responsible for over half (57 per cent) of total mobilized. Private finance mobilized in SIDS and LDCs accounted for 1 per cent and 8 per cent of the total, respectively (OECD, 2022).

The role of insurance for climate action

239. Insurance is a financial instrument that can also be used to support both mitigation and adaptation actions. Insurance acts to share and spread the financial consequences of risk. In light of the differing nature and structure of insurance financial instruments, efforts to increase the scope of insurance to support adaptation and mitigation are qualitatively discussed and not identified in the financial flows quantitatively assessed in this report.

240. Insurance is able to increase the finance available during recovery from climate-related events. Insurance cannot replace efforts to reduce and manage physical climate risks and needs to be carefully designed to incentivise further adaptation and avoid maladaptation (Müller, Johnson and Kreuer, 2017; OECD, 2015a), as well as to support those most vulnerable to the adverse impacts of extreme events (Hillier, 2018; Schaefer and Waters, 2016). Furthermore, many standard insurance products are not well-suited, for example, to cover slow-onset processes, such as sea level rise and desertification, or events occurring with extremely high frequency, which call for alternative climate finance instruments and products.

241. There are a number of types of insurance products that are relevant to increasing resilience to climate impacts. Such insurance products can be directly taken by the individual, household or corporation, or indirectly taken by governments themselves to facilitate rapid and systematic assistance for people in need. Governments can participate in insurance either individually or through multi-country risk pools. In a pool, several countries in a given region take out insurance together, thus diversifying risk and reducing premiums: making climate risk insurance more affordable. Insurance products related to climate-impacts can rely on proven losses, or can be index-based and parametric. This means that payments are not based on the actual loss incurred but, on a trigger, (such as wind force or precipitation levels) that leads to the disbursement of a predefined payment. This makes index-based insurance quicker and more cost-effective when it comes to processing benefit payments for the insured.

242. There are an emerging number of regional risk pools. The African Risk Capacity, the CCRIF, the Pacific Catastrophe Risk Assessment and Financing Initiative and, the Southeast Asia Disaster Risk Insurance Facility. CCRIF – now covering 22-member governments – was the first multi-country risk pool to be established. Between 2007–2021, it has made 54 pay outs totally USD 245 million, all within 14 days of an event with parametric insurance policies for tropical cyclones, earthquakes, excess rainfall and the fisheries sector (CCRIF, 2021).[73] CCRIF was established with bilateral support from Japan and with World Bank technical leadership, and was capitalised through contributions to a multi-donor trust fund.

243. Insurance contributes to financing mitigation by sharing the perceived and real risks of low-emission technologies and investment. It can be used to cover performance shortfalls of products or business models and transfer technology and performance-related risks to third parties, for example, accelerating uptake of technologies and mobilizing mitigation financing. In particular, it can be useful to reach MSMEs) that often lack easy access to project-level finance (SEED, 2020).[74] Discussions are ongoing on the role of international public climate finance in premiums and capital so as to reduce the costs of insurance to the targeted beneficiaries (e.g. V20).[75]

73) CCRIF. 2021. CCRIF SPC Annual Report 2020/21. Available at https://www.ccrif.org/sites/default/files/publications/annualreports/CCRIF_SPC_Annual_Report_2020_21.pdf.

74) SEED. 2020. Translating Climate Finance into Climate Action on the Ground. Leveraging the Potential for Small and Medium-sized Enterprises (SMEs). Berlin, Germany. Available https://www.adelphi.de/en/system/files/mediathek/bilder/seedclimatefinanceforsmesreport%20%284%29.pdf.

75) https://wwwv-20.org/wp-content/uploads/2021/09/Focus-Group-Session-III-Risk_Viewpoint-Premium-and-Capital-Support_September-28.pdf.

3.2.2. Geographical distribution of climate finance from developed to developing countries

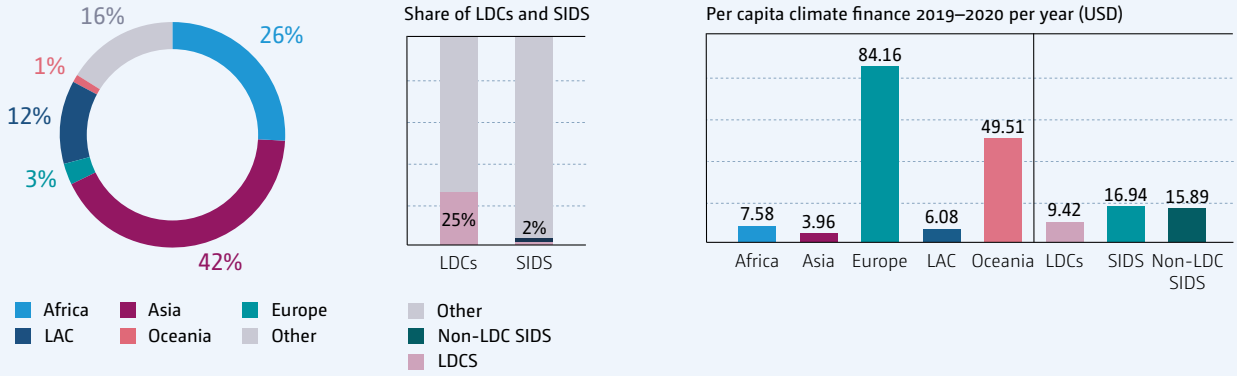
244. Figure 3.4 analyses the geographic distributions of different channels of climate finance from developed to developing countries. As noted above, the fifth

245. BA has reconciled country classifications across datasets to UNSD regions (M49) to provide consistent regional categories across data sources. Approved or committed climate finance that was multi-regional or had unspecified recipients is not considered in this analysis.[76]

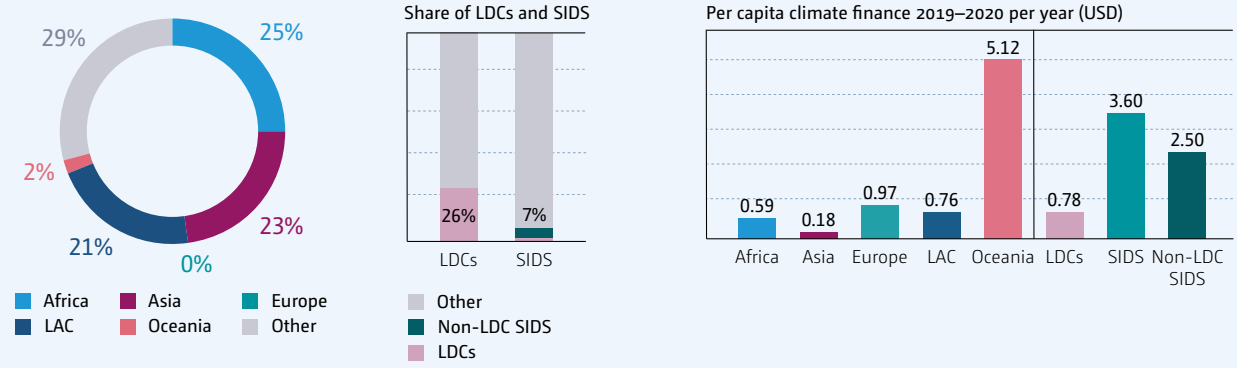
Figure 3.4

Geographical distribution of climate finance by volume and on a per capita basis in 2019–2020

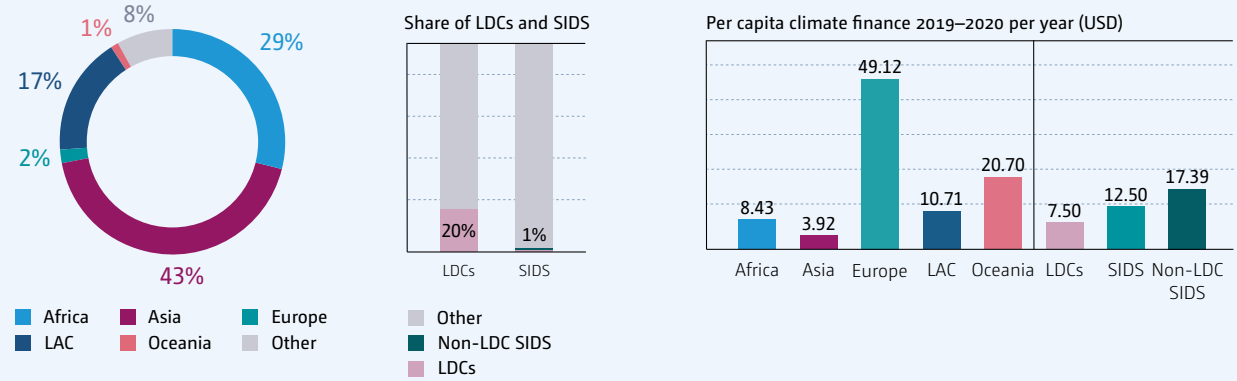
Bilateral concessional finance - USD 39.0 billion per year 2019–2020



Multilateral climate funds- USD 3.1 billion per year 2019–2020



Multilateral development banks - USD 38.3 billion per year 2019–2020



Source: Authors own analysis of OECD DAC CRS statistics, CFU, 2022.

76) Note that an average of 17 per cent of finance was unspecified or multi-regional in nature and therefore is not considered in this geographic breakdown (16 per cent of bilateral climate finance, 29 per cent of multilateral climate funds approvals and 7 per cent of MDB climate finance fell into this category in the 2019–2020 period).

246. The Asia region, remains the dominant beneficiary region of the three climate finance channels analysed receiving on average, 36 per cent of commitments through these channels:

- Committed bilateral public finance accounted for 43 per cent of the total across Asia in 2019–2020. Adaptation accounted for 39 per cent of bilateral commitments, with 48 per cent committed to mitigation in the region, the remainder being cross-cutting in nature. This is an increase in adaptation commitments and a decline in mitigation commitments as compared to the 2017–2018 period. In 2019–2020, 77 per cent of commitments in the region were provided through concessional debt instruments and 23 per cent as grants, similar to the balance of instruments in the 2017–2018 period;
- Across the major multilateral climate change funds, 23 per cent in 2019–2020 was approved to support projects in Asia and the Pacific. This was down from 27 per cent in the 2017–2018 period. Adaptation accounted for 24 per cent of the total approved amount in 2019–2020, a large increase from previous 13 per cent in the 2017–2018 period, with relatively stable allocations for cross-cutting finance. Of the total approved by major multilateral climate funds in 2019–2020, 41 per cent was made available as concessional loans, with grant finance accounting for 57 per cent and equity finance the remainder;
- Spending of the MDBs in Asia accounted for 43 per cent of total MDB spending in 2019–2020.[77] Of MDB climate finance committed in Asia, 36 per cent was programmed towards adaptation. MDB spending on Asia is dominated by debt instruments at 95 per cent, while grants made up 4 per cent of spending in 2019–2020, compared to 2 per cent in 2017–2018.

247. Africa has many climate-vulnerable nation states and is the second dominant recipient region of international finance flows: receiving on average, 27 per cent of commitments through these channels

- Bilateral climate-related finance to Africa in 2019–2020 accounted for 26 per cent of the total; similar to 2017–2018 levels. Adaptation accounted for 47 per cent of bilateral flows, compared to 38 per cent in 2017–2018. In 2019–2020, 36 per cent of commitments were provided through concessional debt instruments and 64 per cent through grants (as compared to 25 per cent and 73 per cent, respectively in 2017–2018);
- Across the major multilateral climate change funds in 2019–2020, 25 per cent of approved finance was for projects in Africa. Comparable to 27 per cent in the 2017–2018 period. Adaptation projects accounted for 27 per cent in 2019–2020, a decline on the 2017–2018 period. Mitigation projects accounted for 43 per cent in 2019–2020, compared to 39 per cent in 2017–2018. Of the total made available to the region through multilateral climate change funds, 41 per cent was in the form of concessional loans, with grant finance accounting for 57 per cent in 2019–2020, with similar ratios in the 2017–2018 period;
- From MDB resources in 2019–2020, 29 per cent of climate finance was committed to Africa. An increase on 19 per cent in 2017–2018. Of the total, 50 per cent was made available for adaptation in 2019–2020, an increase on 40 per cent in 2017–2018. The remaining 50 per cent was made available for mitigation activities. MDB climate finance in Africa is 21 per cent grant based and 78 per cent debt instruments in the 2019–2020 period, the remainder being equity and shares in collective investment vehicles: this compares to 14 per cent grant and 85 per cent debt instruments in the 2017–2018 period.

248. Latin America – including the Caribbean – secured on average 16 per cent of climate finance committed in 2019–2020 across the three channels of climate finance flowing from developed to developing countries analysed here:

- In 2019–2020, 10 per cent of committed bilateral climate-related finance went to the Latin American region. This compares to 12 per cent in the 2017–2018 period. Adaptation accounted for 24 per cent of bilateral flows, and mitigation 36 per cent in 2019–2020; in recent years adaptation finance has increased its share of the total, while the share of mitigation finance has decreased. Concessional debt instruments accounted for 64 per cent of the total bilateral flows to the region in 2017–2018, an increase over 57 per cent in the 2017–2018 period;

77) The fifth BA, in its analysis of MDB climate finance includes climate finance provided through the AIIB. In addition, by harmonising regional data, the fifth BA now includes the UN sub-region West Asia in the wider Asia category, in contrast, this has previously been reported in the BA – and is currently reported in the MDB Joint Report, as being located in the Middle East and North Africa region: accounting for large changes in data between the fourth and fifth BA.

- Major multilateral climate change funds approved 21 per cent of the total in 2019–2020 to Latin America, a slight increase on 18 per cent in 2017–2018. Of the approval amounts, 56 per cent was programmed to mitigation, with 11 per cent approved for adaptation in 2019–2020: a fall in the adaptation approval ratio since the previous time period. Across multilateral climate change fund approvals in 2019–2020 in Latin America, grant finance accounted for 68 per cent, with concessional loans at 25 per cent: an overall increase in concessionality since the 2017–2018 period;
- MDB climate finance to Latin America remained stable at 17 per cent of total commitments in 2019–2020. Adaptation commitments accounted for 26 per cent in 2019–2020, similar to 23 per cent in 2017–2018. While mitigation commitments accounted for 66 per cent of the total commitments. Of MDB commitments in 2019–2020 69 per cent were in the form of debt instruments, compared to 85 per cent in 2017–2018 (much of the remainder was unspecified, due to confidentiality).

249. Europe, covering six Non-Annex 1 Parties in the European subregions Eastern and Southern Europe, received on average 2 per cent of climate finance committed in 2019–2020 across the three channels of finance flowing from developed to developing countries. These countries are Republic of Moldova (Eastern Europe) and Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia (Southern Europe):

- In 2019–2020, 4 per cent of bilateral climate-related finance was committed to developing countries in the Europe region. Of this amount, 39 per cent was programmed towards mitigation activities, 14 per cent adaptation and 47 per cent, cross-cutting activities in 2019–2020: relatively stable ratios since the 2017–2018 period. Of the total commitments in 2019–2020, 77 per cent was provided as grants, with the remainder provided as concessional loans, equity and other shares in collective investment vehicles;
- The major multilateral climate funds in 2019–2020 approved 0.5 per cent in the Europe region. In the same time period, 57 per cent of approvals were provided for adaptation projects and 8 per cent for mitigation, the remainder being cross-cutting in nature. This is the inverse of the 2017–2018 period in Europe, where 69 per cent of approvals were for mitigation and adaptation accounted for just 9 per cent: likely reflecting relatively small numbers of projects. All of the total approved for the Europe region in 2019–2020 by multilateral climate funds was provided in the form of grants;
- MDB climate finance commitments in Europe accounted for 2 per cent in 2019–2020. Adaptation accounted for 25 per cent of commitments in this time period, with the remainder committed to mitigation projects. No climate finance grants were provided by MDBs to Europe, with debt instruments utilised in almost 100 per cent of commitments.

250. Oceania, including all Pacific island countries and territories that are Non-Annex 1 Parties to the Convention[78] receives on average 1 per cent of climate finance committed in 2019–2020 across the three channels of finance flowing from developed to developing countries:

- In 2019–2020, 1.4 per cent of bilateral climate-related finance was committed to developing countries of Oceania. Of this total, 65 per cent was committed for adaptation, 10 per cent for mitigation and the remainder for cross cutting activities in 2019–2020. This shows a big increase in adaptation finance from 27 per cent in the 2017–2018 period. Of the total commitment of bilateral climate finance, 96 per cent was provided as grants, with 4 per cent provided through concessional debt instruments;
- The major multilateral climate change funds approved 1.8 per cent of funds in 2019–2020 to Oceania. A full 83 per cent of approved finance was for adaptation in 2019–2020, compared to 27 per cent in 2017–2018 (crosscutting finance dropped from 53 per cent in 2017–2018 to only 12 per cent in 2019–2020, while mitigation finance dropped from 20 per cent to 4 per cent in the same time period). Of the total approved through major multilateral climate change funds in 2019–2020 for Oceania, 97 per cent was provided in the form of grants;
- MDB climate finance commitments in Oceania in 2019–2020 made up 0.6 per cent of total MDB climate finance. A full 71 per cent of MDB climate finance was adaptation focussed in 2019–2020, compared to 53 per cent in 2017–2018. Mitigation focussed MDB climate finance in Oceania fell from 47 per cent in 2017–2018 to 29 per cent in 2019–2020. Of the MDB climate finance committed to Oceania in 2019–2020, 72 per cent was provided on a grant basis, the remainder being provided as debt instruments. This is an increase from 53 per cent grant based in 2017–2018.

78) This excludes Annex-1 countries Australia and New Zealand as well as a number of associated or dependent overseas territories of other Annex-1 Parties.

Identifying climate finance from developed countries to the least developed countries and small island developing states

251. Article 9 of the Paris Agreement emphasises that the provision of scaled-up financial resources should take into account the priorities and needs of the LDCs and SIDS, which are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints; and that both public and grant-based resources are required to support adaptation.

252. The LDCs have economic growth and development pathways that are strongly linked to climate-sensitive sectors. They have elevated vulnerability to, and often poor ability to resist or rebound from shocks. Deteriorating conditions for accessing capital and basic service delivery is both caused by and results in, relatively weak institutions and governance (IPCC WRII, 2022; Cooper, 2020).[79] There are currently 46 LDCs and the UN Committee for Policy Development reviews the list of the LDCs every three years for possible graduation from or inclusion to LDC status (UN DESA, 2022).[80,81]

- The bilateral climate-related finance committed for LDCs has grown over time. In 2019–2020, 25 per cent of bilateral flows was committed to LDCs, as compared to 22 per cent in 2017–2018. Of the total, 48 per cent was earmarked for adaptation activities in 2019–2020, a small increase on 45 per cent in 2017–2018. Over half of bilateral climate-related finance to LDCs is provided as grants (52 per cent) in 2019–2020;
- The finance approved in LDCs by major multilateral climate change funds is 26 per cent of total approvals in 2019–2020. Similar to levels in 2017–2018 (24 per cent). Commitments to adaptation make up 29 per cent of multilateral climate fund approvals to LDCs in 2019–2020, a large drop from 45 per cent in 2017–2018 (with a concurrent doubling of mitigation finance from 25 per cent in 2017–2018 to 51 per cent in 2019–2020). Of the total, 53 per cent is provided as grants (a decline on 80 per cent in the previous time period);
- MDB finance committed to LDCs was 20 per cent of MDB climate finance in 2019–2020, comparable with 2017–2018 figures. Of this amount, 60 per cent was committed to adaptation, an increase from 47 per cent of 2017–2018 commitments to adaptation. Of the total provided to LDCs, 34 per cent is provided as grants: significantly higher grant ratio relative to wider MDB climate finance as shown in figure 3.1 (see also table 3.1).

253. With largely ocean-based economies, the SIDS suffer from high exposure to the impacts of climate change such as increased frequency and intensity of climate-related weather events and sea level rise. They share geographical features of small size and remoteness that increase their sensitivity to climate shocks. Their nature has also led to relatively weak transportation links, low-economic integration and many SIDS gave low private sector activity outside of the tourism industry. This has increased the costs of technology and, with a number of structural governance and institutional challenges much like the LDCs, the SIDS also suffer challenges to accessing finance (GCF IEU, 2020).[82] There are 38 UN Member Countries that are SIDS and 20 non-UN members/associate members of regional commissions. A number of SIDS are also LDCs:[83]

- In 2019–2020, 3 per cent of bilateral climate-related finance was committed to SIDS. This compares to 2.4 per cent in 2017–2018. The share of adaptation was 53 per cent in 2019–2020, a large increase on 23 per cent in the 2017–2018 period. Bilateral climate-related commitments were predominantly made through grant instruments (78 per cent): comparable with 81 per cent in 2017–2018;
- Major multilateral climate change funds approved 7 per cent of total approvals in SIDS. This is a slight decline on the 2017–2018 period (10 per cent). Of the total approvals, adaptation accounted for 60 per cent (an increase from 41 per cent in 2017–2018). In 2019–2020, 89 per cent of approvals from the multilateral climate funds were provided in the form of grants (similar to 85 per cent in the 2017–2018 period);
- MDB climate finance committed to SIDS in 2019–2020 reached 2 per cent of total commitments: similar to levels in 2017–2018. Of the total commitments of MDBs to SIDS in 2019–2020, 58 per cent was channelled to adaptation, similar to 2017–2018 figures and much higher than total MDB climate finance share to adaptation as shown in table 3.1. Grant finance made up 43 per cent

79) Cooper, R., 2020. Risk of capital flight due to a better understanding of climate change risks. K4D Helpdesk, Report 8 727. Institute of Development Studies, Brighton, UK. Available at https://gsdrc.org/publications/risk-of-capital-flight-due-to-a-better-uunderstanding-of-climate-change/.

80) UN DESA. 2022. LDC Identification Criteria & Indicators. Available at https://www.un.org/development/desa/dpad/least-developed-country-category/ldc-criteria.html.

81) LDC status is determined by three inclusion criteria, notably GNI per capita of lower than 1 018 USD, and threshold scores on the Human Assets Index (HAI) measure of human capital and the Economic and Environmental Vulnerability Index (EVI).

82) GCF IEU. 2020. INDEPENDENT EVALUATION OF THE RELEVANCE AND EFFECTIVENESS OF THE GREEN CLIMATE FUND'S INVESTMENTS IN SMALL ISLAND DEVELOPING STATES. Green Climate Fund Independent Evaluation Unit. October 2020. Available at https://ieu.greenclimate.fund/sites/default/files/document/201123-sids-final-report-top-web_2.pdf.

83) Recalling that the analysis of bilateral finance flows includes only the SIDS that are eligible for ODA and so included in the OECD DAC CRS. As listed at https://whc.unesco.org/en/sids/, SIDS can also be LDCs: thus, the data sets are overlapping and should not be aggregated.

Table 3.1

Characteristics of international public climate finance flows to LDCs and SIDS in 2019–2020 by channel, theme and financial instrument

		Annual average	Area of support				Financial instrument		
		(USD million)	*Adaptation*	*Mitigation*	*REDD-plus*[a]	*Cross-cutting*	*Grants*	*Loans*	*Other*
Multilateral climate funds[b]	**Total**	*3 138*	*19%*	*37%*	*9%*	*35%*	*62%*	*34%*	*4%*
	LDCs	*811*	*29%*	*43%*	*3%*	*25%*	*53%*	*47%*	*0%*
	SIDS	*209*	*60%*	*15%*	*0%*	*25%*	*89%*	*11%*	*0%*
Bilateral climate finance[c]	**Total**	*39 022*	*38%*	*38%*	*–*	*24%*	*49%*	*49%*	*1.5%*
	LDCs	*9 844*	*48%*	*37%*	*–*	*14%*	*51%*	*48%*	*0%*
	SIDS	*1 076*	*53%*	*9%*	*–*	*39%*	*78%*	*22%*	*0%*
MDB climate finance[d]	**Total**	*38 346*	*36%*	*62%*	*–*	*2%*	*8%*	*78%*	*13%*
	LDCs	*7 837*	*60%*	*40%*	*–*	*0%*	*34%*	*66%*	*1.7%*
	SIDS	*794*	*59%*	*39%*	*–*	*2%*	*43%*	*57%*	*0%*

Note: All values based on approvals and commitments. Some SIDS are LDCs and numbers should not be aggregated. Unspecified, global and multi-regional and multi-country projects are not included in this analysis. Abbreviations: MDB = multilateral development bank.

a. In decision 1/CP.16, paragraph 70, the Conference of the Parties encouraged developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities: reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks.

b. Including Adaptation for Smallholder Agriculture Programme, Adaptation Fund, Bio Carbon Fund, Clean Technology Fund, Forest Carbon Partnership Facility, Forest Investment Program, Global Climate Change Alliance, Global Environment Facility Trust Fund, Green Climate Fund, Least Developed Countries Fund, Partnership for Market Readiness, Pilot Programme for Climate Resilience, Scaling Up Renewable Energy Program, Special Climate Change Fund and United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries.

c. Bilateral climate finance data are sourced from the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), referring only to concessional flows of climate-related development assistance reported by OECD-DAC members. Chapter III of the technical report uses 'bilateral finance' to largely refer to concessional flows of climate-related development assistance reported by OECD-DAC members through this channel unless stated otherwise.

d. MDB climate finance derived from the OECD DAC External Development Finance Statistics, 'Climate-related development finance at the activity level' dataset, recipient perspective. Eight Non-Annex 1 Parties that are non-DAC eligible countries are therefore not reflected in this analysis.

of MDB commitments to SIDS in 2019–2020, an increase on 31 per cent in the 2017–2018 period (table 3.1).

Geographical distribution of climate finance from developed countries to developing countries relative to population

254. The increasing availability of granular country and project-level data on major channels of international public climate finance flows, allows for the volume of climate finance flows to be made relative to the size of populations across geographical regions. This assessment, however, is limited to the analysis of climate finance flows that are clearly identifiable within countries, regions or sub-regions, while a substantial share of global, multi-regional and multi-country projects have not been considered due to the inability to match climate finance flows with precise recipient populations. For the major multilateral climate funds 44 per cent of total climate finance allocations in 2019–2020 have not been considered in the analysis, for the MDBs 14 per cent is unspecified, while for the bilateral data, 20 per cent is unspecified. Table 3.2 provides an indicative overview of the per capita allocation of international public climate finance in 2019–2020 by UN subregion, measured in USD per inhabitant.

255. The data on per capita climate finance does not adjust for differential purchasing power between countries, nor is the per capita measure able to consider the differing climate vulnerability and emissions of regions: the analysis is therefore, not directly linked to regional climate financing needs. It does, however, provide one relative measure of climate finance flows (table 3.2):

- In 2019–2020, bilateral climate-related commitments to the regions ranging between USD 0.004 per capita to USD 997.41 per capita: with an average of committed climate-related finance per capita across regions of USD 5.26;
- The major multilateral climate funds have approved climate finance at levels ranging from less than USD 0.01 per capita to USD 185.65 per capita. With a global average of USD 0.36 per capita;
- MDB climate finance commitments to the regions in 2019–2020 ranged from less than USD 0.01 per capita to over USD 1000 per capita: with an average of committed climate finance across regions of USD 5.73 per capita.

Table 3.2

International climate finance flows to developing countries relative to their population[a]

		Annual average (USD millions)	Min	Max	Average
Multilateral climate funds[a]	**ATTRIBUTABLE TOTAL**	**2 219.48**	**0.01**	**185.65**	**0.36**
	Africa	770.91	0.02	27.46	0.59
	Asia	717.14	0.01	31.86	0.18
	Europe	14.66	0.16	1.93	0.97
	Latin America	659.14	0.22	185.65	0.76
	Oceania	57.63	0.12	165.11	5.12
Bilateral climate finance[b]	**ATTRIBUTABLE TOTAL**	**32 625.63**	**<0.01**	**997.41**	**5.26**
	Africa	10 026.37	0.01	38.08	7.58
	Asia	16 718.99	<0.01	131.32	3.96
	Europe	1 548.39	23.39	115.48	84.16
	Latin America	3 774.394	0.09	30.00	6.08
	Oceania	557.49	17.10	997.41	49.51
MDB climate finance[c]	**ATTRIBUTABLE TOTAL**	**35 494.33**	**<0.01**	**1 046.48**	**5.73**
	Africa	11 151.62	1.01	141.92	8.43
	Asia	16 553.44	<0.01	146.46	3.92
	Europe	903.80	29.25	60.89	49.12
	Latin America	6 652.39	0.46	290.28	10.71
	Oceania	233.07	1.31	1 046.48	20.70

Note: All values based on approvals and commitments. Unspecified, global and multi-regional and multi-country projects are not included in this analysis. MDB = multilateral development bank.

a. Including Adaptation for Smallholder Agriculture Programme, Adaptation Fund, Bio Carbon Fund, Clean Technology Fund, Forest Carbon Partnership Facility, Forest Investment Program, Global Climate Change Alliance, Global Environment Facility Trust Fund, Green Climate Fund, Least Developed Countries Fund, Partnership for Market Readiness, Pilot Programme for Climate Resilience, Scaling Up Renewable Energy Program, Special Climate Change Fund and United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries.

b. Bilateral climate finance data are sourced from the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), referring only to concessional flows of climate-related development assistance reported by OECD DAC members. Chapter III of the technical report uses 'bilateral finance' to largely refer to concessional flows of climate-related development assistance reported by OECD DAC members through this channel unless stated otherwise.

c. MDB climate finance derived from the OECD DAC External Development Finance Statistics, 'Climate-related development finance at the activity level' dataset, recipient perspective. Eight Non-Annex 1 Parties that are non-DAC eligible countries are therefore not reflected in this analysis.

256. In many LDC and SIDS countries development finance represents a major source of international financial flows and a key pillar of public sector budgets (OECD/UNCDF, 2020).[84] As such, information on per capita climate finance flows can be informative. Assessment of the volume of public climate finance flows relative to the size of populations in LDCs and SIDS is limited to the analysis of climate finance flows that are clearly identifiable to these countries and attributable to these country groupings, however. Projects and programmes that span regions and sub-regions, or that are unspecified, are not considered. Table 3.3 illustrates per capita climate finance figures in SIDS and LDCs. It is worth recalling that the data on per capita climate finance does not adjust for differential purchasing power between countries nor does it account for the differing climate vulnerability and emissions of these country groupings: the analysis is therefore, not directly linked to climate financing need.

3.2.3. Additionality of climate finance provided

257. In accordance with Article 4, paragraph 3, of the Convention, the financial resources provided to support climate action should be "new and additional". The Paris Agreement does not refer to "new and additional". Article 9.3 of the Paris Agreement states that "developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels", and that such mobilization should "represent a progression beyond previous efforts".

Table 3.3

International climate finance flows to developing LDCs and SIDS relative to their population

		Annual average (USD million)	Min	Max	Average
Multilateral climate funds[a]	Attributable total	*2 219.48*	*0.01*	*185.65*	*0.36*
	LDCs	*811.00*	*0.02*	*27.46*	*0.78*
	SIDS	*209.00*	*0.12*	*185.65*	*3.60*
	of which Non-LDC SIDS	*105.00*	*0.12*	*165.10*	*2.50*
Bilateral climate finance[b]	Attributable total	*32 625.63*	*<0.01*	*997.41*	*5.26*
	LDCs	*9 844.00*	*0.24*	*394.90*	*9.42*
	SIDS	*1 076.00*	*1.74*	*997.41*	*16.94*
	of which Non-LDC SIDS	*639.00*	*1.74*	*997.41*	*15.89*
MDB climate finance[c]	Attributable total	*35 494.33*	*<0.01*	*1 046.48*	*5.73*
	LDCs	*7 837.00*	*1.01*	*700.36*	*7.50*
	SIDS	*794.00*	*1.31*	*1 046.84*	*12.50*
	of which Non-LDC SIDS	*479.00*	*1.31*	*1 046.84*	*17.39*

Note: All values based on approvals and commitments. Some SIDS are LDCs and numbers should not be aggregated. Unspecified, global and multi-regional and multi-country projects are not included in this analysis. Abbreviations: MDB = multilateral development bank.

a. Including Adaptation for Smallholder Agriculture Programme, Adaptation Fund, Bio Carbon Fund, Clean Technology Fund, Forest Carbon Partnership Facility, Forest Investment Program, Global Climate Change Alliance, Global Environment Facility Trust Fund, Green Climate Fund, Least Developed Countries Fund, Partnership for Market Readiness, Pilot Programme for Climate Resilience, Scaling Up Renewable Energy Program, Special Climate Change Fund and United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries.

b. Bilateral climate finance data are sourced from the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), referring only to concessional flows of climate-related development assistance reported by OECD DAC members. Chapter III of the technical report uses 'bilateral finance' to largely refer to concessional flows of climate-related development assistance reported by OECD DAC members through this channel unless stated otherwise.

c. MDB climate finance derived from the OECD DAC External Development Finance Statistics, 'Climate-related development finance at the activity level' dataset, recipient perspective. Eight Non-Annex 1 Parties that are non-DAC eligible countries are therefore not reflected in this analysis.

84) OECD/UNCDF. (2020). *Blended Finance in the Least Developed Countries 2020: Supporting a Resilient COVID-19 Recovery.* OECD Publishing, Paris. Available at https://doi.org/10.1787/57620d04-en.

Broadly, the discussion of new and additional climate finance speaks to the continuity of overall ODA levels and its relation to climate finance spending as a subcategory, where concerns about inadvertent allocation conflicts exist (see also section 3.4.3).

258. The understanding of what is "new and additional" and how to put it into practice or assess it, continues to vary across stakeholders and Parties. National Communications and BR guidelines require developed countries to provide information on how they have determined that the resources provided to developing countries are new and additional. Such information will also be necessary for developed country Parties to report under the enhanced transparency framework of the Paris Agreement from 2024. In early BR submissions, some countries failed to provide details on these criteria (UNFCCCC, 2014, 2016). More recently all Annex II Parties have provided this information with criteria including: whether funds represent new commitments or disbursements in a given year; whether funds went beyond a certain baseline year or whether funds went beyond the 0.7 per cent GNI pledge for ODA. More information is available in the fourth (2020) BA as well as the SCF work on definitions of climate finance.

259. In the wider literature, some studies have come to the conclusion that a substantial amount of climate finance accounted for does not constitute additional efforts based on taking a baseline comparison with i) the development of total ODA over time (since 2009) or ii) the general 0.7 per cent GNI pledge for ODA by donor countries (Mitchell et al., 2021; Hattle and Nordbo, 2021). In contrast, other studies find little evidence of repurposing or "rebadging" of aid between categories of development expenditures, given that econometric analysis closely associates increases or decreases in climate finance to a given sector with increases or decreases in total OOF towards those sectors (ODI, forthcoming). Assessments of climate finance flows are, however, increasingly discussing the quality and adequacy of climate-related and other developmental expenditures. Including, for example, discussion on financed activities and choice of instruments or on provision of climate finance based on developed country characteristics (Bhattarchaya et al., 2020; Bos et al., 2021; Colenbrander et al., 2021).[85]

3.3. Effectiveness of climate finance: access, ownership and impacts

260. It is not just the quantity of climate finance that is important but also how well that finance achieves its objectives; its quality. The importance of ensuring that climate finance is effective is emphasised in various Articles of the Paris Agreement covering a number of interrelated aspects. Access, ownership and impact of climate finance are all explored in the sections below, which also consider the goals of development finance set in 2011 at the Busan High Level Forum on Aid Effectiveness, and are informed by various longstanding frameworks that have been developed by researchers to improve understanding of the effectiveness of climate finance (Nakhooda, 2013; Buchner et al., 2012; Ballesteros et al., 2010: Juden and Mitchell, 2021).

3.3.1. Access to climate finance

261. Efficient access to climate finance is an important priority. The Paris Agreement, states that "the institutions serving this Agreement, including the operating entities of the Financial Mechanism of the Convention, shall aim to ensure efficient access to financial resources through simplified approval procedures and enhanced readiness support for developing country Parties, in particular for the least developed countries and small island developing States in the context of their national climate strategies and plans". Access to climate finance has remained challenging, however, for developing countries and their institutions. Finance from multilateral climate funds were found as the most challenging source of finance to access compared to private finance, MDBs and DFIs and bilateral sources (CFAN, 2020).

262. While no overarching framework has formally defined what access to climate finance encompasses, it has been characterised as either dealing with issues of adequacy and predictability (such as financial instruments, balance between adaptation and mitigation and overall scale), or dealing with more process-based issues (such as project preparation, articulations of need, fiduciary standards, costs and speed (figure 3.5; CFAS, 2021).[86] Section 3.2 has included elements of adequacy and predictability. This section 3.3.1 considers options to address more process-based issues of climate finance

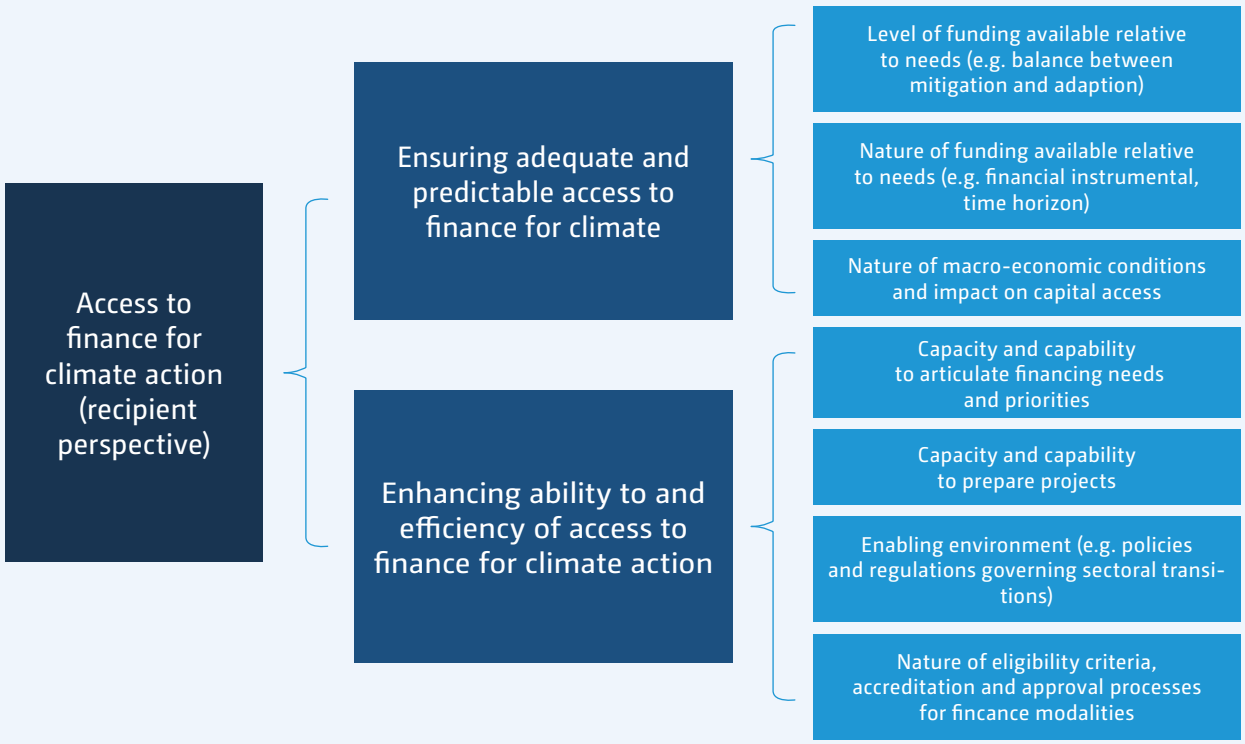
85) Bhattarchaya A., Calland, R.; Averchenkova A., Gonzalez L., Martinez-Diaz L., and Van Rooij J. 2020. *Delivering on the $100 billion Climate Finance Commitment and Transforming Climate Finance*. Independent Expert Group on Climate Finance. December 2020. Available at https://www.un.org/sites/un2.un.org/files/100_billion_climate_finance_report.pdf.
Bos, J., Gonzalez, L., and Twaithes, J. 2021. Are Countries providing enough to the 100 billion Climate Finance Goal?. WRI Insights October 7, 2021. Available at https://www.wri.org/insights/developed-countries-contributions-climate-finance-goal.
https://cdn.odi.org/media/documents/ODI_WP_fairshare_2710.pdf.

86) https://www.cfas.info/sites/default/files/anhang/CFAS_Policy_Brief_Access_to_climate_finance_0.pdf.

access including those that pertain to developing countries' ability to articulate demand for climate finance and those that determine supply of climate finance from climate finance institutions, including: support for climate finance readiness, support for project preparation, supporting access and accreditation and the pace and cost of flow through multilateral climate funds (table 3.4; Annex E). In the absence of meta-reports that address wider issues of access to the various sources and channels of climate finance, aspects of this section consider access to a sub-set of the multilateral climate change funds, as a key part of the climate finance architecture.

Figure 3.5

Exemplary elements that define access to finance



Note: Based on CFAS, 2021, with authors' additions.

Table 3.4

Exemplary explicit modalities of multilateral climate change funds to facilitate climate finance access by developing countries

	Fund	Modality
Support for climate finance readiness	AF	Readiness Package Grant
	GCF	Readiness and Preparatory Support Program
	AF	South-South Cooperation Grants
	AF	Technical Assistance Grants (TAG)
	CIF (includes CTF, FIP, SREP, PPCR)	CIF Technical Assistance Facility (CIF-TAF)
	GEF	Enabling Activities (EA) – support to formulation of reporting obligations to Conventions
	GEF	Capacity-building Initiative for Transparency – support to formulation of reporting obligations under the Paris Agreement

Table 3.4 (Continued)

Exemplary explicit modalities of multilateral climate change funds to facilitate climate finance access by developing countries

	Fund	Modality
Support for project preparation	AF	Project Formulation Grant
	GCF	Requests for Proposals (RpF)
	GCF	Project Preparation Facility
	AF	Project Formulation Assistance
	GEF / LDFC / SCCF	GEF7 Project Preparation Grant Request
	CIF (includes CTF, FIP, PPCR, SREP)	Project/Preparation Grant
Supporting multilateral climate fund access and accreditation	AF	Enhanced Direct Access
	GCF	Simplified Approval Process
	GCF	Enhanced Direct Access (pilot)
	AF	Streamlined Accreditation Process
	GEF	Country Support Program
	GCF	Project-Specific Assessment Approach
	FIP	Dedicated Grant Mechanism for indigenous people and local communities*
	AF	Adaptation Fund Climate Innovation Accelerator*

***Note:** The DGM and AFCIA are not explicit access modalities, however the programme design characteristics are dedicated to enabling participation and indirect accreditation of indigenous and local-level stakeholders otherwise not reached and so are included in this table.

Sources: Review of the multilateral climate funds websites; Caldwell and Larsen, 2021.

Support for climate finance readiness

263. The capacity of institutions to make strategic choices about how to use finance and oversee the implementation of programmes has long been recognised as important (GIZ, 2013; UNDP, 2012; GCF Readiness Programme, 2017). Climate finance readiness – which can be broadly defined as "a country's capacity to plan for, access, and deliver climate finance, as well as monitor and report on expenditures" (GCF Readiness Programme, 2017) – is relevant for the mobilization of all finance sources, including international and domestic public, private and blended.[87] Almost every multilateral climate fund has a branch supporting activities with which they support capacity building in developing countries to access and use climate finance.

264. The GCF Readiness Programme has approved over USD 390 million in over 555 readiness requests between 2015–2021. The Adaptation Fund's Readiness Grants have a much smaller budget and by mid-2021, had approved 46 readiness grants totalling over USD 1.5 million. While GEF does not use the concept of readiness, it does support Enabling Activities, that are considered here to fall under the readiness heading (and is inclusive of GEF efforts towards supporting project preparation). Such enabling activities with climate change mitigation relevance have reached over USD 500 million since GEF inception in 1994. The review of these readiness efforts have, over time, revealed the need to focus on climate finance access more broadly in developing countries and not just on access to the funds themselves, in addition to allowing developing countries more flexibility in the deployment of resources (AF, 2018; Amersinghe et al., 2017).

265. The UNFCCC Needs Based Finance Project also works to facilitate access to, and mobilization of, climate finance. The Project has implemented both regional projects and national projects working to analyse climate finance flows and needs, to develop strategies for access and mobilization and match priorities with funds. including training in climate finance access and mobilisation, as well. Recent work has delivered climate finance access and mobilization strategies in West Africa and Island States in the Indian Ocean.[88]

266. There are a number of initiatives and programmes that exist outside of the UNFCCC to support developing countries' preparations to mitigate and adapt to climate

87) "Blended finance" is the strategic use of public or private funds, including concessional tools, to mobilize additional capital flows (public and/or private) to emerging and frontier markets. It is one approach that has the potential to attract new sources of funding to address the biggest global challenges. See http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/blended-finance.htm.

88) https://unfccc.int/topics/climate-finance/workstreams/needs-based-finance-nbf-project/nbf-documents.

change. These are highly variable in size, structure and working modalities and are therefore hard to categorise. Some focus on NDC, LTS and NAP support and related, national climate governance and implementation. The NDC Partnership, for example, has supported a number of countries in NDC preparation and implementation and most recently has supported the creation of climate compatible recovery packages in the wake of the COVID pandemic. UNDP Climate Promise has supported countries in building NDC ambition and quality, while supporting data systems and financing strategies to enhance NDC implementation.

Support for project preparation

267. A number of multilateral climate change funds also have facilities and initiatives that support project preparation. The GCF has a dedicated Project Preparation Facility through which accredited entities can get financial and technical assistance with project proposals. Micro- and small-size projects are prioritised with value up to USD 1.5 million. The way in which multilateral climate funds support project preparation varies, in the case of the Climate Investment Funds of the World Bank, for example, funding is 'allocated' to a country in order to create investment plans (before constituent projects and programmes have been approved). Literature has suggested that between 10–20 per cent of total project funding needs go towards project design, allowing projects to fully incorporate robust adaptation, environmental and social safeguards and human rights; yet, unlike the MDBs and UN agencies, most national and subnational institutions do not have the financial resources available to undertake these preliminary steps towards accessing climate finance (IIED, 2020).

268. Outside of the UNFCCC there are many initiatives and programmes that can play a role in supporting project preparation. Many of these have existed for many years and not always with climate action as a focus. They include, for example, the PPIAF hosted by the World Bank Project Management Unit. PPIAF provides grants for technical assistance and knowledge services to better enable private participation in infrastructure.[89] Whereas the Green for Growth Fund is an impact investment fund working to reduce energy consumption, resource use and CO_2 emissions: it has a dedicated technical assistance facility to provide know-how and technical expertise to leverage risk-capital from public institutions with private capital.[90]

Supporting multilateral climate fund access and accreditation

269. The complex architecture of the multilateral climate funds makes great demands on the capacity of the national institutions involved in accessing the funds (i.e. NDAs and direct access entities), who may need to develop policy frameworks and programmatic approaches that meet the criteria of the multilateral climate funds, in addition to the increasing numbers of related planning processes (e.g. NDCs and NAPs). This has proved a challenging barrier to access to overcome for many countries despite the growing ability of institutions in developing countries to meet the fiduciary, environmental and social safeguards required and investments in enhancing processes and institutional capacities (CFAS, 2021).

270. At their inception, most multilateral climate funds were accessed through international partner institutions such as United Nations' agencies and the MDBs. Since 2008 there have been efforts to diversify the modalities of access to give institutions in developing countries climate finance access. In 2019–2020 the number of partners through which developing countries are able to access climate finance from the multilateral climate funds have continued to grow. Recent years have seen growth in the accreditation of regional and national institutions, as well as non-governmental implementing entities, including from the private sector and civil society. Much of this increase has been driven by the AF through both supporting enhanced direct access – where by developing country based accredited institutions made their own decisions about programming resources - and simplified approval processes. Direct access projects of the AF have been found to have stronger community focus and increased local ownership (Manuamorn and Biesbroek, 2020).

271. The GCF has also been responsible for driving up the share of regional and national entities as a result of its fast-track accreditation procedures for entities already accredited by other funds (such as the AF). The GCF also has an accreditation system whereby entities are accredited according to the size of the projects they manage (micro, small, medium or large), their financial activity and the level of environmental and social risk of the projects and programmes that they intend to bring to the GCF. In 2022, the GCF intends to launch a Digital Accreditation Platform through which entities will be able to apply for accreditation and submit reports online.

89) See more information at: https://ppiaf.org/about-us.

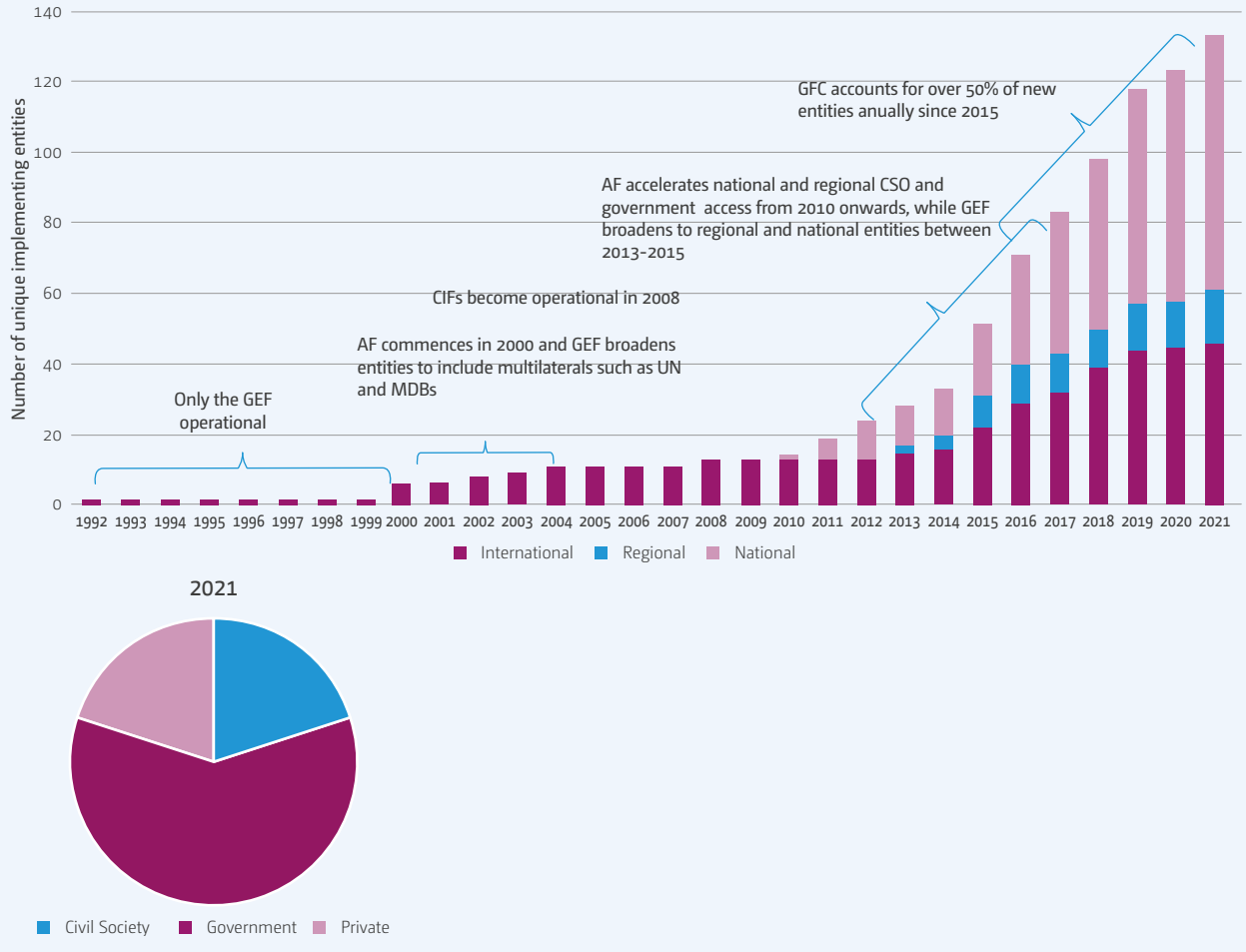
90) See more information at: https://www.ggf.lu/about-green-for-growth-fund.

272. In 2021 there were 133 accredited entities to the major multilateral climate change funds, a 36 per cent increase from 98 in the 2017–2018 period (figure 3.6). Despite growth in national and regional implementing entities, the climate finance approved for implementation through these entities is 10 per cent (7 per cent was approved for national entities and 3 per cent regional) (figure 3.7). This is compared to 7 per cent of approved finance in 2017–2018 of all multilateral climate change funds and 11 per cent of UNFCCC funds. The AF, in efforts to enhance access to vulnerable countries, brought in a 50 per cent portfolio cap on international intermediaries in 2021. While there remains a strong rationale for increased programming to regional and national level, analysis of the absorptive capacity could be further developed to guide further development of approved funding.

273. The AF pioneered direct access, and the GCF has adopted the concept as it has evolved. Enhanced direct access ensures that projects are managed directly by developing countries, elevate issues of climate change to the national level, amplify stakeholder voices and help to sustain institutional knowledge (AF, 2017). It can also reduce the transaction costs of climate action (Masullo et al., 2015). Similarly, SAP are special application processes for small-scale projects and programmes, particularly for smaller entities. In the case of the GCF the value of these projects is up to USD 25 million of GCF financing, an increase from USD 10 million previously. The change in eligible funding volume has come in an update to the SAP in 2022 that also includes a simplified GCF-internal funding proposal review and approval processes as early review suggests that it had not dramatically reduced the approval times for projects (GCF, 2022).[91]

Figure 3.6

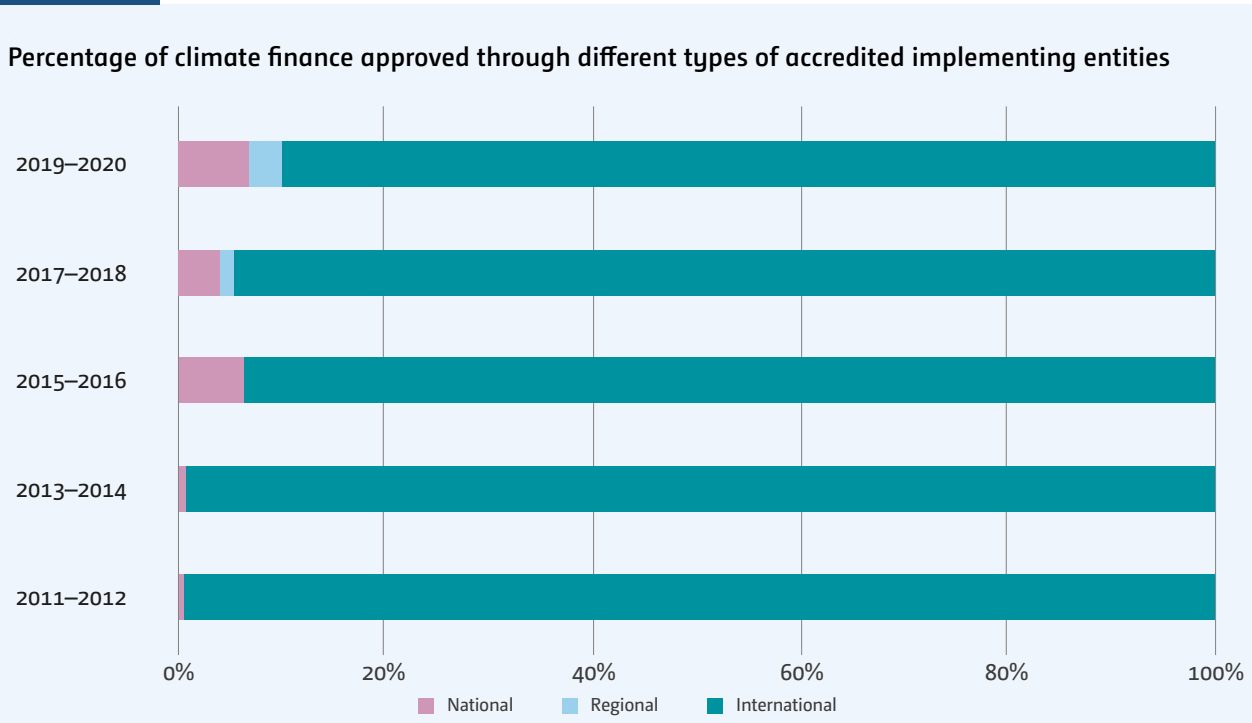
Time series on accredited implementing entities of multilateral climate funds



Source: Based on a review of the reports of the relevant multilateral climate change funds, including: AF, Clean Technology Fund, FIP, GEF, LDCF, PPCR, SREP and SCCF.

91) Available at https://www.greenclimate.fund/sites/default/files/document/gcf-b32-05.pdf.

Figure 3.7



Source: Based on a review of the reports of the relevant multilateral climate change funds, including: AF, Clean Technology Fund, FIP, GEF, LDCF, PPCR, SREP and SCCF.

274. Contrary to the accredited entity design of the multilateral climate funds, access to MDB climate finance is possible through direct funding modalities, most often without an intermediary institution. Eligibility criteria for MDB membership or as a borrowing country differ and are often unspecified with varying criteria and graduation policies applying in particular for those MDBs that offer both concessional and non-concessional lending windows (Engen & Prizzon, 2018).[92] There is no one standard process for access to MDB climate finance. MDB application procedures most commonly require a project description, feasibility study, project ownership and project implementation arrangements, cost estimations and a risk analysis, following the guidelines of the individual institutions. However, MDBs have aligned their definitions of eligible activities for climate change mitigation and adaptation finance (see section 1.2) providing an indication of expectations for implementing capacities and level of detail required for financing projects.

275. Bilateral climate finance instead relies more heavily on the OECD DAC system and eligibility therein which is linked to income classifications, reviewed regularly. While there are many models, some of which are application-based, access to bilateral funds is often disbursed faster and more tailored to country- rather than fund-specific goals, though in general bilateral sources remain less transparent than climate funds and the MDBs (IMF, 2021).

276. In 2021, two further initiatives were established with a view to improve current arrangements for accessing climate finance across all channels. The Task Force on Access to Climate Finance is an initiative of the UK COP26 Presidency and, co-chaired by UK and Fiji, has developed principles and recommendations designed to guide providers and recipients in how climate finance could be accessed, programmed, and used. They include: country ownership, harmonisation or processes and alignment with national architecture, responsiveness to country needs and vulnerability, flexibility and transparency and accountability. In 2022, five pioneer countries – Bangladesh, Fiji, Jamaica, Rwanda, Uganda – supported by anchor donors, will trial these principles. The Taskforce will aim in the next stage to broaden the scope to engage and facilitate private finance flows. The COP26 Catalyst for Climate Action will complement the work of the Taskforce by considering the institutional capacities of vulnerable and least developed countries to improve access to finance. It will work to identify

92) Engen, L., Prizzon,A. 2018. A guide to multilateral development banks. 2018 edition April 2018. ODI. Available at https://cdn.odi.org/media/documents/12274.pdf.

issues and leverage points across the climate finance system of actors, including at the provider, intermediary and recipient stage. At COP26, the Catalyst highlighted the need to improve inter-institutional coordination mechanisms at the international level and the support for capacity-building initiatives as well as to build and maintain human capital in developing countries (UK Government 2021a, 2021b)[93,94]

The pace and costs of climate finance

277. Data from the multilateral climate funds can be used to shed light on the climate finance system and its institutions. In particular, the pace and the cost at which climate finance flows to developing countries can be explored. Changes to the pace and cost of climate finance in light of the COVID-19 pandemic are further explored in box 3.3.

278. After pledges are made by climate finance contributors to multilateral climate funds, those funds then need to be provided to the funds in question, before being committed to project activities and then disbursed. Of the financial pledges made to the UNFCCC multilateral climate change funds, 63 per cent has already been committed to project activities and 26 per cent of pledges received remain to be committed (figure 3.8). The pace at which climate finance moves from pledge and approval needs to be understood in the context of the climate funds' differing approaches and modes of delivery, however. While the AF accepts pledges on a rolling basis, the GCF raises funds at specific periods.

279. Figure 3.8 further illustrates the costs associated with climate finance access through the multilateral climate change funds. These costs refer to the costs of managing the fund as a whole, including board meetings, stakeholder engagement efforts, project screenings and evaluations, as well as implementing entity fees that cover the costs of intermediary organisations in managing approved projects and programmes. While the funds adopt different approaches and are therefore hard to compare with respect to the appropriateness of administrative and implementing costs it is in the interest of both contributors and beneficiaries to maximise the efficiency of the multilateral climate change funds whose costs have collectively reached USD 2.3 billion in 2021 over the last decade.

280. After funds have been committed to projects, those funds are then disbursed for implementation. when legal agreements and project financial structure are designed and agreed. Reporting on the lifecycle of climate finance varies between the multilateral climate change funds, with less transparency in disbursements than approvals, for example. Funds also do not use terms consistently, 'to be disbursed' may reflect that the funds have not been released fully or partially for ongoing or committed projects, or if there is no data on whether the funds have been released.

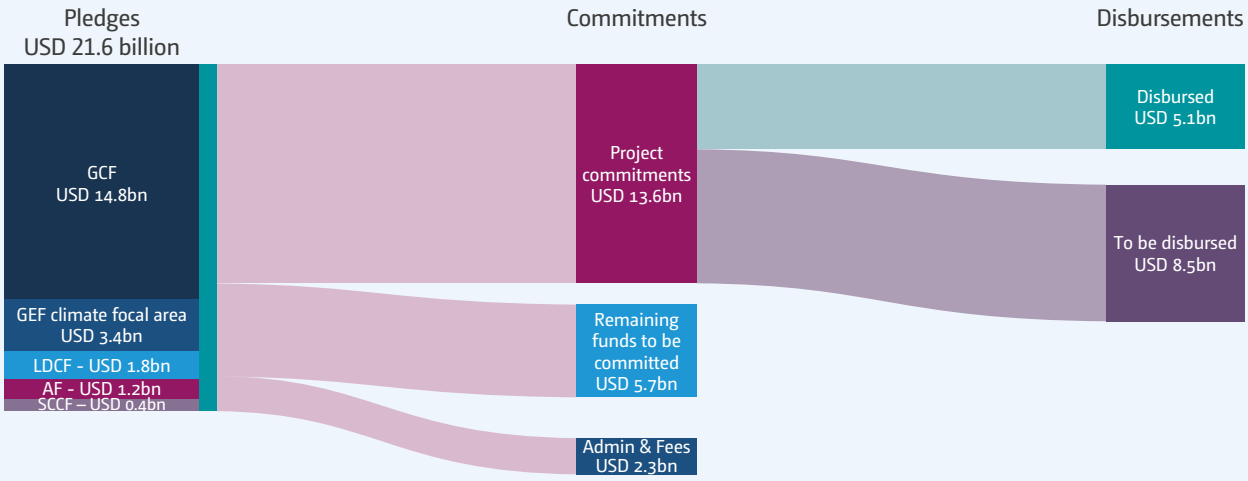
281. The process of accessing climate finance, including becoming accredited and the endorsement of investment plans can be lengthy, however. A study covering several multilateral climate funds found that accreditation of the implementing entity and endorsement of investment plans may take between 10 and 28 months, while the project approval stage may require between 12 and 22 months. Delays can also reflect capacity constraints on the part of beneficiary country counterparts, as well as the competing priorities and incentives of implementing agencies (Amerasinghe et al., 2017). The GCF has worked to reduce the median time from funding proposal to first disbursement from 25 months in 2015 to 12 months in 2021 (GCF Annual Results Report, 2021).

93) UK Government. 2021. Principles and Recommendations on Access to Climate Finance November 2021. Available at https://ukcop26.org/wp-content/uploads/2021/11/Principles-and-Recommendations-on-Access-to-Climate-Finance.pdf.

94) UK Government. 2021b. COP26 Catalyst for Climate Action. Action Recommendations on Capacity Building for Access to Finance. November 2021. Available at https://www.wiltonpark.org.uk/wp-content/uploads/2021/11/Wilton-Park-COP26-Access-to-Finance-FINAL.pdf.

Figure 3.8

Cumulative pledges, project commitments and disbursement of climate finance (USD million) through the UNFCCC multilateral funds since 2001



***Note:** Data as of 28 April 2022 represents cumulative finance flows from the period 2001 to 2022. GEF climate change (CC) focal area pledges, project commitments and disbursements are considered for GEF 5 – 7 commitment periods (2010 to 2022). During that same period, significant amounts of cross-cutting environmental and climate related financing have been channelled through other GEF focal areas, these are estimated at around USD 1.683 billion project commitments with some climate-relevance of which USD 906 million has been disbursed (The GEF aims to ensure that across operations 80 per cent of all GEF funding commitments include direct or indirect climate benefits). GEF Project commitments reflect the time period up until FY 22 while admin fees and disbursements data reflect projects with commitments made up until FY 21.

Source: World Bank Financial Intermediary Funds (FIFs) Website, as of April 28 2022. Available at https://fiftrustee.worldbank.org/en/about/unit/dfi/fiftrustee/funds; GEF, 2022.

Box 3.3

Emerging impacts of the COVID-19 pandemic on pace and cost of climate finance flows

The constraints of the Covid-19 pandemic affected the delivery on and implementation of international climate finance, although significant portfolio-level effects have not been registered. The GCF revised its initial disbursement targets in the 2020 work programme from USD 1.5–1.8 billion down to USD 1.4–1.5 billion by the end of 2020, and USD 1.9–2.1 billion by the end of 2021 as compared to previous targets (GCF, 2021). The GEF registered a drop of disbursement rates from 25 per cent in fiscal year 2020 to 20 per cent in fiscal year 2021 (GEF, 2021). All major multilateral climate funds report instances of project delays across the stages of project appraisal including feasibility and impact assessments, implementation phase and for monitoring and evaluation. Heightened implementation challenges arose especially via pandemic-related travel and safety restrictions with examples of implementing entities or contractors not being able to access sites or to conduct field visits (FIP, 2021). The disruption of global supply chains with associated delays in delivering goods and services from international suppliers and the inability to hold in-person stakeholder meetings further complicated fulfilment of regular projects standards (AF, 2021; GEF, 2021; PPCR, 2021). The GEF reports that, in particular projects in the SIDS were negatively affected due to increased exposure to travel restrictions and limited institutional capacities (GEF, 2021).

In a review of its pipeline of 15 projects the PPCR reports six projects experiencing implementation difficulties with revised timelines from four to two months or even the cancellation of loans in two cases, as project business models were not suited to the changing Covid-19 context. In the case of the GEF, the percentage of projects that reached initial disbursement within 18 months of CEO endorsement dropped from 78 per cent in FY 19 to 47% in 2020 before recovering to 71 per cent in FY2021. Further the number of GEF projects not yet under implementation over 24 or 30 months after CEO endorsement increased in FY 21 (36) compared to pre-pandemic levels of FY19 (22). Next to various implementation challenges, the pandemic altered the operational workflow of climate finance providers and funds and necessitated early adjustments. For example, the delivery of the GCF Board Workplan for 2020 was impacted due to constraints of virtual settings, leading to a deferral of eight items to 2021 (GCF, 2021).

Climate finance providers took immediate mitigating measures to support finance recipients and communities in addressing implementation challenges with flexible financing arrangements. The AF for example introduced a blanket no-cost extension up to 12 months for projects delayed due to COVID-19 and a flexible application of 'material change' for project budget reallocations up to 20 per cent to cover COVID-19 related measures. The GEF further adapted the 2020–2021 work programme of its RPSP to provide expedited access to resources for countries to develop climate resilient recovery strategies.

Local level access to climate finance

282. Scaling up the flow of approved climate finance to regional and national actors is considered desirable to get climate finance into the hands of those that need it most,and have the best understanding of the solutions needed. Literature has shown for example, that the AF DAEs have exhibited greater community focus and increased local ownership as compared to indirect entities (Manuamom and Biesbroek, 2020).

283. The IPCC (2021), however, indicate that very little climate finance is reaching local communities. A number of interlinked challenges to local level access to climate finance have been highlighted in the literature (IPCC, 2021; Tye and Suarez, 2021; IIED, 2020; Westoby et al., 2020; Omari-Motsumi et al., 2019;). This includes:

- Current climate financing is largely channelled through multilateral implementers, rather than agencies that are closer to local communities (see also figure 3.6). This reflects the higher perceived and real risks of fund management, as well as higher transaction costs of decentralised projects that reduce their attractiveness to funders but also reflect the difficulties of local organisations in meeting the fiduciary standards of some climate finance modalities;
- Inadequate consideration in programme design. Many climate change planning processes start at the national level. Furthermore, few climate finance modalities have clear definitions of local stakeholders and/or how they need to be engaged (CBI, 2020). Over time, examples of sub-national and local engagement and participation in climate change planning are emerging, however, including those that support local level capacity to report on climate risks (and reduce scientific jargon, for example);
- It is also noted that it is difficult to track the flow of climate finance to the local level, which would require more data transparency on project and programme processes and intermediaries (Soanes et al., 2017).

284. Specialised on-granting and on-lending capacities may well support the devolution of climate finance to the local level. This can go hand-in-hand with increasing flexibility of funding, investments in community leadership and local institutional capacities. See for example, the work of LoCAL supporting sub-national government action for resilience (as noted in Section 3.3.2 below).

3.3.2. Ownership

285. In the context of climate finance, ownership often refers to the active engagement of stakeholders from ministries and other governmental bodies, as well as from the private sector and civil society. It also refers to the use of, or close links between, climate finance and national development and climate policies as well as national systems for spending and tracking climate finance.

286. Globally, increasing engagement with climate change can be observed in the ministries responsible for strategic investment and financial management decisions at the national level (e.g. ministry of finance, treasury and ministry of national planning). The government's engagement in climate finance often manifests itself in the articulation of climate change in the national development agenda and the development of climate change policies, legislative frameworks and strategies, which are evolving rapidly: there are already over 2 641 climate change-relevant laws worldwide (Climate Change Laws of the World, 2022).[95] In-session workshops on long-term climate finance organised by the UNFCCC secretariat in 2017 and 2018 have explored such engagement, with various layers of capacity noted as needed to access climate finance at the national level. The adoption of a "whole-of-government approach" to climate finance has also emerged as a key finding from the first Needs Determination Report (UNFCCC, 2021) and can require capacity-building for key ministries in countries.

287. The various channels of international public climate finance continue to encourage country ownership. As noted in Section 3.3.1 and table 3.4 there are a variety of support processes for climate planning and climate finance access. The multilateral climate change funds continue to require letters of no objection from national designated authorities. The funds are also accrediting more diverse entities: particularly private finance entities. Bilateral providers and MDBs also have processes to establish and maintain country partnerships and strategy documents, updated periodically to support country ownership and priorities. The MDBs for example, are also in the process of identifying how a country's LTS can further aid allocation of funds.[96]

95) Climate Change Laws of the World database, Grantham Research Institute on Climate Change and the Environment and Sabin Center for Climate Change Law. Available at www.climate-laws.org.
96) MDB joint climate statement. 2021. Available at https://ukcop26.org/mdb-joint-climate-statement/.

Alignment of climate finance with investment needs and plans, including in the context of nationally determined contributions and national adaptation plans

288. Channelling climate finance so that it supports climate change policies and strategies drawn up by national governments can generally lead to better results. It allows for more cohesive planning processes for climate change action across the many arms of government, also in conjunction with other governmental economic and development priorities (Bird et al., 2016). The importance of basing support within national priorities, as well as national institutions, is enshrined in the principles for ensuring the effectiveness of international assistance for developing countries. However, the incompleteness of data from both the top-down and bottom-up estimation challenges assessment of the alignment of climate finance flows with the climate finance needs of developing countries. The facilitation of improved country and regional level frameworks for the identification and costing of climate finance needs has been identified (Stout 2022; WBG&GFDRR, 2021).[97]

289. The 2021 SCF NDR finds that developing country needs range across all means of implementation (finance, capacity-building and technological transfers). The first NDR identified the lack of human and institutional capacities, methodologies and data availability as principle obstacles to translate the needs of developing countries for climate mitigation and adaptation activities into quantifiable "costed" needs that can be used to support the mobilization of climate finance from various channels. In particular the NDR highlighted that:

- **The granularity and reliability of information provided was found to be better where established guidelines and frameworks exist in the UNFCCC process.** In the case of NDCs for example, around 60 per cent of identified needs were not costed (41 per cent in LDCs and 58 per cent in SIDS), suggesting that the actual finance needs are higher than included in the quantitative estimate of the NDR. Across the national reports assessed, adaptation needs were less frequently quantified than mitigation activities, in part, due to fewer established methodologies to assess adaptation activities. TNA methodologies and TAP reporting guidelines were found to improve the national reporting of needs;
- **Leveraging expertise and involvement of ministries of finance and other planning departments can enhance needs identification and the quantification processes, including through the use of robust estimation methodologies.** Limited institutional capacities and coordination across ministries and stakeholders have proved an obstacle to climate change planning in many developing countries. Current coordination mechanisms for climate change planning also reveal weaknesses for the alignment with sub-national and local actors as well as with the private sector, while these actors are oftentimes essential to advance climate change planning along the project cycle, to ensure data and information exchange and stakeholder consultations, and to develop local expertise. Coordination can also seek to address the principles of inclusiveness and participation: across the nine types of national reports less than 10 per cent of needed activities referred to gender or specific communities;
- **Enhanced in-country data and MRV system architecture could improve needs identification and project preparation processes for climate action.** The need for capacity-building was found by the NDR to span across technical expertise, political insight, climate governance, knowledge management, planning, project development and execution, for example. The limited availability of granular data at the sector and sub-sectoral level in particular, has inhibited disaggregated needs by theme or sector, which are important data points to identify climate action focus areas and signal financial support needs. In this context, the positive contributions of readiness and technical capacity building programmes of the Climate Funds (AF/GCF readiness support, GEF CBIT Trust Fund) were noted for their efforts to improve climate information and data systems and methodological development for costing exercises.

National systems for tracking and spending climate finance

290. National institutions and mechanisms to track climate finance are being developed. Section 1.2.3 outlines a marked increase in global coverage of such institutions and mechanisms. These initiatives span a number of developed and developing countries (see table 1.1). A number of initial tracking efforts have been dedicated to establishing systems that identify climate-relevant allocations in forward-looking national budget publications and backward-looking expenditure reviews, these efforts are intended to enable domestic administrations over time to strategically allocate

97) Stout, Sean. 2022. Blog: Unlocking Private Sector Adaptation Finance. CPI February 23, 2022. Available at https://www.climatepolicyinitiative.org/unlocking-private-sector-adaptation-finance/.

public finance towards climate-relevant activities. Public management frameworks that more holistically integrate climate change spending could enhance knowledge and capacities across line ministries – at both the subnational and local level – as well as promote accountability of climate actions across sectors, types of interventions and regions within countries (WB, 2021; Gonguet et al., 2021). As most systems have been developed recently or remain under development, there is limited evidence on the impacts that these green budget tagging initiatives have on domestic resource allocation practices towards climate change mitigation and adaptation and resilience building (OECD, 2021; UNDP, 2021).

291. The ability of domestic financial systems to absorb – and then spend – international climate finance has been another focus of efforts towards ownership. On the one hand, this can refer to the channelling of international climate finance through national budgeting and financial management systems, through direct budget support. On the other hand, it refers to the creation of new institutions such as national climate funds (UNDP, 2011).

292. While channelling finance through national budgeting and financial management systems is a tested and proven form of support, it comes with challenges in assessing impact. New research suggests that direct budget support can be a highly effective form of finance provision, in particular in response to climate related disasters. A study on World Bank and ADB disaster response financing indicated that policy-based lending (PBL) instruments that function as budget support mechanisms in normal times were the fastest to disburse and even outpace crisis-specific financial instruments of the institutions. This was due to its design features as predetermined policy actions completed prior to approvals increase the speed of finance delivery in case of emergencies (Aboneaaj et al., 2021).

293. The LoCAL facility under the UN Capital Development Fund is an example of an initiative supporting domestic national budget systems to target adaptation actions at the local level, while reinforcing transparency and reporting through those systems. The facility supports countries in piloting and establishing performance-based climate resilience grant systems to channel climate finance and improve local responses to climate change. The grants provide a financial top-up to cover the additional costs of making investments climate resilient and are channelled through existing government fiscal transfer systems rather than parallel or ad hoc structures. This incentivizes local governments to develop and integrate targeted adaptation measures while increasing transparency and accountability by enabling verification of climate change expenditures at the local level. It further reinforces existing national and subnational financial and fiscal delivery systems, and it uses the demonstration effect to trigger further flows for local adaptation – including national fiscal transfers and climate finance for local authorities – through their central governments. As of May 2020, LoCAL had engaged with 304 local governments, representing over 11.5 million people in 16 countries, mobilizing USD 125 million of funds.

294. National climate funds (NDFs) are domestic level entities established to support accessing, mobilizing and coordinating climate finance from domestic and international channels. Though they have raised modest climate finance sums so far, these funds can be an effective mechanism to enhance international visibility to attract climate finance, foster national capacity building and policy formulation, and to ensure devolved national and sub-national decision making (CFU, 2020). A recent database on non-OECD countries identifies a total of 46 national climate funds from 39 countries globally. Though the mandates and scope of the funds vary, most are broadly defined for mobilizing resources for climate change and environmental protection. The establishment of national climate funds has seen a continuous increase over time, with nine NDFs established before 2000, 18 NDFs between 2000 and 2010, and 19 NDFs created since 2010. The regional distribution of NDFs in developing countries is balanced, with 16 NDFs in Africa, 18 in Asia-Pacific, 11 in Latin America and the Caribbean and 1 in Eastern Europe. Across regions, 17 NDFs are located in LDCs and 5 within SIDS (Bhandary, 2022).

295. Some national climate funds have proven to be able to mobilise resources, to access international climate finance and implement climate actions via the direct access channel of the multilateral climate funds. 18 national development funds are accredited entities of the AF and/or GCF, partly through their host ministries or other governmental institutions they are embedded in, such as in the case of the Special Fund for the Environment (Fonds Spécial pour l'Environnement, Chad) that is hosted by the GCF accredited Ministry of Environment and Fisheries.[98] Across the accredited NDFs, 10 NDFs have received project funding from the AF or

98) Additional research conducted by the technical authors on the accreditation to and financial approvals from multilateral climate funds of the identified national climate funds in Bhandary (2022).

GCF. At least 11 approved GCF co-financed projects with a committed amount of USD 248 million have been identified as well as 12 AF grant financed projects with a total committed amount of USD 44 million. In addition, at least 27 Readiness or Preparatory Project support grants have been approved for the accredited national climate funds. These are minimum estimates, as the governance structure of three of the funds from Antigua and Barbuda, Chad and South Africa which are hosted within or by national accredited entities did not allow the retrieval of exact project financing volumes.

296. There is an emerging interest in establishing country platforms to accelerate action on climate change. At COP26 in Glasgow, a partnership between South Africa and the EU, France, Germany, the UK and the USA, was announced to provide USD 8.5 billion to support South Africa's transition; implementation details are still emerging (box 3.4). Country platforms is a term used by actors in varied ways, though it largely refers to a government-led partnership to align international and national goals. Recent literature drawing on experience from development cooperation, suggests that successful country platforms to stimulate climate action will need to secure and maintain political agreement (navigating political economy challenges); coordinate public finance from multiple channels, and harness private investment. It is also noted as important that any country platform is tailored to country needs and priorities (Hadley et al., 2022).[99]

3.3.3. The impacts of climate finance: selected insights and experience

297. Impact reporting systems play a critical role in learning from climate finance. Done well, it can provide information on where interventions have succeeded or failed and why. If providers have clear evidence that climate finance is leading to results, they can be more confident in allocating funding, reducing burdens for recipients and improving access. From a recipient perspective increased transparency and learnings about impacts can improve overall programming efforts and selection of interventions that have the greatest climate and co-benefits in a given regional, country or sectoral context. Impact metrics and indicators remain relevant for the implementation of the enhanced transparency framework under the Paris Agreement. Parties to the Agreement agreed at COP24 in Katowice on modalities, procedures and guidelines for the reporting of finance, capacity and technology transfer, as well as support needed and received, and COP26 finalised common tabular formats for these areas. In reporting finance received, developing country Parties may report information on the use, impact and estimated results of the financial support received in the common tabular formats.

Box 3.4

At COP26, South Africa, the United Kingdom, the United States, France, Germany and the European Union announced a partnership to accelerate just energy transition in South Africa. The focus will be on: the electricity system and its reform, including of the state-owned utility ESKOM; economic diversification including through electric vehicles and green hydrogen; the protection of vulnerable workers and communities as the country moves away from coal; and the fostering of local value chains to benefit from new areas of economic opportunity.

In 2022, the approach and terms of agreement of the Just Energy Transition Partnership (JETP) are to be negotiated. Over USD 8.5 billion through grants, concessional loans and investments, risk sharing instruments and technical assistance is expected to be programmed in 3–5 years.

The JETP has been considered a potentially replicable model for other countries with similar coal dependency to South Africa, including Senegal, Indonesia and India.

Sources: European Commission, 2021.[100]

99) Hadley, S., Mustapha, S., Colenbrander, S., Miller, M. and Quevedo, A. (2022) Country platforms for climate action: something borrowed, something new? ODI Emerging analysis. London: ODI (www.odi.org/en/publications/country-platforms-for- climate-action-something-borrowed-something-new/).

100) https://ec.europa.eu/commission/presscorner/detail/en/IP_21_5768.

299. A variety of measures and indicators are employed by climate finance providers to assess the results and impact of climate finance (see Section 1.4). Metrics for mitigation impact are commonly GHG emissions, or sector-specific indicators such as clean energy installed and annual energy savings, or hectares of land under particular management regimes. Whereas diverse results areas are captured for finance supporting adaptation. This reflects the broad suite of sectors and approaches that are part of adaptation efforts, the overlap of development and adaptation concepts, and the timescale and frequency over which the multiple impacts of climate change will materialise (Richmond et al., 2020; Leiter et al., 2019). It will be difficult, for example, to measure the beneficiaries of an intervention to reduce the impact of a slow-onset event that will occur over many years, or of 1-in-100-year extreme weather events that are most likely to occur outside the timespan of the intervention. As such, many have focussed on the number of beneficiaries of an adaptation intervention, directly or indirectly. Others have output-based metrics such as the number of early warning systems put in place, the number of vulnerability and risk assessments completed or the number of people trained in issue areas related to climate impacts and adaptation.

300. The literature suggests that there is little high-quality evaluation evidence on climate finance impacts (Juden and Mitchell 2021). There are challenges to results and impact measurement. Any assessment, for example, is subject to a time lag related to project implementation. The practice of project-level reporting on results towards the later stages of implementation, usually starting from mid-term reviews and eventually with final evaluations, creates a regular temporal delay on impacts and results reported from climate finance interventions. Consequently, the presentation of actual results achieved on portfolio level is often a fraction of expected results from total programming. The GEF, for example, reports the GEF-7 (2018–2022) scorecard on expected results from programming against targets set, rather than on actual results achieved across its portfolio due to data constraints on mature projects against its updated results framework. Similarly, the AF also does not report on actual aggregate portfolio results in its Annual Performance Report 2021 and the GCF currently reports on the portfolio level on two of 20 indicators of the IRMF, GHG emissions reduced and direct and indirect beneficiaries. As results frameworks mature and reporting and tracking standards are updated, the comprehensive availability of results can shift further forward in time.

301. A persistent challenge in climate finance measurement frameworks is that direct project output indicators are easier to define than outcome-level indicators (as seen in figure 3.9, and noted in section 1.4). Such direct output metrics include: number of beneficiaries or staff targeted (total or percentages), area of terrestrial or maritime land covered, or number of assets, institutions or policies introduced. While outcome metrics could include: real-world use of new energy or transport infrastructure and the achievement of long-term goals for beneficiaries (e.g. empowerment or income improvements). The current dominance of output over outcome indicators means that the underlying assumption of results frameworks appears to be that output based measures provide a direct avenue to outcomes (IDEV, 2020).[101] Yet output measures are limited in capturing outcomes or aspects of much desired transformative change.

302. The multilateral climate funds have continued making progress on impact reporting. This includes increased transparency and more regular reporting through their results frameworks that support implementing agencies to measure and report on the impacts of their investments. Providing useful insight into climate finance effectiveness and progress over time, figure 3.9 illustrates a selection of expected and reported results from multilateral climate change funds, the commonalities and divergences in the status of reporting, and the indicators used (see annex D for an elaboration of these results).

303. With respect to mitigation, the GCF and FIP report GHG reductions of 54.0 Mt CO_2 eq and 20.5 Mt CO_2 eq respectively, while expected results for approved and ongoing projects across the portfolios are at 1 980 Mt CO_2 eq and 71.25 Mt CO_2 eq respectively. The CTF and SREP reported a cumulative annual 21.82 Mt CO_2 eq reduction out of an expected 72.2 Mt CO_2 eq annual reduction. As compared to the last BA, the CTF projects have increased annual GHG reductions by 8.2 Mt CO_2 eq, the GCF by 6.0 Mt CO_2 eq and the FIP by 1.8 Mt CO_2 eq. In addition, the CIFs report growing installed renewable energy capacity and annual energy savings (although measured in different units, which reduces comparability). Mitigation-related multilateral climate funds also report on the number of beneficiaries, across all projects or with

101) IDEV. 2020. *Evaluation Synthesis of Gender Mainstreaming at the AfDB. Summary report. Independent Development Evaluation African Development Bank*. Available at https://idev.afdb.org/sites/default/files/documents/files/Evaluation%20Synthesis%20of%20Gender%20Mainstreaming%20at%20the%20AfDB%20-%20Summary%20Report.pdf.

Figure 3.9

Selection of actual and expected results of multilateral climate funds

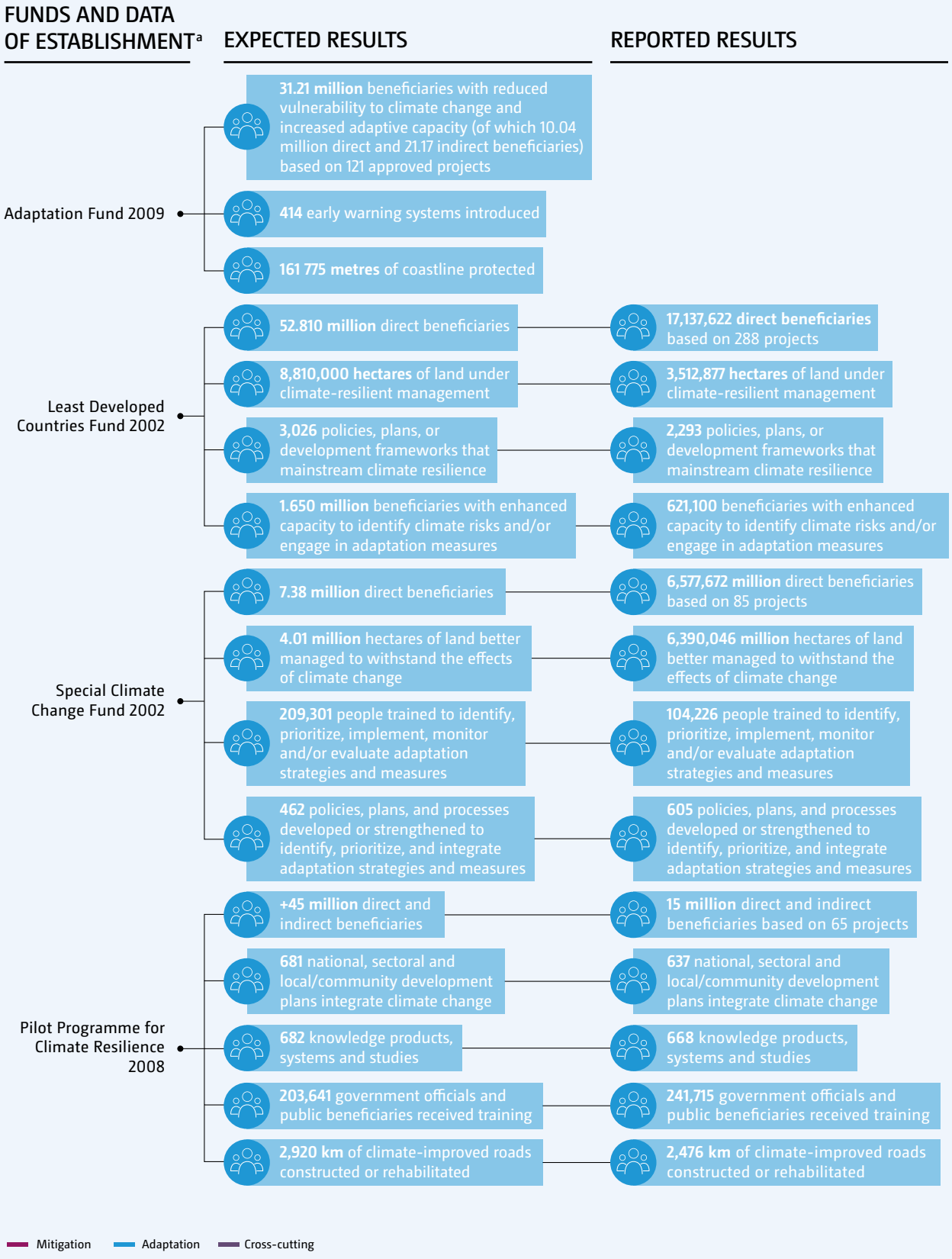
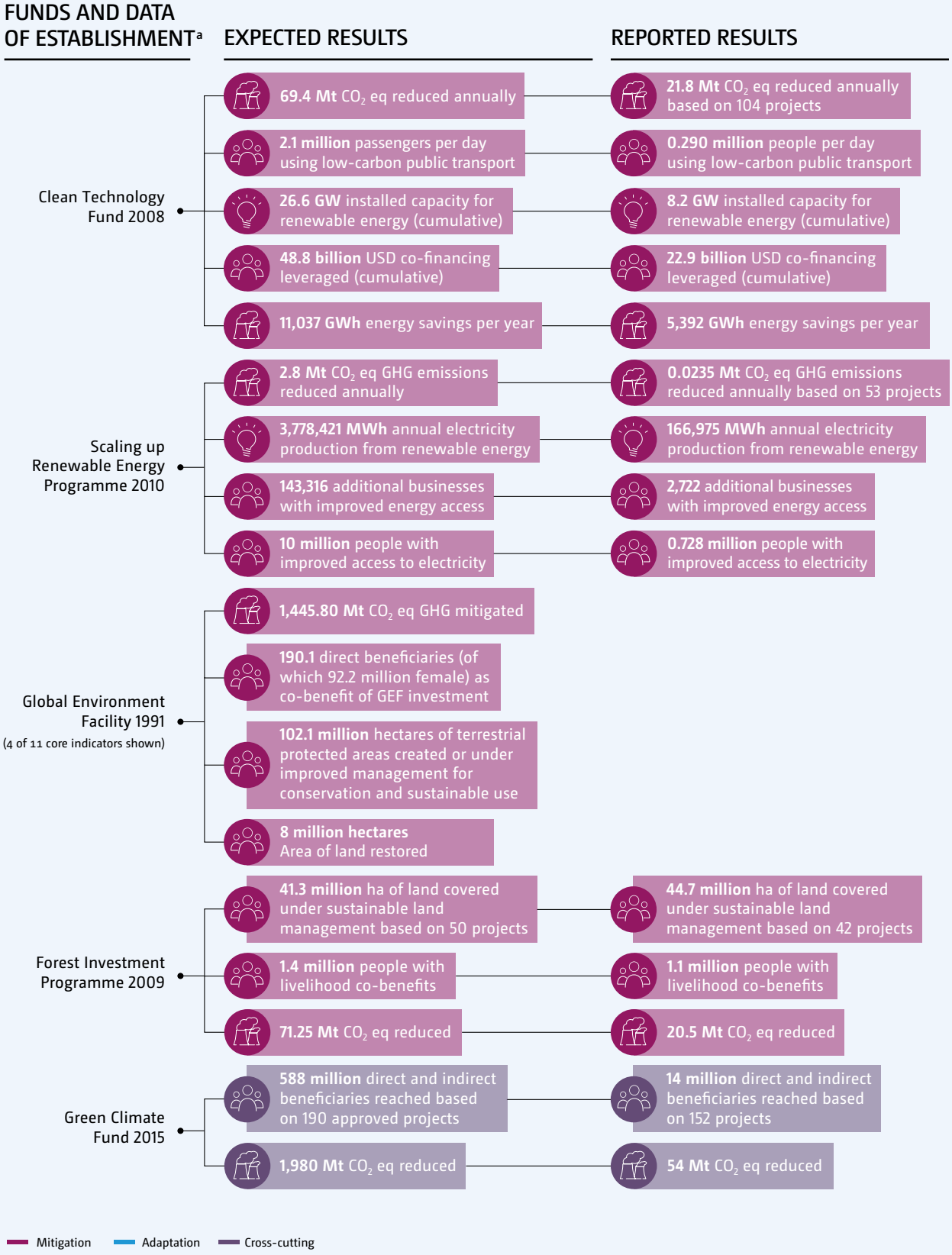


Figure 3.9 (continued)



a. Results are not prorated based on the pledge size of the funds.

Source: Based on a review of the reports of the relevant multilateral climate funds (see annex D).

regards to specific benefits accrued from interventions in the transport, energy and forestry sector. The GCF reports a cumulative number of 14 million direct and indirect beneficiaries reached from 152 ongoing projects, while expected results for the portfolio of 190 approved and ongoing projects is at 588 million direct and indirect beneficiaries: the number of expected beneficiaries has more than doubled since the last BA in the GCF portfolio. The Clean Technology Fund reports on 0.290 million passengers per day using low-carbon public transport out of an expected 2.1 million, while the FIP reports on 1.1 million out of an expected 1.4 million people with livelihood benefits and the SREP notes 0.728 million people with improved access to electricity from an expected 10 million. These actual results constitute slight increases to the last BA for FIP and SREP while the CTF number of transport beneficiaries remained on the same level.

304. The key result indicator in the adaptation theme remains the number of beneficiaries (direct and/or indirect). Multilateral climate funds with a dedicated adaptation focus (AF, LDCF, SCCF, PPCR) report a cumulative number of 136.4 million expected beneficiaries and the LDCF, SCCF and PPCR, who report on actual beneficiaries, note a cumulative total of 38.7 million. The expected and actual beneficiaries constitute an increase of 36.1 million and 2.6 million across these funds.

305. Hectares of land protected or under sustainable management is widely reported across funds for adaptation and mitigation interventions. These have a cumulative expected total of 54.1 million hectares and an actual area covered through existing projects of 54.6 million hectares including the LDCF, SCCF and FIP. The GEF reports a further expected 102.1 million hectares of land managed from its GEF-7 portfolio of projects. AF interventions are further expected to protect 161.8 km of coastline while results from the PPCR portfolio of 65 projects have led to 2 476 km of climate-improved roads constructed or rehabilitated.

306. Multilateral development banks and the International Development Finance Club (IDFC) do not currently include information on mitigation and adaptation outcomes in their joint report. Most MDBs (apart from AIIB and NDB) do report in their Annual Reports or through dedicated scorecards or development and sustainability reports on outcomes and impacts achieved from completed projects, however. Project-level results are presented with varying levels of granularity on the portfolio level respective to their established results and impact frameworks. In many cases, these outcomes are however not separated by climate-related finance, but for MDB's entire portfolios. Bilateral contributors and national development agencies have variable approaches to reporting on impacts. As noted in chapter 1, these tend to take the form of international project level evaluation with selective reporting of aggregate or portfolio results, with outcome and impact metrics mirroring those of other providers.

307. Transformational change is hard to define. It has been understood to capture significant scaling up and replication to enable a faster shift from one state to another, a catalytic effect through mechanisms such as national ownership and political will, private sector involvement and innovative technology application, and systematic learning processes (NAMA Facility, 2014). Proxy measures have been used to assess the likelihood of transformational change, such as in the United Kingdom key performance indicators on transformational change (UK ICF, 2018). While initial advances have been made to measure long-term institutional, human and socio-economic effects of projects in the GCF which has introduced a paradigm shift, potential measurement is in its IRMF (see section 1.4). This seeks to capture transformational impacts along the three dimensions of scale, depth and sustainability via a qualitative scorecard and narrative reporting in Annual Project Reports. Indicators addressing institutional transformation or human capacity building remain on the level of reporting the number of assets, systems, policies or institutions introduced or addressed, while time-considerations or longevity of past interventions are absent from result frameworks.

308. It remains important to plan for how impact and results metrics will be used in order that they can be meaningful. For example, as more information becomes available on expected emissions reduction at a project-level, it can be used alongside project finance data to assess and compare the cost-effectiveness of interventions across regions, sectors, countries or climate finance providers (Juden and Mitchell, 2021). If there is a desire for climate finance specific results to be aggregated within and across institutions, then a harmonised or streamlined set of output and outcome indicators and metrics should be sought, as well as the development of accessible project-level databases of the MDBs and bilateral providers.

Mobilizing additional climate finance flows

309. Climate finance providers can use mobilization of further finance as a measure of impact. Attracting more investment, both public and private, into low-emission, climate-resilient approaches is necessary to meet the scale of climate finance needed. The methods applied and the availability of data on the mobilization of further finance varies across channels and institutions of climate finance, however. A key challenge is definitional, with co-financing leveraging and private sector leveraging both distinctly different but often conflated (De Nevers, 2017). Differences in the use of terms and methods applied complicate comparability between institutions, with differences found in the scope of the application of the method (such as the instruments included and underlying formulas), as well as in the differentiation of direct and indirect mobilization (see section 1.2.2).

310. Current methods to understand the mobilization of climate finance remain narrow. Approaches are unable to capture the mobilization effect of capacity-building, budgetary support or domestic policies, for example. While there have been long-standing concerns that high ratios of both co-financing and leverage may suggest that highly concessional public finance was not required in certain sectors, such as energy where commercial business models and profitability have matured (Brown et al., 2011; Stadelmann et al., 2013), concessional finance continues to constitute a key financing element in other themes and sectors. This might be because these are the lowest-risk investments for the private sector (i.e. investments that were potentially commercially viable without public support). Methods are also unable to capture the effect of the overarching in-country investment climate, shaped by its policies and regulations, that will influence the role that other forms of finance, particularly private sector finance, can play in climate action.

311. With respect to the major multilateral climate change funds, neither the AF or the GCF have co-financing requirements. The GEF instead, has a 1:7 target, while its current co-finance ratio remains at 1:6.6 (or 1:9.5 if only the mitigation co-finance ratio is considered). The CIF's overall co-financing (of public and private sources) ratio remains the highest of the multilateral climate change funds at 1:8 (the private sector co-financing ratio is 1:2.6). The overall fund data obscures differences between the sub-funds of the CIF, with the highest co-financing ratios found in the Clean Technology Fund which predominantly finances infrastructure (1:10 in 2020), while all other CIF funds have ratios less than 1:2.5). The GCF ratio remains at 1:2.7 in 2021. With no harmonized methodologies for estimating private climate finance from the funds these results are not necessarily directly comparable.

Gender and climate finance

312. The Cancun Agreements reached in 2010 acknowledged that gender equality and the effective participation of women are critical in climate change action.[102] Subsequent COP decisions established the Lima Work Programme on Gender and enhanced the way in which gender issues are addressed under the UNFCCC process. The Gender Action Plan approved at COP 23 in Bonn set UNFCCC-wide priority targets to be achieved by 2020, notably with regard to the use of gender responsive finance as a core tool for implementation. At COP 25 in Madrid, Parties adopted the enhanced Lima Work Programme on Gender and Gender Action Plan, to run for five years. [103] It not only aims for gender-appropriate governance in the UNFCCC itself, but also the integration of a gender-responsive approach to implementing the Paris Agreement and in monitoring and reporting on results. This acknowledges the continuing need for gender mainstreaming through all relevant targets and goals in activities under the Convention as an important contribution to increasing their effectiveness, fairness and sustainability.

313. Research suggests that climate investments that have applied a gender lens have greater efficiency, effectiveness and impact (Espinoza, 2021; Attridge, 2021; Cook et al., 2019).[104,105] This echoes evidence that suggests that gender-responsive public finance is both more effective and efficient (World Bank, 2012b; Habtezion, 2016). Gender-responsive public finance, for example, is able to take into account the gender dynamics of food production, procurement and distribution, for example, or the different needs of men and women as users of mass urban transport in terms of affordability, trip length, frequency and security (CIF, 2014). Gender-responsiveness also has a human rights and climate justice dimension: including through the socio-economic empowerment and equal participation of vulnerable groups (such as in education, capacity-building and land rights).

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102) Decision 1/CP.16, paragraph 7. Parties additionally confirmed the need for gender balance in the composition of UNFCCC bodies dealing with climate finance in Durban and reiterated this in Doha (decision 23/CP.18) and Lima (decision 18/CP.20).

103) Decision 3/CP.25.

104) Espinoza, J. 2021. The catalytic potential of gender-lens investing. In Attridge, S. (ed.). 2021. The catalytic effects of DFI investment: gender equality, climate action, and the harmonisation of impact standards: an essay series. London: ODI. Available at https://cdn.odi.org/media/documents/ODI_EDFI_essay_series_final.pdf.

105) Cook, N.J., Grillos, T. & Andersson, K.P. Gender quotas increase the equality and effectiveness of climate policy interventions. Nat. Clim. Chang. 9, 330–334 (2019). https://doi.org/10.1038/s41558-019-0438-4.

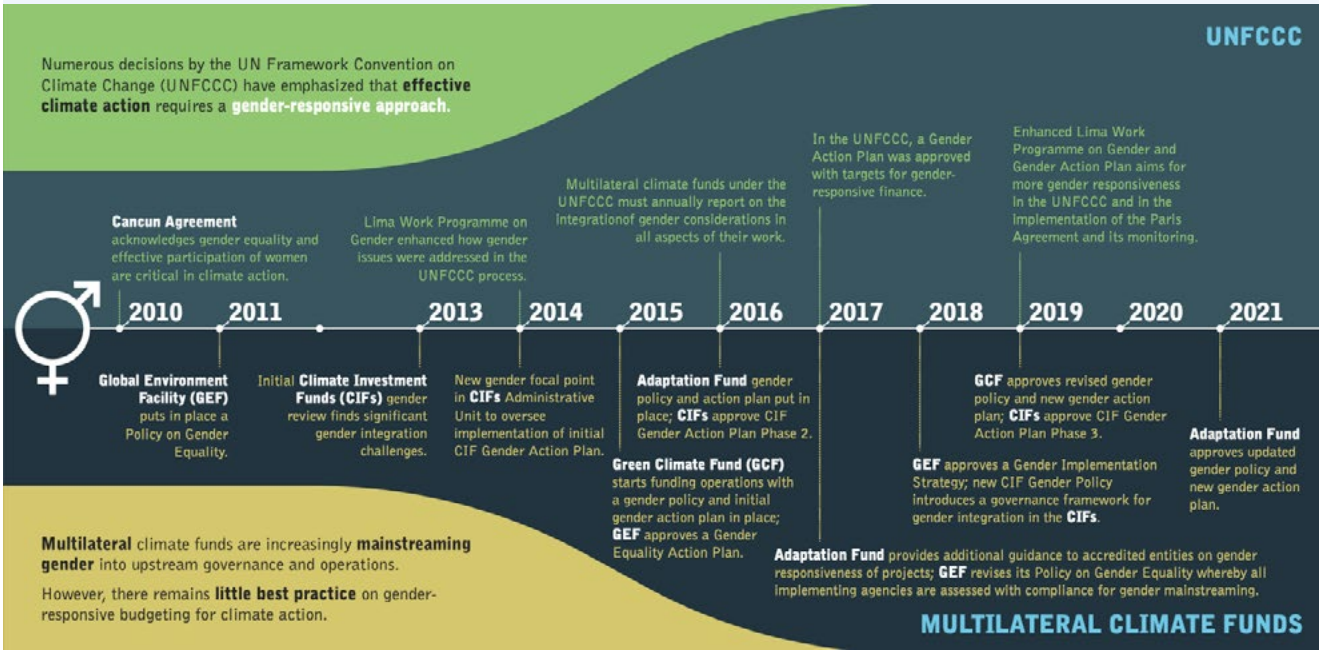
314. Previous Biennial Assessments have outlined the progress in the mainstreaming of gender considerations in the governance and operations of multilateral climate change funds (see figure 3.10). Particularly those of the UNFCCC (AF GCF GEF) and the CIFs. While many funds started out gender-blind, the quality of entry – gender considerations in project approval and design – has improved. The multilateral climate change funds have also influenced how DFIs address gender in climate finance. The EBRD, for example, has integrated gender into the entire spectrum of climate investments inspired by the gender policy of the GCF, while the CIF has been a useful climate–gender framework for ADB's investments (ADB, 2016). In the MDBs, only the World Bank make available both climate and gender tagging in their project database to readily assess gender-related climate finance.

315. In contrast, the quality of outcomes – the monitoring of gender related outcomes and the capacity of implementing entities – has lagged behind progress made in governance and operations. Methodologies to track outcomes beyond gender-disaggregated number of beneficiaries are at early stages of development and so detailed monitoring, reporting and verification, or frameworks on gender-related outcomes remain lacking (see also section 1.4) (Schalatek, 2020). This is particularly true at the aggregate portfolio level: annual Performance results, scorecards, or reports to the UNFCCC/COP often track the inclusion of gender consideration into project design and intended beneficiaries, but rarely quantitative and qualitative results on gender outcomes (other than beneficiaries disaggregated by gender on portfolio level: only GEF reports this in Scorecard (Schalatek, 2020).[106]

316. In other institutions, very little data is available on the gender-responsiveness of climate finance. Some bilateral contributors have worked to integrate gender considerations: the Rio Markers of the OECD DAC allows for project tagging of activities that target gender equality as a policy objective. As with the climate marker, projects can be marked as significant or principal, and if they are they are considered gender equality focussed aid by the DAC (a do no harm approach is needed, even for projects that do not target gender equality). Similar to the climate marker, it is not an exact quantification nor is it a tracking tool.[107] Over time, gender tagged climate finance has risen. This has particularly been the case for grant finance (rather than for debt instruments) though data is unable to identify if there is more assessment of gender equality in project design, or delivered improvements in gender equality in project implementation (Carty et al., 2020)[108]

Figure 3.10

Gender policy development in major multilateral climate change funds



Source: Schalatek, 2021.

106) https://climatefundsupdate.org/wp-content/uploads/2022/03/CFF10-Gender-and-CF_ENG-2021.pdf.

107) https://www.oecd.org/dac/gender-development/Handbook-OECD-DAC-Gender-Equality-Policy-Marker.pdf.

108) Carty, et al., 2020. Climate Finance Shadow Report 2020: Assessing progress towards the $100 billion commitment. https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621066/bp-climatefinance-shadow-report-2020-201020-en.pdf.

317. The 2021 SCF report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement, identified that gender considerations were a blind spot in the articulation of developing country needs. Less than 10 per cent of needed activities referred to gender or specific communities and where these topics were included in national reports, information tended to relate to commitments, policies and/or strategies. A strong intersectionality exists between gender and other socio-economic factors – including race, age and class – that could also be further conceptualised and featured in order to target climate finance towards gender-responsive outcomes (e.g. in small-holder agriculture, distributed/off-grid energy systems) rather than to progress only a mainstreaming approach.

318. COP26 saw the launch of the 2XC toolkit that provides a guiding framework, including metrics, for actors in the private and public financial sector to support gender-responsive climate investments. USD 139 million was also pledged by multilateral, national and non-governmental stakeholders towards the UN Women-convened Action Coalition on Feminist Action for Climate Justice, launched in July 2021. The Coalition aims not only to build the resilience of women and girls and increase the collection and use of data, but also to increase direct access to financing for gender-just climate solutions, particularly at grassroots level.[109]

The role of international public climate finance from developed to developing countries towards a just transition to a pathway towards low greenhouse gas emission and climate resilient development

319. In its preamble, Parties to the 2015 Paris Agreement are "Taking into account the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities" (UNFCCC, 2015). In 2018, at COP24, the Silesia Declaration cemented a link between a just transition and the achievement of the SDGs; reaffirming the need for equitable access to sustainable development and the eradication of poverty.[110]

320. While there is no universal definition of a just transition, not least because it will be place specific, it was conceptualised as decent work for all, social inclusion and the eradication of poverty (ILO, 2015).[111] At COP26 the Declaration on Just Transition recognised that all countries must benefit from the opportunities offered by sustainable and just transitions including through access to modern technologies, capacity building and finance, as well as via policy solutions. The declaration supports principles of: worker support; social dialogue and stakeholder engagement; economic strategy development; local, inclusive and decent work; supply chains and reporting.[112] While the concept of just transition has gained prominence in the low-emission energy transition, increasing recognition is given to just transition in adaptation and for climate resilience (Omokuiti, 2021; Bishop et al., 2021).[113]

321. As of mid-2022, none of the dedicated multilateral climate change funds under the UNFCCC have a dedicated just transition strategy. The Climate Investment Funds of the World Bank, have launched an Accelerating Coal Transition (ACT) Investment programme to advance a just transition from coal to clean power in four pilot countries,[114] while the MDBs have committed to work towards financing and policy strategies to support a just transition (AfDB et al., 2019; CIF, 2021).[115] Corporate actors from the private sector have also presented their building blocks for driving forward a just transition (Council for Inclusive Capitalism, 2021).[116] Overall, strong policy foundations, innovative finance solutions and ultimately tailored financial instruments and mechanisms will be needed to implement a just transition[117] and the role of international climate finance can be further explored to this end.

109) See: https://forum.generationequality.org/sites/default/files/2021-10/Feminist%20Action%20for%20Climate%20Justice%20Action%20Coalition%20-%20Commitment%20Makers.pdf.

110) *Solidarity and Just Transition Silesia Declaration*. 2018. Available at https://www.ioe-emp.org/index.php?eID=dumpFile&t=f&f=134978&token=91237abd5b4e38c1e7c2e4364b2b8e7095d8e0fd.

111) ILO. 2015. Guidelines for a just transition towards environmentally sustainable economies and societies for all. Available at https://www.ilo.org/wcmsp5/groups/public/@ed_emp/@emp_ent/documents/publication/wcms_432859.pdf.

112) https://ukcop26.org/supporting-the-conditions-for-a-just-transition-internationally/.

113) Omokuti, J. 2021. *The Green Climate Fund is not doing enough to facilitate just transitions in the Global South. Just Transition Research Collaborative.* Available at https://medium.com/just-transitions/the-green-climate-fund-is-not-doing-enough-to-support-just-transitions-in-the-global-south-43a088e48926; Bishop et. al. 2021. Just Transitions in Small Island Developing States (SIDS). The British Academy. Available at https://council.science/wp-content/uploads/2020/06/BA1083_Just_Transitions_in_SIDS_-_V3.pdf.

114) https://www.climateinvestmentfunds.org/news/cif-begins-historic-25b-coal-transition-pilot-four-developing-countries.

115) https://www.adb.org/sites/default/files/page/41117/climate-change-finance-joint-mdb-statement-2019-09-23.pdf.

116) https://www.inclusivecapitalism.com/just-energy-transition-company-framework/.

117) LSE. 2021. Lessons from COP26 for financing the just transition. Policy Brief. Available at https://www.greengrowthknowledge.org/sites/default/files/downloads/resource//Grantham%20Research%20Institute%20on%20Climate%20Change%20and%20the%20Environment%20%28LSE%29_Lessons-from-COP26-for-financing-the-just-transition.pdf.

322. Environmental and social safeguard provisions such as fundamental rights at work, equality of opportunities, respect and the achievement of basic human rights in/through economic activities are particularly relevant to put in place to ensure a just transition (CIF, 2021).[118] To date, only EBRD has announced a results framework that considers, for example, policy dialogues, retirement of high-carbon assets, training, employment and regional economic development (EBRD, 2020).[119] The COP 26 Declaration on Just Transition, however, has committed countries to report on just transition in the context of policies and measures to achieve the NDCs in their BTRs from 2024 onwards – though the elements they will be reporting on remain to be agreed – and the World Benchmarking Alliance is piloting Just Transition Assessments of corporate performance, suggesting more reporting will emerge in this space.[120]

3.3.4. Consideration of the drivers of climate finance flows

323. The drivers of climate finance flows can consist of both demand- and supply-side actions but may differ in terms of mitigation or adaptation objectives.

324. Globally, across mitigation solutions, policy targets and support mechanisms have played a major role in driving climate finance flows. For renewable energy, 165 countries have national targets for power generation from renewables (REN21, 2021).[121] Many of these countries enacted fixed long-term prices in the early 2010s to enable the financing of projects that acted as a key demand-side driver, which was complemented by a considerable growth of corporate power purchase agreements by 128 per cent between 2018 and 2021 (BNEF, 2022).[122] As falling technology costs have driven finance flows on the supply side in recent years (as noted in section 2.2), such demand-side incentives are complemented by market-based auctions. In 2020, a record 53 GW of renewable energy capacity was auctioned globally (IEA, 2021).[123]

325. A number of other mitigation sectors remain reliant on policy drivers to scale up finance flows. For example, in the transport sector purchasing incentives for electric vehicles are providing support to the demand side in the short-term, and bans on the sale of new internal combustion engines shift demand in the long term (REN21, 2021). For agriculture and forestry, the absence of strong climate policies globally, has been identified as a limitation to a significant scale-up of commercial funding to the sector (Clark et al., 2018). This also considers that land-based mitigation has long investment horizons, strong dependency on the monetisation of mitigation effects, and requires strong public sector involvement.

326. For adaptation, a lack of data on finance flows (see section 2.2) as well as a relative lack of solutions that generate cash flow, limits the role of private finance as well as the understanding of existing drivers of climate finance flows (GCA, 2019). 'Hard' types of adaptation interventions – that establish physical or technological solutions to climatic impacts – are often focussed on instead of 'soft' adaptation measures which often lack profitable business models: in part due to the under-pricing of environmental externalities in the global economic and financial system (UNEP 2021; IMF 2019).[124][125] With many adaptation decisions focused on local, context-specific conditions, many existing finance flows are driven through domestic public expenditure policies and priorities, such as earmarking tax revenues to be spent on adaptation, reallocating subsidies or raising finance through green bonds (GCA, 2019, NAP Global Network, 2016). Adaptive capacities and resilience of countries and populations to climate change are also a function of wider socio-economic development (climate change vulnerabilities are multidimensional processes, linked to poverty, structural inequalities along gender, class and ethnic lines, as well as access to basic public services and financial inclusion) (Hallegatte et al., 2018; Thomas et al., 2019). In this regard, the role of national plans, standards and institutions taking active roles can have more importance in driving adaptation finance flows than may be the case in mitigation finance.

118) Climate Investment Funds. 2021. Discussion Paper: Supporting the Just Transition to a Low Carbon and Climate Resilient Future. Joint CTF-SCF/TFC.24/8. Available at https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/joint_ctf-scf_tfc.24_8_discussion_paper_supporting_just_transition.pdf.

119) EBRD. 2020. The EBRD Just Transition Initiative. P.43. Available at https://www.ebrd.com/what-we-do/just-transition-initiative.

120) https://www.worldbenchmarkingalliance.org/research/2021-just-transition-assessment/.

121) Ren21. 2021. Renewables Global Status Report. Available at https://www.ren21.net/wp-content/uploads/2019/05/GSR2021_Key_Messages.pdf.

122) BNEF. 2022. 1H 2022 Corporate Energy Market Outlook. Summary available at https://about.bnef.com/blog/corporate-clean-energy-buying-tops-30gw-mark-in-record-year/.

123) IEA. 2021. Renewable electricity auction results by technology, 2018–2020. IEA, Paris. Available at https://www.iea.org/data-and-statistics/charts/renewable-electricity-auction-results-by-technology-2018-2020.

124) United Nations Environment Programme (2021). Adaptation Gap Report 2021: The gathering storm – Adapting to climate change in a post-pandemic world. Nairobi.

125) IMF. 2019. The Economics of Climate. Finance and Development (F&D) December 2019. Available at https://www.imf.org/external/pubs/ft/fandd/2019/12/pdf/fd1219.pdf.

327. Several emerging financial instruments and mechanisms have been identified that help direct private finance flows towards climate change adaptation (IPCC WGII, 2022). These are the issuance of adaptation-specific green, social impact and resilience bonds, dedicated investment vehicles such as equity funds to invest in resilience-enhancing and risk reducing business models, balance sheet financing, and a variety of insurance products (as noted in section 3.2.1). A shift towards the pricing of climate risks and their inclusion in financial decision-making could also work to limit mal-adaptive finance flows. Regulatory advances to facilitate this are increasingly becoming visible (see also section 3.4).

328. In the specific context of driving international flows of climate finance to developing countries, a key supply-side driver includes multi-annual commitments and budgetary agreements on allocating climate finance budgets over several years. This serves to ringfence certain annual allocations to climate funds and budgets, such as in the United Kingdom and Belgium, or integrate climate considerations into aid management guidelines, such as in Denmark, or establish mandatory spending lines in annual budgets legislation, such as in the United States.[126] In addition, target setting on climate finance commitments by development finance institutions and MDBs has driven a significant upscale in climate finance flows. Since setting 2020 climate finance targets during COP 21 in 2015, MDBs have increased climate finance flows to developing and emerging economies by 163 per cent by 2020 (USD 25.1 billion to USD 66 billion) (AfDB et al., 2021).

329. Emerging factors in access to climate finance are heightened security and safety concerns such as in fragile and conflict-affected contexts. These often result in increased project implementation costs or lesser availability of local implementing partners, human capital and capacity flight, it is also more difficult to ensure national ownership (UNDP, 2021; Mason et al., 2015; Sitati et al., 2021).[127] In a study of AF, GCF, GEF and CIFs climate-related financing over the time frame of 2014–2021, the UNDP reports that non fragile states received a significantly higher per capita climate finance share of USD 161.7 compared to USD 8.8 (including the SIDS) (UNDP, 2021).[128] With a regional focus on Africa, another study finds that non-fragile or conflict affected LDCs receive higher climate finance allocations per capita of USD 18 compared to 2–13 USD for fragile and conflict affected LDCs in the region (Cao et al., 2021).[129]

330. While private sector climate finance thrives on sector-specific support mechanisms identified above, cross-cutting features of enabling environments including country-level good governance and institutional capacities have also proven to be significant drivers. These have been identified, amongst others, as currency stability of exchange rates, absence of conflict, stability of policies and enforcement of contracts, particularly in driving finance toward sustainable land use, and maintenance of political will and support as key enablers (CFLI, 2021). Literature on FDI and emerging markets investments, supports a link between financial flows and conducive in-country business environments that are marked in addition to the above by infrastructure and connectivity links, trade openness and advanced capital markets and human capital (WBG, 2015; Kumari and Sharma, 2017).[130] These findings point to the potential impact that institutional and governance reform can have for increasing the volume of private sources of climate finance.

3.4. Climate finance in context

331. Given the scale and speed needed for the transformation to low-emission, climate-resilient development pathways, it is critical to consider climate finance flows within the context of broader finance flows. A sole focus on positive climate finance flows will be insufficient to meet the overarching objectives of the Paris Agreement. Although such flows must be scaled up, it is also important to consider the role of broader financial flows and capital stocks in meeting the long-term goals of the Paris Agreement. This does not mean that finance flows must all have explicit beneficial climate outcomes, but it does mean that they must integrate climate risks into decision-making and avoid increasing the likelihood of negative climate outcomes.

126) See respective 4th Biennial Reports for UK, Belgium and Denmark examples, available at https://unfccc.int/BRs and Thwaites, 2020 for US.

127) Mason, S. et al. (2015). Accessing and Using Climate Data and Information in Fragile, Data-Poor States. Canada: IISD, p. 27. https://www.iisd.org/system/files/publications/accessing-climate-data-information-fragile-data-poor-states.pdf. Also see: Sitati, A.et al. (2021).Climate change adaptation in conflict affected countries: A systematic assessment of evidence. Discov Sustain 2,42. Available at https://doi.org/10.1007/s43621-021-00052-9.

128) UNDP. 2021. Climate for Finance Sustaining Peace. Making Climate Finance work for conflict-affected and fragile contexts. Available at https://www.undp.org/publications/climate-finance-sustaining-peace-making-climate-finance-work-conflict-affected-and. The study applies the "fragile states" country classification from the OECD's 2020 'States of fragility' report (OECD, 2020).

129) Yue Cao, Tilly Alcayna, Adriana Quevedo and Jim Jarvie. 2021. EXPLORING THE CONFLICT BLIND SPOTS IN CLIMATE ADAPTATION FINANCE Synthesis report. SPARC. September 2021. Available at https://www.sparc-knowledge.org/sites/default/files/documents/resources/exploring-the-conflict-blind-spots-in-climate-adaptation-finance.pdf.

130) WBG. 2015. Capital market instruments to mobilize institutional investors to infrastructure and SME financing in emerging market economies : report for the G20 (English). Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/192061468179954327/Capital-market-instruments-to-mobilize-institutional-investors-to-infrastructure-and-SME-financing-in-emerging-market-economies-report-for-the-G20.

332. While the first portion of this chapter has been focussed on international finance flows from developed to developing countries, this section focuses on global climate finance flows more broadly, including flows from developed to developing countries, and places these in the context of total finance flows, finance flows to potentially climate mis-aligned actions, needs, and risks. It is acknowledged that embedding considerations of climate change in finance flows more broadly is a process that will take time despite the accelerated pace required to meet the Paris Agreement objectives. In particular, there is a clear need to ensure that efforts to shift finance flows towards low GHG emission and climate-resilient development pathways are mindful of the broader socioeconomic impacts of such shifts.

3.4.1. Climate finance in the context of global finance flows, opportunities and costs

333. Chapter 2 of this fifth BA estimates 12 per cent growth in global climate finance flows in 2019–2020 to USD 802 billion per year. Although climate finance flows are increasing, they remain relatively small when viewed in context of other finance flows, investment opportunities and costs (see figure 3.11).

334. Global total energy investment – against a backdrop of a global energy crisis – was estimated at USD 2.2 trillion in 2021: an increase on USD 1.9 trillion in 2020 and expected to reach USD 2.4 trillion in 2022. Of this total, global clean energy investment has seen recent growth and is predicted to reach USD 1.4 trillion in 2022 yet fossil fuel investment remains high (IEA, 2022).[131] In the 2019–2020 period, fossil fuel investments (without carbon capture and utilisation or storage) in the power sector amounted to USD 892 billion annually on average, while an additional USD 353 billion investments were undertaken in the oil and gas upstream sector (IEA, 2022).

335. Estimated total climate finance flows also remain well below the estimated needs of low-emission, climate resilient development transitions. Annual global energy sector investments to reach net zero until 2050 are estimated at USD 4.5 trillion per year (IEA, 2021). Global climate finance in 2019–20 amounted to 31–32 per cent of the annual investment needs between 2021 and 2025 to maintain a well below 2 degree pathway according to the IEA Sustainable Development Scenario (USD 2 471 billion) or a 1.5 degree pathway according to the GFANZ Net Zero Financing Roadmap (USD 2 600 billion).[132] In order to reach emission reduction targets until 2030, the IPCC AR6 WGIII estimates annual investment needs by sector reaching USD 0.7–1.6 trillion for energy, USD 0.6–1.8 trillion in energy efficiency, USD 1.0–1.2 trillion in transport, USD 0.75–1.7 trillion on electrification and USD 0.1–0.3 trillion in the agriculture, forestry and other land use (AFOLU) sector. According to the IPCC AR6 WGII, adaptation investment needs for developing countries alone are estimated at a median of USD 127 billion per year up to 2030 and USD 295 billion per year out to 2050 (IPCC, 2022).

336. Ongoing failure to meet global climate stabilisation targets will also lead to higher costs of the adverse effects of climate change. While not all weather-related events (or climate-related hazards) can be attributed to climate change, climate change increases the risks that these costs will spike sharply and continue to rise in the future. In 2021, insurance claims from weather-related events reached USD 119 billion of a total of USD 280 billion in economic losses. This was an increase from USD 99 billion in insurance claims from weather-related events in 2020 (Swiss RE, 2021). Considering variation in the geographic distribution of insurance penetration, it is difficult to compare the extent to which developing and industrialised countries were able to rely on insurance to recoup losses, while data availability challenges suggest that additional economic losses are going unreported. Losses to cultural heritage and to biodiversity integrity as a result of a changing climate are also going unreported (Colenbrander et al., 2022).[133]

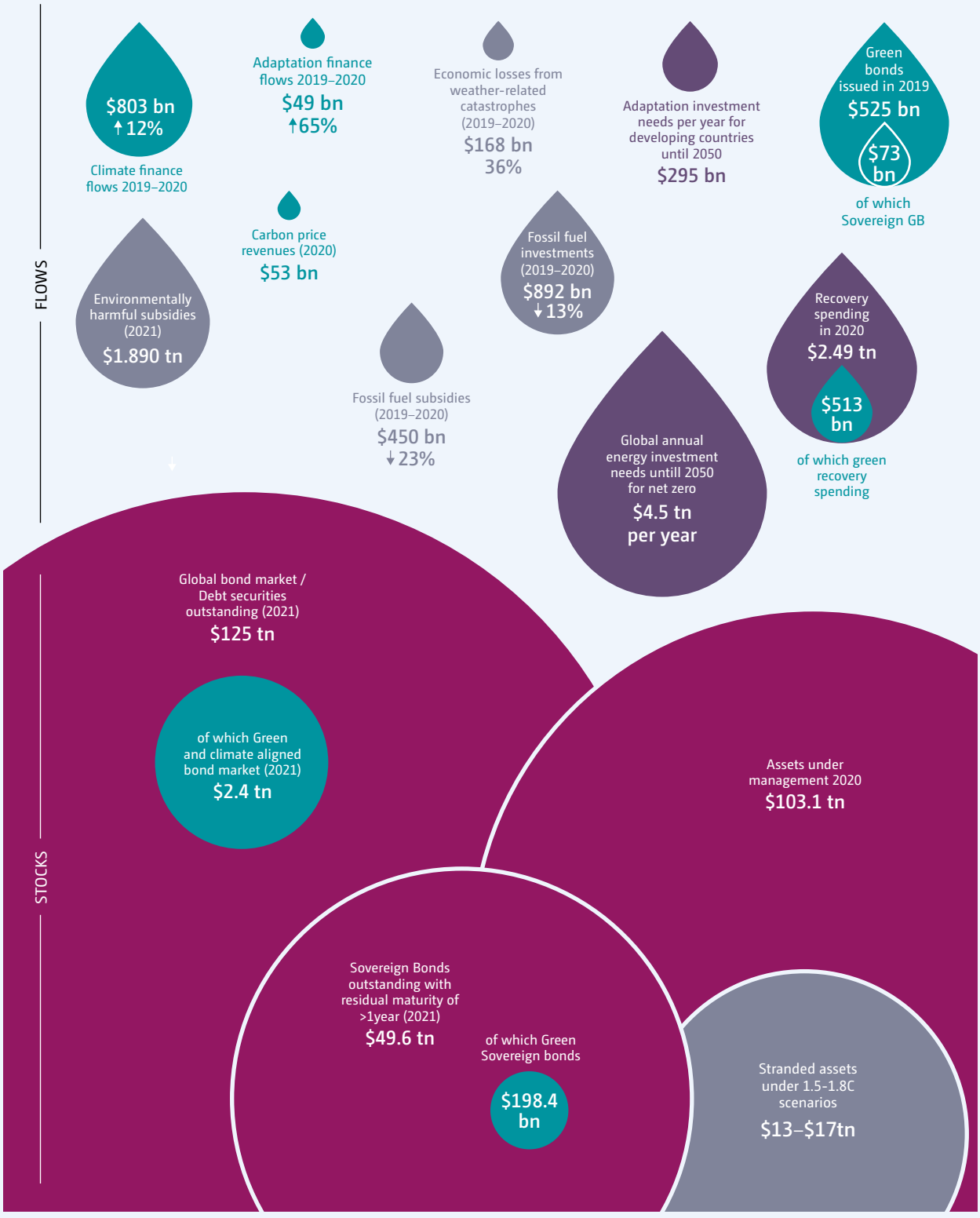
3.4.2. Climate finance in the context of domestic finance

337. The COVID-19 pandemic has and continues to demand high levels of domestic public expenditure and many developing countries are now facing twin challenges of increasing public spending needs for response measures and heightened debt distress (see box 3.3). A study of 17 developing countries with sufficient data availability on domestic public climate finance found notable reductions in public climate and environmental spending as countries were forced to reallocate resources to cover pandemic

131) https://iea.blob.core.windows.net/assets/b0beda65-8a1d-46ae-87a2-f95947ec2714/WorldEnergyInvestment2022.pdf.
132) Available at https://www.iea.org/data-and-statistics/data-tools/investment-data-explorer and https://www.gfanzero.com/netzerofinancing.
133) Colenbrander et al. (2022). *Non-economic losses and damages: cultural heritage, ODI forthcoming.*

Figure 3.11

Global climate finance in context: broader flows, opportunities and costs



Note: (1) Data points are provided to place climate finance in context and do not represent an aggregate or systematic view; (2) All flows are global and annual averages for 2019–2020 unless otherwise stated; (3) The representation of stocks that overlap is not necessarily reflective of real-world overlaps. The flows are not representative of all flows contributing to the stocks; (4) Climate finance flows are those represented in section B of the summary and recommendations and chapter 2 of the fifth BA technical report. (5) For data sources, see chapter 3 of the fifth BA technical report.

related expenditures (Alayza and Caldwell, 2021). The demanding global macro-economic and fiscal environment often compounds existing political economy challenges to finance a climate transition (IPCC AR6 WGIII). These political transition risks include the public perception of spending priorities, often bringing into sharper focus the job creation and growth potential of climate-related expenditures, while the consequences of deferred climate-change investment in debt sustainability considerations are increasingly being considered (IPCC AR6 WGIII, Chapter 15).

338. Fiscal policy – referring to levers that raise public revenues and direct public resources such as through budget expenditure – has been utilised to counteract and combat the economic impacts of COVID-19. The fiscal policy decisions made in the context of COVID-19 recovery strongly influence private investment decisions and consumer behaviours. They will, therefore, have an impact on the carbon intensity and climate resilience of future economies and many have called for 'green' recovery to be central in fiscal stimulus packages (e.g. Hepburn et al., 2020; UNEP, 2020; and IMF, 2020).

339. A large share of stimulus expenditure is not directed toward a green recovery, however. Up to the end of 2021, total global expenditures in response to the pandemic by 50 high income and emerging and developing economies is estimated to have reached USD 18.2 trillion (O'Callaghan et al., 2021). Of the total, recovery spending, as opposed to rescue spending, accounted for USD 3.11 trillion of which 31 per cent or USD 970 billion were assessed to constitute "green" recovery spending.[134]

340. Government subsidies have long been a focus of discussions of fiscal policy for climate action. Set at the national level, and existing at both the national and subnational level, subsidies often have multiple objectives, including the protection of poor and vulnerable households, ensuring energy access. But it remains important to understand how fiscal policy interacts with national climate objectives and to reorganise public subsidies that facilitate higher GHG emissions, such as fossil fuel subsidies and some land-use subsidies, as well as seek to explore how fiscal policy can increase resilience to climate change impacts

341. The Glasgow Climate Pact calls on Parties to phase-out inefficient fossil fuel subsidies. This echoes a G20 commitment to phase out inefficient fossil fuel subsidies made in 2009 and G7 encouragement to phase out inefficient fossil fuel subsidies by 2025. Budgetary transfers and tax concessions for fossil fuel production and consumption remain high, however. The Fossil Fuel Subsidy Tracker (IIED, 2022) estimated an average of USD 450 billion on average annually over the 2019–2020 period, a decrease of 23 per cent from 2017–2018. The IEA (2021) estimated fossil fuel consumption subsidies at USD 440 billion in 2021: noting a bounce back from falls in fossil fuel prices and energy use in 2019. Oil has remained the most subsidised fuel.[135] Less is known about relevant off-budget government fossil fuel spending, such as through public enterprises (e.g. state-owned enterprises) and credit provided or guaranteed through government (Genscu et al., 2019).

342. The 2015 SCF Forum highlighted the relative scale of subsidies, taxes and fiscal incentives in forestry and agricultural production that generate the underlying incentives that drive land-use activities.[136] These fiscal policies are largely aimed at guaranteeing minimum income for producers or affordability of food. Data remains limited on the effect that agricultural and land-use subsidies exert on GHG emissions (or climate change vulnerability). It is recognised, however, that agricultural support – estimated at over USD 600 million a year – can be reformed to better climate-align land-use and agricultural practice incentives in both rich and poor countries (Mamun et al., 2019; Galt et al., 2021;[137] Watson, 2021[138]).[139]

343. Reform of fiscal policy, particularly for fossil fuel subsides, has the potential to free up fiscal space and reduce the burden on public budget. In light of fluctuating fossil fuel prices, this can stabilise government revenues and liberate public resources, regardless of climate change objectives. Though it must also be acknowledged that adjustment to fiscal support shifts traditional business and production models and support should be offered to those affected by climate policies so that the transition to low-emission, climate-resilient pathways are just.

134) Greenness is assessed based on impact on long- and short-term GHG emissions, air pollution, natural capital, quality of life, inequality and rural livelihood.

135) https://www.iea.org/topics/energy-subsidies.

136) See the background paper prepared for the 2015 SCF forum, which is available at https://unfccc.int/sites/default/files/background_paper_prepared_for_the_2015_scf_forum.pdf.

137) https://s3.amazonaws.com/feldactiontracker.org/green-finance/Shifting+Finance+Main+Report+Low+Res.pdf.

138) https://s3.amazonaws.com/feldactiontracker.org/green-finance/Shifting+Finance+Reporting+Framework+Low+Res.pdf.

139) A review of (NDCs of 40 developing countries which submitted a 5 NDC to the UNFCCC Interim NDC Registry by April 2017, and include within their NDC efforts to REDD+ via support from the UN-REDD Programme and/or World Bank Forest Carbon Partnership Facility) indicates that none of the countries reviewed mention fiscal policy reform of existing finance flows to agricultural commodity production or other publicly supported programmes that affect the direct and underlying drivers of land use conversion (Kissinger et al., 2019).

344. Fiscal policy to incentivise low-emission development pathways can also raise government revenues, such as through carbon pricing, via carbon taxes or emissions trading. Carbon pricing schemes are growing with jurisdictions increasing the coverage of emissions and reach within sectors. The World Bank (2022), reported 68 carbon pricing initiatives implemented covering 45 national jurisdictions and 34 subnational jurisdictions (32 emissions trading schemes and 36 carbon tax schemes), covering 23 per cent of global GHG emissions as of April 2022 (an increase of about 10 per cent of global GHG emissions in 2020, but similar to the 2021 level). Notable developments since 2020 are the initiation of China's emissions trading system, constituting the largest carbon market in the world, initially covering around 30 per cent of its national GHG emissions, as well as the launch of additional national carbon markets in the UK and Germany. The EU is further expected to expand the sectoral reach of its current ETS system in the coming years and globally, governments have started to consider carbon border adjustments that have the potential to spur climate action through price signals on widely traded goods.

345. In 2021, carbon pricing instruments generated USD 84 billion in revenue globally. This is an increase of around 60 per cent compared to 2020. While allowance prices have increased substantially in some jurisdictions, carbon prices remain low on a global level and the reach of carbon pricing coverage is highly variable across jurisdictions. Current carbon pricing trajectories continue to fall short of the levels needed to reach the temperature targets of the Paris Agreement (World Bank, 2022b; I4CE, 2021).

346. Fiscal policy can also support adaptation actions, given its long history in steering behaviours towards policy objectives. Fiscal policy can subsidise adaptation actions, including adoption of resilient technologies or tax exemptions, and, it can facilitate and deliver adaptation through direct spending, such as research and advisory services or green infrastructure. While both pathways work to increase adaptation action both have different mechanisms through which it can affect finance flows. As noted, it is not always well understood if the existing fiscal incentives in the agriculture sector are building resilience to the impacts of climate change or increasing potential exposure to them. The situation is similar in the water and sanitation sector, as well as in infrastructure. As such the application of fiscal policy to encourage adaptation action will rely on clear and detailed policy objectives and targets for adaptation, which is a context specific and cross-cutting challenge (Watson, 2021;[140] Trujillo, Hong and Whitley, 2015; Norman et al., 2016).

347. Fiscal policy can also build fiscal resilience by integrating climate risks into planning and budgeting cycles. In particular, government finances and a country's debt sustainability are exposed to fiscal risks from climate- related weather events (Volz et al., 2020). For example, spending on severe climate-related event relief and recovery or bailouts for public or private corporations – including State-owned enterprises – and financial institutions as a result of these events, can be considered contingent liabilities. In addition, changes in economic activity following a severe climate-related event can affect revenue raising and require social protection related payments to be made by government. Fiscal tools available to increase post-disaster liquidity and reduce debt default include contingency and reserve funds, ex- ante contingent credit and ex-post borrowing; and risk transfer and pooling, such as multi-country sovereign disaster insurance (see section 3.2.1), insurance of public assets and catastrophe bonds (Pigato, 2019; Watson et al, 2020).

348. Fiscal policy can also capture public procurement. This includes, for example, construction, vehicles and transport. Public procurement is estimated to amount to USD 11 trillion per year and to represent 12 per cent of GDP globally (Bosio and Djankov, 2020). Individually, these public contracts are estimated to contribute between 8 to 30 per cent of countries' GDP and through their purchasing power, government bodies and the public sector can encourage the production and consumption of sustainable goods and services (Yaker, 2019). The European Commission defines green public procurement as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life-cycle when compared to goods, services and works with the same primary function that would otherwise be procured". The concept of green public procurement is legally sanctioned through the Government Procurement Agreement of the WTO and also features as one of the commitments within the Coalition of Finance Ministers for Climate Action, comprising 62-member countries.

140) https://www.icr-facility.eu/fileadmin/files/downloads/icreports/fiscal_and_financial_policy-en.pdf.

349. Green public procurement sits more broadly within efforts towards sustainable public procurement. Countries are only taking their first steps towards green public procurement, including through piloting approaches that introduce basic environmental criteria or priorities, such as for energy efficiency, in order to strengthen the business case for green products and progressively build up comprehensive legal and operational frameworks for green public procurement (World Bank, 2022). The required integration of green and environmental criteria into public decision-making systems can and is being facilitated, however, by the increasing availability of tools and labels that reduce administrative burden. These are amongst others i) ecolabelling schemes ii) standardised environmental criteria for product and service groups and life-cycle costing (LCC) tools to evaluate key environmental impact categories (World Bank, 2022b).[141]

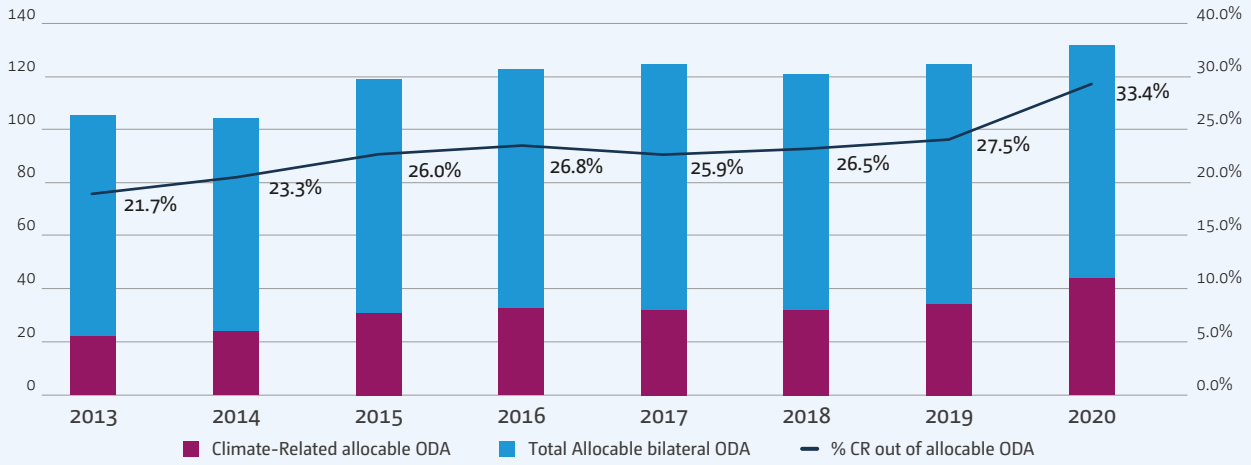
350. The issuance of sovereign and sub-sovereign green bonds is a way to raise funds for environmentally sustainable public investments. State actors can make large-scale issuances where their creditworthiness is good, raising capital for new investments. Corporate and financial issuers continue to dominate the growth in the green bond market, but sovereign green bonds are increasing, in 2021 USD 72.8 billion in new green bond issuances by sovereigns was recorded, an increase of more than 75 per cent on 2020 (CBI, 2022; Fatin, 2021). The total market size of sovereign green bonds is USD 161 billion and while there are 21 countries with green bonds, only six are non-annex I Parties (CBI, 2022).

3.4.3. Climate finance flows to developing countries in the context of overall development finance

351. The Covid-19 pandemic has led to significant disruption to human lives, national health and fiscal systems across the globe. It has had a particular impact on the most vulnerable societies and groups of the population. Deteriorating fiscal positions of major donor countries were expected to result in a reduction of official development assistance (ODA), including climate finance, especially due to its linkage to gross national income (GNI). Such a reduction has not materialised in the short term: total ODA increased by 3.5 per cent in 2020 compared to 2019, with a further increase of 4.4 per cent in real terms in 2021, although some countries have announced cuts to their foreign assistance budgets: The UK revised its ODA target to 0.5 per cent of GDP albeit with a ringfenced approach to maintain climate finance commitments for the period of 2021–2025 (Loft, 2021). Transfers to provide Covid-19 vaccinations amounted to 3.5 per cent of total ODA, and real term

Figure 3.12

Development Assistance Committee members' total committed bilateral official development assistance and the share that was climate marked



141) "World Bank. 2021. Green Public Procurement : An Overview of Green Reforms in Country Procurement Systems. Climate Governance Papers;. World Bank, Washington, DC. Available at https://openknowledge.worldbank.org/handle/10986/36508.

ODA excluding vaccine expenditures was up 0.6 per cent from 2020. Countries have, however, refocused ODA budgets to finance the global response to the pandemic. Developmental themes addressing human wellbeing and global public goods, in particular spending on health, humanitarian aid and food security received increased attention (OECD, 2022; Brown, 2021). The observed refocus of developmental budgets towards financing global public goods in the wake of the pandemic is seen by some to provide an overarching rationale to step up finance for climate action (Brown, 2021; OECD, 2020).

352. Finance remains a critical point of intersection between international frameworks seeking sustainable economic growth and development. In this context, development finance flows must be cognisant of climate objectives which has led to a mainstreaming of climate change in aid. Climate-related development assistance rose to 33 per cent of bilateral allocable ODA in 2020.

Box 3.5

MDB 2020 and post-2020 climate finance targets

Development finance institutions have been identified as essential in help developing countries to deliver on their NDCs. This applies to not just the MDBs, but also a range of national and regional DFIs (including the twenty-six national and regional DFIs represented by the IDFC). As of 2021, all but one of the MDBs have set post-2020 climate finance targets, on top of climate and key sector strategies.[142]

While adaptation finance shares continue to increase, most MDBs, have partially met their internally set climate finance targets for 2020, also due to the special pandemic context that has led to an increase in total commitments in areas of emergency, health and social protection spending. Based on the MDB joint report for climate finance commitments in 2020,

- ADB approved USD 2.1 billion (34 per cent of total) in climate finance, short of the 40 per cent approval target by 2020;
- ADB did not meet its total climate finance target of USD 6 billion in 2020, reaching USD 5.3 billion. It has exceeded this target by USD. 1.1 billion in 2019, however. It also met the mitigation-specific target of at least USD 4 billion in 2020 (with mitigation accounting for USD 4.6 billion of the total);
- EBRD in 2019 met its climate finance target of 40 per cent of annual commitments, while the share of allocations dropped to 35 per cent in 2020 due to increased pandemic-related spending. The EBRD however reported that it had reached its cumulative financing target of USD 18 billion over 2016–2020 with a total of USD 18.1 billion in that period;
- EIB has met its total climate action approval targets of USD 20 billion or 25 per cent of overall lending with approvals of USD 27.9 billion reported (37.4 per cent of total). WRI analysis shows that the EIB had not reached its sub-financing target to developing countries (35 per cent of total lending by 2020) in 2020, although levels above 35 per cent were realised consistently during 2017 to 2019 (Neunuebel et al., 2021);
- The IDB just fell short of its 25 to 30 per cent commitment target by 2020 with climate finance approvals of USD 3.4 billion (or 24 per cent of total) in 2020;
- World Bank Group accorded with its 28 per cent target of annual commitments by 2020, as it reported USD 22.0 billion or 28.6 per cent of total commitments in 2020 as climate-relevant.
- AIIB and IsDB had not set pre-2020 climate finance targets.
- In light of the assessment of pre-2020 targets and visibly increased ambition in the MDBs post-2020 climate finance targets, it can be noted that there remain further opportunities for MDBs to expand climate investment through either expanding the availability of development assistance or boosting climate-related investment directly (G20, 2022;[143] Chakarabarti et al., 2022;[144] Granoff et al., 2017).

142) The EBRD has instead issued a "green finance" target for more than 50 per cent of annual EBRD investments by 2050 (WRI, 2021).

143) G20 (2022) Boosting MDBs' investing capacity. (2022). An Independent Review of Multilateral Development Banks' Capital Adequacy Frameworks. Available at: https://g20.org/wp-content/uploads/2022/07/CAF-Review-Report.pdf.

144) Chakarabati et al., 2022. Future directions for the World Bank and the broader MDB system: some reflections. Available at: https://odi.org/en/insights/future-directions-for-the-world-bank-and-the-broader-mdb-system-some-reflections/.

353. In parallel with the mainstreaming of climate change in development aid, there has been increasing scrutiny of the climate inconsistent support for developing countries from development finance institutions (OECD, 2019). Research has identified that public finance institutions – including, but not limited to, the MDBs – supported oil, gas and coal with as much as USD 63 billion a year between 2018 and 2020, both domestic and international projects, with 51 per cent of the total flowing towards gas projects alone (Tucker and De Angelis, 2021).[145]

354. MDBs, IDFC, EDFIs and bilateral development providers have initiated ongoing efforts towards the Paris alignment of ODA over the past years (AfDB et al., 2018; ICAI 2021). At COP26, the OECD-DAC also committed to the Paris alignment of aid, acknowledging that poverty cannot be reduced and the goal of leave no one behind cannot be realised if climate change is not tackled (OECD DAC, 2021). Since 2017, when the MDBs announced their ambition to align financed operations with the goals and objectives of the Paris Agreement, based on the six Building Block (BB) approach, MDBs have adjusted lending criteria to exclude projects related to fossil fuels with varying stringency. This refers primarily to ending financing for new coal and oil upstream and downstream activities that almost all MDBs have adopted, and covers to some extent other fossil fuels sources (WRI, 2021; E3G, 2022).[146] Progress has been made toward aligning direct lending with the Paris Agreement's objectives, though there remains space to improve alignment in intermediated lending and consideration of if or how, development policy lending can be Paris aligned.

355. There are an increasing number of non-traditional contributors to development finance, particularly encompassing South–South flows (see section 2.4 above). This includes major developing country economies, such as China and the Gulf States. It also includes national development banks with international operations, including the Brazilian development bank and IsDB, as well as the AIIB. A number of these institutions are increasing their climate finance flows. Both the IsDB and AIIB participate in the Joint MDB report on climate finance. In 2020, IsDB committed USD 259 million and AIIB USD 1 115 million in climate finance in low- and middle-income countries (EBRD et al., 2021). Climate finance flows and reporting of these flows from non-traditional actors, largely South–South in nature, will remain voluntary under the Paris Agreement. Greater transparency and consistency in data, however, will support the understanding of the leading role development finance institutions, particularly regional and national institutions, can take towards meeting the Paris Agreement's long-term goals.

356. The stability of ODA despite the pandemic is countered by the pandemic-induced decrease in all other major flows of income for developing countries, in the areas of trade, foreign direct investment and remittances. Other officially supported international financial flows include OOF, motivated not by development objectives but by commercial and foreign policy objectives, and that committed through export credit agencies – either private companies operating on behalf of the government or government agencies themselves working to promote domestic companies' international export of goods and services. In 2019–2020, an average of 15 per cent of non-concessional or not primarily development OOF flows were marked as including climate objectives, up from 8 per cent in the 2017–2018 period.[147] Climate-related officially supported export credits from developed countries amounted to USD 2.6 billion in 2019 and USD 1.9 billion in 2020. Yet many countries continue to provide significant financial support to fossil fuel value chains: between 2018–2020 an estimated USD 40.1 billion from G20 economies' export credit agencies was provided to fossil fuel projects as compared to USD 3.5 billion for renewable energy, annually (Tucker and DeAngelis, 2021).[148]

357. OOF and export credit agencies might be scrutinised in a similar manner to that being demanded of the MDBs. Few export credit agencies, for example, have explicit requirements to phase out fossil fuels or to align operations with the Paris Agreement (some have indicated plans to do so (Shishlov et al., 2020, Thomas, 2021)). However, 2021 has seen new initiatives both within and outside the OECD to Paris-align these flows (Shishlov et al., 2021[149]).[150]

145) Tucker, B, De Angelis, K. 2021. "Past Last Call: G20 public finance institutions are still bankrolling fossil fuels". Oil Change International and Friends of the Earth United States. October 2021. Available at https://priceofoil.org/content/uploads/2021/10/Past-Last-Call-G20-Public-Finance-Report.pdf.

146) WRI. 2021. Updates towards Paris Alignment (2018): Following Up on MDB Climate Tools 2021. https://www.wri.org/data/updates-towards-paris-alignment-2018-following-mdb-climate-tools-2021.

147) Authors analysis of OECD DAC statistics.

148) DeAngelis, Kate; Tucker, Bronwen (2021): Past Last Call - G20 public finance institutions are still bankrolling fossil fuels, Oil Change International and Friends of the Earth US, Washington DC.

149) https://www.perspectives.cc/public/fileadmin/Publications/21-07-06_Paris_Alignment_of_ECAs.pdf.

150) See for example: https://www.tresor.economie.gouv.fr/Articles/2021/04/14/seven-countries- launch-international-coalition-export-finance-for-future-e3f-to-align-export- finance-with-climate-objectives.

358. While development finance flows and wider official public finance flows increasingly consider climate risks and seek climate-aligned activities, they remain considerably smaller than FDI. FDI, which plays a key role in economic development, recovered to pre-pandemic levels in 2021 and was estimated at USD 1.6 trillion in 2021. UNCTAD (other 2022)[151] finds that FDI flows to developing countries has grown more slowly that those to developed countries, though continues rising (to USD 837 billion in 2021). However, UNCTAD also highlight a fragility in productive investment as a result of food, fuel and finance crises in 2022.

3.4.4. Climate finance in the context of the broader financial system

359. Climate change can reduce operational and economic performance of companies and assets, with a resultant impact on investors and lenders. This encompasses the actual and potential physical risks of climate change to assets and the associated direct and indirect losses and damages from the adverse effects of climate change, as well as the transitional climate risk, capturing the shifts in asset values or higher costs of doing business that might be faced in the light of the move towards a low-carbon, more climate-resilient economy. There is a third risk, liability risk. This arises when compensation is sought for these impacts of climate change, be they physical or transitional (Batten et al., 2020). There has been a picking up of pace in recognizing climate risk in the financial sector over the past few years as these risks combine and become company risk and country risk, for example. Combined climate risks have further implications, such as increasing the costs of capital (box 3.6), and particularly government borrowing (Cevik and Jalles, 2020), as well as posing risks to economic growth and the stability of the financial system.

360. More understanding is emerging on the nature of stranded assets. Referring to assets that are prematurely written down, devalued or converted into liabilities as a result of changes in patterns of supply and demand, pro-green regulation and policy, or regulatory processes. Stranded assets are strongly associated with fossil fuel assets – particularly coal – losing value as a result of the energy transition. The concept is also emerging in forestry, agriculture and other land use sectors (Carbon Tracker, 2020; CDP, 2019; Bos and Gupta, 2019; Lloyd's, 2017; Caldecott et al., 2016).

361. With challenges in forecasting the pace and scale of ambition on implementing climate policy, energy use and price, assessing the total value of stranded assets is difficult and estimates are highly variable. Carbon Tracker (2022)[152] considers the 'unburnable carbon' – referring to fossil fuel energy resources and reserves – that cannot be burned to stay within temperature targets. They find that over 90 per cent of fossil fuel reserves need to remain in the ground to limit warming to 1.5 degrees Celsius, the majority of which is held by global financial centres. Of the companies that hold these assets, they are exposed to significant transition risk: estimated at USD 600 billion (out of a total of USD 1 trillion which includes state or restricted ownership of these assets). The transition risks apply not just to the producers but along the full value chain. Therefore, including refiners, but also the financial service providers engaged. USD 32 trillion in fixed assets are in sectors linked to the fossil fuel system. This equates to a quarter of the global equity market and half the corporate bond market, illustrating the risk that decline in the sector has to financial stability (Carbon Tracker, 2020).

362. Greater action is also emerging in identifying climate-related risks with the potential to financially or strategically impact actors. The Climate Disclosure Project, which has long tracked corporate climate action, found that just over half of the institutions reporting to them in 2020 conducted analysis of how their portfolio impacts the climate. They also identify that 45 per cent of banks are taking action to climate-align their lending portfolios, 48 per cent of asset owners and 46 per cent of asset managers are climate-aligning investments (of those surveyed) (CDP, 2022[153]). The demand for incorporating climate risk into operations can be seen in the growth of support for the implementation of the recommendations of the TCFD. The TCFD has increased pressure to develop standards for due diligence for accounting for climate risk or requesting/ mandating investors to include sustainability aspects in financial disclosures. As of October 2021, the TCFD had the support of over 2 600 organisations with market capitalisation of over USD 25 trillion; as compared to 1 400 organisations in 2020 with market capitalisation of over USD 12,6 trillion and only 237 companies with market capitalisation of USD 6 trillion in 2017.

151) https://worldinvestmentreport.unctad.org/world-investment-report-2022/.
152) https://carbontracker.org/reports/unburnable-carbon-ten-years-on/.
153) https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/741/original/CDP-Financial-Services-Disclosure-Report-2020.pdf?1619537981.

363. Private sector actors have also been engaged in and have driven, often with or alongside state counterparts, the emergence and expansion of a number of platforms and innovations towards 'greening' the financial system. These include expanded learning networks and facilitated knowledge-sharing on environmental and financial risk (see the 2020 Biennial Assessment and Overview of Climate Finance Flows, chapter 4, for a mapping of actions by actors relevant to the goal outlined in Article 2, paragraph 1(c), of the Paris Agreement, on making finance flows consistent with low GHG emissions and climate-resilient development as well as the forthcoming SCF report on further work on mapping related to Article 2, paragraph 1(c), of the Paris Agreement).

364. These commitment-based mechanisms and initiatives are leading to the development of impact tools. In particular to avoid so-called 'greenwashing' where commitments do not lead to real-economy actions reducing emissions in line with temperature goals or developing resilience. The emergence of multiple initiatives with respect to setting standards, measuring impact and integrating climate-risk into decision making is also leading to a risk of incoherence. This calls not only for an independent critique of motives and impacts of the numerous finance-related initiatives that have emerged, but also better coordination between them.

365. The demand for green products can also be seen in the year-on-year increase in green bond issuance and sustainability linked loans. Investors seeking low-risk, long-return investments have been attracted by green and climate bonds, increasing awareness and driving up their quality, as well as data availability on green bonds.

Box 3.6

The costs of capital under a changing climate

Capital market access often relies on the risk perception and appetite of investors, that are expressed in credit and sovereign debt ratings or interest rates that, in general, suggest the ability of a country, city, public listed company or bond, to repay its debt as well as the risk-return profile of equity investments. Ratings are used by capital providers to make more informed investment decisions. International debt investors, as a result of prudential regulations, can also require minimum investment grade ratings for investments.

Vulnerability to climate change as well as transitional risks during the shift to a low-emission, climate resilient economies has the potential to negatively impact any credit rating made (at sovereign, city, entity- or project-level) and therefore restrict access to capital. The adverse impacts of climate change, such as damage to infrastructure, population shifts due to forced displacement and rising social cost, all represent vulnerability to climate change that translates into a risk of default on debt servicing for financial institutions. Vulnerability therefore increases the cost of capital (interest rates) and this is only expected to intensify as a result of climate vulnerabilities. Transition risks are associated with policy, sectoral and entity level responses for an orderly transition towards a low-emission, climate resilient economy. Forward-looking investment decisions are increasingly taking into account exposure to emissions-intensity of activities as well as the local enabling framework for a low carbon transition (OECD, 2021; CTFC, 2020).

Climate change, therefore, poses systemic risk to a country's financial system as climate-related adverse impacts are increasing and when low-carbon transition actions and policies are delayed. As a result, access to capital is expected to become more constrained owing to the increasing costs of capital. This been documented in emerging studies on the climate vulnerability premium for sovereign and corporate credit ratings (Beirne et al., 2020; Kling et al., 2021; Serhan and Jalles, 2020) or reversely, a green premium (lower costs of borrowing) in the secondary bond market for issuances tied to climate-related investments. Any increase in interest rates will further constrain a government's ability to invest in resilience and development, particularly where a country lacks the enabling environment and investment grade rating to issue international sovereign debt. In recent years, central banks and financial supervisory authorities have also initiated work for addressing physical and transition risk profiles into their macro- and micro-prudential frameworks that will enhance climate-specific stress testing and scenario development of financial institutions, and could over time lead to an adjustment of capital requirements or climate weighting policies (Coelho et al., 2022; Baranovic et al., 2021).

Addressing the rising cost of capital as a result of climate change is a complex challenge. The countries that are well prepared and can demonstrate how they will deal with the physical and transition risks of climate change could enjoy lower borrowing costs; this requires the enhancement of a country's structural resilience through mitigation and adaptation actions. Countries can also strengthen financial resilience through fiscal buffers and insurance schemes. Economic diversification and strong climate policy will support the management of the consequences of climate change on public finance, more broadly. If the above factors are further considered by investors and market makers, such as the rating agencies, it is possible that the rising costs of capital could be somewhat ameliorated.

Sources: Buhr et al., 2018, Carter 2020, Moody's 2017; Kling et al., 2018; Beirne et al., 2020; Kling et al., 2021; Serhan and Jalles, 2020; OECD, 2021; CTFC, 2020; Coelho et al., 2022; Baranovic et al., 2021; Klusak et al., 2021.

The green bond market was USD 523 billion in 2021, as compared to USD 259 billion in 2019 (CBI, 2022).[154] Green bond issuance is increasing in developing countries – accounting for 22 per cent in 2021 versus 16 per cent in 2020 (United Nations Inter-agency Task Force on Financing for Development, 2022). There remain concerns around the standardisation of green bonds with clarity at the asset and project level still lacking in some cases, while the structuring of a green bond remains a complex and time intensive exercise (OECD, 2021). Furthermore, while a green bond label certifies that the activities being financed are sustainable, it does not guarantee that the issuer of the bond has undertaken climate actions more broadly (United Nations Inter-agency Task Force on Financing for Development, 2022).

366. Private-led commitments and action can work to positively influence public policy, in part by raising awareness and shifting opinion and understanding of climate action in both the public and private sector. A combination of strong domestic policy and regulation and direct public investment is understood to provide a legislative basis from which to strengthen activities, encourage private sector climate-aligned investment and financial innovation for climate action (Green Growth Best Practice, 2014; Climate Transparency, 2017b). With this in mind, financial system governance bodies have a role in shaping climate investment. These include government policymakers as well as oversight and supervisory authorities that are often quasi-governmental institutions. The mandates of policymakers, oversight and supervisory authorities are often to create a stable financial environment, with others aiming to maximise confidence, transparency and financial safety while minimizing risk. A number of countries have or are pursuing some form of sustainable or green finance principles through financial system governance bodies, indicating an awareness of climate change impacts and the existence of discussion at the policy level of climate risks in the national financial architecture. Others have or are developing green taxonomies (see section 1.3) that, in general, refer to the creation of a tool to help investors understand if the activity is environmentally sustainable and respond to the lack of clarity for investors as to which activities and assets can be considered 'green' or consistent with climate objectives, often considered a barrier to scaling up climate investment (World Bank, 2020b). There are also a number of prudential tools available for the supervision of the activities of financial sector actors that are relevant for climate change action. They can enhance supervisory review and market discipline so as to identify the state of risk within the financial actor institutions or investments themselves (D'Orazio and Popoyan, 2019).

154) CBI. 2022. Sustainable Debt, Global State of the Market 2021. Climate Bonds Initiative. Available at https://www.climatebonds.net/resources/reports/sustainable-debt-global-state-market-2021.

Annex A: Country and institution groupings used in the fifth BA

Annex I Parties (43)	Annex II Parties (24)	OECD member countries (37)	DAC members (30)
Australia	Australia	Australia	Australia
Austria	Austria	Austria	Austria
Belarus	Belgium	Belgium	Belgium
Belgium	Canada	Canada	Canada
Bulgaria	Denmark	Chile	Czechia
Canada	Finland	Colombia	Denmark
Croatia	France	Costa Rica	EU
Cyprus	Germany	Czechia	Finland
Czechia	Greece	Denmark	France
Denmark	Iceland	Estonia	Germany
Estonia	Ireland	Finland	Greece
EU	Italy	France	Hungary
Finland	Japan	Germany	Iceland
France	Luxembourg	Greece	Ireland
Germany	Netherlands	Hungary	Italy
Greece	New Zealand	Iceland	Japan
Hungary	Norway	Ireland	Luxembourg
Iceland	Portugal	Israel	Netherlands
Ireland	Spain	Italy	New Zealand
Italy	Sweden	Japan	Norway
Japan	Switzerland	Latvia	Poland
Latvia	Türkiye	Lithuania	Portugal
Liechtenstein	United Kingdom of Great Britain and Northern Ireland	Luxembourg	Republic of Korea
Lithuania	United States	Mexico	Slovakia
Luxembourg		Netherlands	Slovenia
Malta		New Zealand	Spain
Monaco		Norway	Sweden
Netherlands		Poland	Switzerland
New Zealand		Portugal	United Kingdom of Great Britain and Northern Ireland
Norway		Republic of Korea	United States
Poland		Slovakia	
Portugal		Slovenia	
Romania		Spain	
Russian Federation		Sweden	
Slovakia		Switzerland	
Slovenia		Türkiye United Kingdom of Great Britain and Northern Ireland	
Spain		United States	
Sweden			
Switzerland			
Türkiye			
Ukraine			
United Kingdom of Great Britain and Northern Ireland			
United States			

Non-Annex I Parties (154)				
Afghanistan	Comoros	Iran (Islamic Republic of)	Nauru	South Africa
Albania	Congo	Iraq	Nepal	South Sudan
Algeria	Cook Islands	Israel	Nicaragua	Sri Lanka
Andorra	Costa Rica	Jamaica	Niger	State of Palestine
Angola	Côte d'Ivoire	Jordan	Nigeria	Sudan
Antigua and Barbuda	Cuba	Kazakhstan	Niue	Suriname
Argentina	Democratic People's Republic of Korea	Kenya	North Macedonia	Syrian Arab Republic
Armenia	Democratic Republic of the Congo	Kiribati	Oman	Tajikistan
Azerbaijan	Djibouti	Kuwait	Pakistan	Thailand
Bahamas	Dominica	Kyrgyzstan	Palau	Timor-Leste
Bahrain	Dominican Republic	Lao People's Democratic Republic	Panama	Togo
Bangladesh	Ecuador	Lebanon	Papua New Guinea	Tonga
Barbados	Egypt	Lesotho	Paraguay	Trinidad and Tobago
Belize	El Salvador	Liberia	Peru	Tunisia
Benin	Equatorial Guinea	Libya	Philippines	Turkmenistan
Bhutan	Eritrea	Madagascar	Qatar	Tuvalu
Bolivia (Plurinational State of)	Eswatini	Malawi	Republic of Korea	Uganda
Bosnia and Herzegovina	Ethiopia	Malaysia	Republic of Moldova	United Arab Emirates
Botswana	Fiji	Maldives	Rwanda	United Republic of Tanzania
Brazil	Gabon	Mali	Saint Kitts and Nevis	Uruguay
Brunei Darussalam	Gambia	Marshall Islands	Saint Lucia	Uzbekistan
Burkina Faso	Georgia	Mauritania	Saint Vincent and the Grenadines	Vanuatu
Burundi	Ghana	Mauritius	Samoa	Venezuela (Bolivarian Republic of)
Cabo Verde	Grenada	Mexico	San Marino	Viet Nam
Cambodia	Guatemala	Micronesia (Federated States of)	Sao Tome and Principe	Yemen
Cameroon	Guinea	Mongolia	Saudi Arabia	Zambia
Central African Republic	Guinea-Bissau	Montenegro	Senegal	Zimbabwe
Chad	Guyana	Morocco	Serbia	
Chile	Haiti	Mozambique	Seychelles	
China	Honduras	Myanmar	Sierra Leone	
Colombia	India	Namibia	Singapore	
	Indonesia		Solomon Islands	
			Somalia	

List of ODA Recipients (138)

Afghanistan	Comoros	Guinea-Bissau	Mauritania	Saint Helena*
Albania	Congo	Guyana	Mauritius	Saint Lucia
Algeria	Costa Rica	Haiti	Mexico	Saint Vincent and the
Angola	Côte d'Ivoire	Honduras	Micronesia (Federated	Grenadines
Argentina	Cuba	India	States of)	Samoa
Armenia	Democratic People's	Indonesia	MongoliaMontenegro	Sao Tome and Principe
Azerbaijan	Republic of Korea	Iran (Islamic Republic of)	Montserrat*	Senegal
Bangladesh	Democratic Republic of	Iraq	Morocco	Serbia
Belarus	the Congo	Jamaica	Mozambique	Sierra Leone
Belize	Djibouti	Jordan	Myanmar	Solomon Islands
Benin	Dominica	Kazakhstan	Namibia	Somalia
Bhutan	Dominican Republic	Kenya	Nauru	South Africa
Bolivia (Plurinational	Ecuador	Kiribati	Nepal	South Sudan
State of)	Egypt	Kyrgyzstan	Nicaragua	Sri Lanka
Bosnia and Herzegovina	El Salvador	Lao People's Democratic	Niger	Sudan
Botswana	Equatorial Guinea	Republic	Nigeria	Suriname
Brazil	Eritrea	Lebanon	Niue	Syrian Arab Republic
Burkina Faso	Eswatini	Lesotho	North Macedonia	Tajikistan
Burundi	Ethiopia	Liberia	Pakistan	Tokelau*
Cabo Verde	Fiji	Libya		Thailand
Cambodia	Gabon	Madagascar	Panama	Timor-Leste
Cameroon	Gambia	Malawi	Papua New Guinea	Togo
Central African Republic	Georgia	Malaysia	Paraguay	Tonga
Chad	Ghana	Maldives	Peru	Tunisia
China	Grenada	Mali	Philippines	Türkiye Turkmenistan
Ukraine	Guatemala	Marshall Islands	Republic of Moldova	Tuvalu
United Republic of	Guinea	Wallis and Futuna* West	Rwanda	Uganda
Tanzania	Vanuatu	Bank and Gaza Strip	Zambia	
Uzbekistan	Venezuela (Bolivarian	Yemen	Zimbabwe	
	Republic of)			
	Viet Nam			

Source: https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC-List-of-ODA-Recipients-for-reporting-2022-23-flows.pdf.

*Countries and territories not classified in World Bank income groups. Estimated placement on the List.

LDCs, as of 2018 (47)

Afghanistan	Comoros	Lao People's Democratic	Niger	Tuvalu
Angola	Democratic Republic of	Republic	Rwanda	Uganda
Bangladesh	the Congo	Lesotho	Sao Tome and Principe	United Republic of
Benin	Djibouti	Liberia	Senegal	Tanzania
Bhutan	Eritrea	Madagascar	Sierra Leone	Yemen
Burkina Faso	Ethiopia	Malawi	Solomon Islands	Zambia
Burundi	Gambia	Mali	Somalia	
Cambodia	Guinea	Mauritania	South Sudan	
Central African Republic	Guinea-Bissau	Mozambique	Sudan	
Chad	Haiti	Myanmar	Timor-Leste	
	Kiribati	Nepal	Togo	

SIDS that are Member States of the United Nations (38)

Antigua and BarbudaBelize	Guyana	Micronesia (Federated	Samoa	Vanuatu
Cabo	Haiti	States of)NauruPalau	Sao Tome and	Bahamas
VerdeComorosCubaDominica	Jamaica	Papua New GuineaSaint	PrincipeSolomon Islands	Bahrain
Dominican Republic	Kiribati	Kitts and Nevis	Suriname	Barbados
FijiGrenadaGuinea-Bissau	Maldives	Saint Lucia	Timor-Leste	Seychelles
	Marshall Islands	Saint Vincent and the	Tonga	Singapore
	Mauritius	Grenadines	Tuvalu	Trinidad and Tobago

Regional Groupings

International Development Finance Club – regional groupings

East Asia and the Pacific	Eastern Europe and Central Asia	Latin America and the Caribbean	Middle East and North Africa	South Asia	Sub-Saharan Africa	EU	Others
American Samoa, Cambodia, China, Democratic People's Republic of Korea, Fiji, Indonesia, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated Sates of), Mongolia, Myanmar, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu and Viet Nam	Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kosovo,[a] Kyrgyzstan, Montenegro, North Macedonia, Republic of Moldova, Russian Federation, Serbia, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan	Antigua and Barbuda, Argentina, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Uruguay and Venezuela (Bolivarian Republic of)	Algeria, Djibouti, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Lebanon, Libya, Morocco, State of Palestine, Syrian Arab Republic, Tunisia and Yemen	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Côte d'Ivoire, Democratic Republic of Congo, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, The Gambia, Togo, Uganda, Zambia, Zimbabwe	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom,	Trans-regional: include funds that are channelled to more than channelled through multilateral climate funds Australia, Canada, Japan, United State

Source: https://www.idfc.org/wp-content/uploads/2021/11/idfc-gfm2021-full-report-final.pdf.

a. This designation is without prejudice to positions on status, and is in line with United Nations Security Council resolution 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

MDBs – regional groupings							
EU	**Latin America and the Caribbean**	**Middle East and North Africa**	**South Asia**	**Non-EU Europe**	**Sub-Saharan Africa**	**Central Asia**	**East Asia and the Pacific**
Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark Estonia, Finland France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom	Anguilla, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Sint Eustatius and Saba, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Saint Barthélemy, Saint Kitts and Nevis, Saint Lucia, Sint Maarten(Dutch part), Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay and Venezuela (Bolivarian Republic of)	Algeria, Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tunisia, United Arab Emirates, West Bank and Gaza, Western Sahara and Yemen	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka	Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kosovo,a, Montenegro, North Macedonia, Norway, Republic of Moldova, Russian Federation, Serbia, Switzerland, Türkiye, Ukraine and Uzbekistan	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Saint Helena, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe	Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan	Cambodia, China, Cook Island, Fiji, Kiribati, Laos, Malaysia, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, New Caledonia, Palau, Philippines, Samoa, Solomon Islands, Thailand, Timor-Leste, Tuvalu, Vanuatu, Vietnam

Source: www.ebrd.com/2020-joint-report-on-mdbs-climate-finance a This designation is without prejudice to positions on status, and is in line with United Nations Security Council resolution 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

OECD – regional groupings								
Europe	**Far East Asia**	**Middle East**	**North and Central America**	**North of Sahara**	**Oceania**	**South and Central Asia**	**South America**	**South of Sahara**
Albania, Belarus, Bosnia and Herzegovina, Europe (regional), Former Yugoslav Republic of Macedonia, Kosovo,a Montenegro, Republic of Moldova, Serbia, Türkiye and Ukraine	Cambodia, China, Democratic People's Republic of Korea, Far East Asia (regional), Indonesia, Lao People's Democratic Republic, Malaysia, Mongolia, Philippines, Thailand, Timor-Leste and Viet Nam	Iran (Islamic Republic of), Iraq, Jordan, Lebanon, Middle East (regional), State of Palestine, Syrian Arab Republic, West Bank and Gaza Strip, and Yemen	Antigua and Barbuda, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Montserrat, Nicaragua, North and Central America (regional), Panama, Saint Lucia, Saint Vincent and the Grenadines,	Algeria, Egypt, Libya, Morocco, North of Sahara (regional) and Tunisia	Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Niue, Oceania (regional), Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna	Afghanistan, Armenia, Azerbaijan, Bangladesh, Bhutan, Central Asia (regional), Georgia, India, Kazakhstan, Kyrgyzstan, Maldives, Myanmar, Nepal, Pakistan, South and Central Asia (regional), South Asia (regional), Sri Lanka, Tajikistan, Turkmenistan and Uzbekistan	Argentina, Bolivia (Plurinational State of), Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, South America (regional), Suriname, Uruguay and Venezuela (Bolivarian Republic of)	Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Saint Helena, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South of Sahara (regional), South Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe

Source: https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DCD/DAC/STAT(2019)20/FINAL&docLanguage=En.

Note: (1) There is also a "Regional and Unspecified" group, which includes "Africa (regional)", "America (regional)", "Asia (regional)" and "Developing countries (unspecified)". (2) Sudan is not classified in the North Sahara regional group but grouped in Northern African.

a. This designation is without prejudice to positions on status, and is in line with United Nations Security Council resolution 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

UN statistics division M49 classification					
Africa	**Latin America and the Caribbean**	**North America**	**Asia**	**Europe**	**Oceania**
Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principle, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, and Zimbabwe	Argentina, Antigua and Barbuda, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Suriname, Trinidad and Tobago, Uruguay, and Venezuela (Bolivarian Republic of)	Canada, United States of America	Afghanistan, Armenia, Azerbaijan, Bahrain, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Cyprus, Democratic People's Republic of Korea, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Oman, Pakistan, Philippines, Qatar, Republic of Korea, Saudi Arabia, Singapore, Sri Lanka, State of Palestine, Syrian Arab Republic, Tajikistan, Thailand, Timor-Leste, Türkiye, Turkmenistan, United Arab Emirates, Uzbekistan, Viet Nam, and Yemen	Albania, Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Holy See, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, and United Kingdom of Great Britain and Northern Ireland	Australia, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

Source: https://unstats.un.org/unsd/methodology/m49/.

Annex B: Compilation of operational definitions of climate mitigation and adaptation finance in use

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
OECD-DAC **Source:** **OECD-DAC Rio Markers for Climate Handbook**	Rio markers were designed to track the mainstreaming of environmental considerations into development cooperation rather than providing a quantification of finance and provide separate markers for climate change mitigation and climate change adaptation. The Rio markers are based on definitions and eligibility criteria. They distinguish between activities targeting climate change objectives as either "principal" or "significant"	An activity that contributes to the objective of stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system by promoting efforts to reduce or limit GHG emissions or to enhance GHG removal by sinks, in line with the goals of the Paris Agreement. Eligibility The activity contributes to (a) the mitigation of climate change by limiting anthropogenic emissions of GHGs, including gases regulated by the Montreal Protocol; or (b) the protection and/or enhancement of GHG sinks and reservoirs; or (c) the integration of climate change concerns with the recipient countries' development objectives through institution-building, capacity development, strengthening the regulatory and policy framework, technology transfer or research; or (d) developing countries' efforts to meet their obligations under the Convention and the Paris Agreement, namely the implementation and enhancement of mitigation actions. The activity will score "principal objective" if it directly and explicitly aims to achieve one or more of the above four criteria.	An activity that intends to reduce the vulnerability of human or natural systems to the current and expected impacts of climate change, including climate variability, by maintaining or increasing resilience, through increased ability to adapt to, or absorb, climate change stresses, shocks and variability and/or by helping reduce exposure to them. This encompasses a range of activities from information and knowledge generation to capacity development, planning and the implementation of climate change adaptation actions Eligibility (a) The climate change adaptation objective is explicitly indicated in the activity documentation; and (b) the activity contains specific measures targeting the adaptation definition. Carrying out an assessment of vulnerability to climate variability and change, either separately or as an integral part of agencies' standard procedures, facilitates this approach. To guide scoring, a three-step approach is recommended as a "best practice", in particular to justify a "principal" score: • Setting out the context of risks, vulnerabilities and impacts related to climate variability and climate change: for a project to be considered as one that contributes to adaptation to climate change, the context of climate vulnerability should be set out clearly using a robust evidence base. This could take a variety of forms, including use of material from existing analyses and reports, or original, bespoke climate vulnerability assessment analysis carried out as part of the preparation of a project. • Stating the intent to address the identified risks, vulnerabilities and impacts in project documentation: The project should set out how it intends to address the context- and location-specific climate change vulnerabilities, as set out in existing analyses, reports or the project's climate vulnerability assessment. • Demonstrating a clear and direct link between the identified risks, vulnerabilities and impacts and the specific project activities: the project should explicitly address risk and vulnerabilities under current and future climate change as identified in the project. documentation

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
MDBs **MDB-IDFC 2021, Common principles for climate mitigation finance tracking, version 3.** **MDB-IDFC 2015, Common principles for climate change adaptation finance tracking**	MDB climate finance refers to the financial resources (from own accounts and MDB-managed external resources) committed by MDBs to development operations and components thereof which enable activities that mitigate climate change and support adaptation to climate change.	An activity can be classified as climate change mitigation where the activity, by avoiding or reducing GHG emissions or increasing GHG sequestration, contributes substantially to the stabilisation of GHG concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system consistent with the long-term temperature goal of the Paris Agreement. Eligibility The Common Principles recognise that a substantial contribution to climate change mitigation can involve the following three categories: (1) Negative- or very-low-emission activities, which result in negative, zero or very low GHG emissions and are fully consistent with the long-term temperature goal of the Paris Agreement, e.g., carbon sequestration in land use or some forms of renewable energy. Eligibility principle: have negative or near-zero net GHG emissions. (2) Transitional activities, which are still part of GHG-emissive systems, but are important for and contribute to the transition towards a climate-neutral economy, e.g., energy efficiency improvement in manufacturing that directly or indirectly uses fossil fuels. Eligibility principle: lack technologically or economically feasible very low-emission alternatives available; comply with high performance country or sector-specific standards, benchmarks or thresholds for GHG emissions or emission intensity that significantly exceed expected performance in a sector or activity; do not hamper the development or deployment of very low-emission activities; and do not lead to a lock-in of GHG emission-intensive assets that is inconsistent with the long-term goal of net-zero GHG emissions. (3) Enabling activities, which are instrumental in enabling other activities to make a substantial contribution to climate change mitigation, e.g., manufacture of very-low-emission technologies. Eligibility principle: are necessary for developing or implementing other eligible climate mitigation activities; do not hamper the development or deployment of negative or very low-emission activities; and do not lead to a lock-in of GHG emission-intensive assets that is inconsistent with the long-term goal of net-zero GHG emissions. No fixed quantitative thresholds are established within the eligibility list to facilitate the wish of individual institutions to set them according to own mandates and specific circumstances. Exclusion of activities related to support of upstream and midstream activities in the fossil fuel industry, electricity generation from coal or peat, and those that lead to deforestation. Both Brownfield and Greenfield activities are in scope but eligibility and criteria can differ, with a focus on ensuring that greenfield activities prevent long-term GHG lock-in and may enable structural changes required for meeting the long-term temperature goal, support emerging technologies with significant climate mitigation potential, meet global high-performance standards or high-efficiency benchmarks, or significantly exceed national or regional standards. - National circumstances and capabilities are accounted for as potential mitigation activities should consider, where possible, country-appropriate or regional benchmarks to facilitate progress towards national goals and avoid long-term lock-ins. Policy actions, technical assistance and programmes in support of the eligible activities are also eligible, provided that the link to eligible activities is clear or sufficiently demonstrated. A list of eligible activities, screening criteria and guidance is provided in Table 2–12 of the common principles for climate mitigation finance tracking.	– Financial resources associated with only those components or elements/proportions of projects that directly contribute to or promote adaptation, with the aim of lowering the current and expected risks or vulnerabilities posed by climate change. This approach is not intended to capture the value of the entire investment that may increase resilience as a consequence of specific activities within the project – Has been based on MDB joint methodology for tracking adaption finance that follows a context- and location-specific, conservative and granular approach. A list of case studies of tracking adaptation finance is provided in Annex B, table A.B.1 of the Joint MDB Climate Finance 2019 report Eligibility The MDB methodology on adaptation finance tracking consists of the following three key steps: 1. setting out the climate change vulnerability context of the project 2. making an explicit statement of intent of the project to reduce climate change vulnerability, and 3. articulating a clear and direct link between specific project activities and the project's objective to reduce vulnerability to climate change. The identification and estimation of adaptation finance is limited solely to those project activities (that is, projects, project components, or elements or proportions of projects) that are clearly linked to the climate change vulnerability context.

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
IDFC (IDFC, 2019)	According to the IDFC methodology, "green finance" comprises "climate finance" and finance for "other environmental objectives", with "climate finance" being composed of "green energy and mitigation of greenhouse gases" and "adaptation to climate change"	IDFC members will use the list in the revised common principles for climate mitigation finance tracking (MDB-IDFC, 2021) as a guide for a two-year transitional period. An activity will be classified as related to climate change mitigation if it promotes "efforts to reduce or limit GHG emissions or enhance GHG sequestration" Eligibility Eligibility criteria are based on a positive list of project categories and activities, which are aligned with the MDBs–IDFC Common Principles (2015). The list is given in appendix D of the of the IDFC Green Finance Mapping Report 2021. Similar considerations to renewable energy, modal shift in transport, and energy efficiency investments are provided as in the MDB criteria.	Uses the definition provided in appendix B of the Green Finance Mapping IDFC Report, which takes the MDBs–IDFC Common Principles for Climate Change Adaptation Finance Tracking into account. An activity will be classified as related to climate change adaptation if it addresses current and expected effects of climate change, where such effects are material for the context of those activities Eligibility Based on the MDBs–IDFC Common Principles for Climate Change Adaptation Finance Tracking, consists of the following key steps: • Setting out the context of risks, vulnerabilities and impacts related to climate variability and climate change; • Stating the intent to address the identified risks, vulnerabilities and impacts in project documentation; • Demonstrating a direct link between the identified risks, vulnerabilities and impacts, and the financed activities Adaptation finance tracking requires adaptation activities to be disaggregated from nonadaptation activities as far as reasonably possible. If disaggregation is not possible using project specific data, a more qualitative or experience-based assessment can be used to identify the proportion of the project that covers climate change adaptation activities. In consistence with the principle of conservativeness, climate finance is underreported rather than over-reported in this case.

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
CPI (Buchner et al., 2021)	Aligned with the recommended operational definition of the SCF. Capital flows directed towards low-carbon and climate-resilient development interventions with direct or indirect GHG mitigation or adaptation benefits	Mitigation finance is defined as resources directed to activities: • Contributing to reducing or avoiding GHG emissions, including gases regulated by the Montreal Protocol; or • Maintaining or enhancing GHG sinks and reservoirs. Eligibility Positive list, drawing on OECD-DAC, MDB, IDFC and Multilateral Climate Funds approaches. Updated sector classification drawing, amongst others, from the following economic activities classifications: MDB (2021), CBI taxonomy (CBI, 2021), IPCC WG3's AR5 (IPCC, 2014), the EU taxonomy (EU Technical Expert Group on Sustainable Finance, 2020), OECD' CRS purpose codes (OECD, 2021a). It excludes: • Private R&D in technology and investment in manufacturing for the production of green technologies (e.g. wind turbines), because of double counting issues with investments in technology deployment; • policy-induced revenue support mechanisms or other public subsidies whose primary function is to pay back initial investment costs (to avoid double counting) • Fossil fuel-based lower-carbon and energy-efficient generation (e.g. efficiency retrofits of coal-fired power plants) due to significant future carbon emissions lock-in • Plug in hybrid electric vehicles given their potential to pollute depending on the drivers' behaviour	Adaptation finance is defined as resources directed at activities aimed at reducing 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 Eligibility Positive list, drawing on OECD-DAC, MDB, IDFC and Multilateral climate funds approaches

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
IPCC (IPCC, 2021)	There is no agreed definition of climate finance. The term "climate finance" is applied to the financial resources devoted to addressing climate change by all public and private actors from global to local scales, including international financial flows to developing countries to assist them in addressing climate change. Climate finance aims to reduce net greenhouse gas emissions and/or to enhance adaptation and increase resilience to the impacts of current and projected climate change. Finance can come from private and public sources, channelled by various intermediaries, and is delivered by a range of instruments, including grants, concessional and non-concessional debt, and internal budget reallocations.	A human intervention to reduce emissions or enhance the sinks of GHGs.	In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
CBI (CBI 2020); (CBI 2019)	Not applicable. The CBI taxonomy refers to alignment with Paris Agreement goals on mitigation activities and climate resilience principles are proposed for adaptation activities	Not specified. Climate Bonds Taxonomy identifies the assets and projects needed to deliver a low-carbon economy and gives GHG emissions screening criteria consistent with the 2 degree global warming target set by the COP 21 Paris Agreement. Eligibility Positive list with screening indicators for specific assets. Excludes: - coal or oil power without CCS; coal- or oil-powered combined heat and power (CHP); waste heat recovery from coal or oil power; coal mining or oil extraction, refining, processing or production and associated supply chain infrastructure; products dedicated to clean-up or efficiency of fossil fuel energy - roads, road bridges, road upgrades, parking facilities, fossil fuel filling stations - oil tankers or other ships solely transporting coal or oil - agricultural or timber production on peatland - waste collection to landfill; landfill without gas capture	A climate resilience approach is used to guide adaptation activities based on the IPCC definitions for both adaptation and resilience. Climate resilience investments improve the ability of assets and systems to persist, adapt and/or transform in a timely, efficient, and fair manner that reduces risk, avoids maladaptation, unlocks development and creates benefits, including for the public good, against the increasing prevalence and severity of climate-related stresses and shocks. Eligibility The Climate Resilience Principles are divided into three parts: Part 1: Framing principle: This addresses the key preliminary aspects that need to be considered as they inform the risk and benefit assessments undertaken in Part 2, namely determining the asset's or project's boundary and interdependencies with the systems of which it is a part. Part II: Design principles: These address the climate risk assessment that needs to be undertaken in order to design, implement and operate assets and activities that appropriately address those risks. This includes understanding physical climate hazard, exposure and vulnerability, and potential trade-offs between climate resilience and climate mitigation impacts. For assets and activities focused on enhancing the resilience of the system, this also includes a resilience benefits assessment. Part III: Ongoing management principle: This addresses the need for ongoing monitoring and evaluation by the issuer to enable assets and activities to remain in step with evolving climate hazards, exposures and vulnerabilities, and changing opportunities and needs for resilience benefits. As a bundle, the three-part Climate Resilience Principles form the framework for Climate Resilience Criteria to be applied to all assets and activities included in a bond seeking certification under the Climate Bonds Standard.

Institution	Climate finance definition	Mitigation finance definition	Adaptation finance definition
EU Sustainable finance taxonomy **(COM, 2020)** **(COM. 2021)**	Not applicable. The EU taxonomy identifies economic activities that make a substantial contribution climate change mitigation with performance thresholds and climate change adaptation with screening criteria. For all activities a cross-cutting of do no significant harm to other environment objectives applies.	An economic activity shall be considered to contribute substantially to climate change mitigation where that activity substantially contributes to the stabilization of greenhouse gas concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system by avoiding or reducing greenhouse gas emissions or enhancing greenhouse gas removals through any of the following means, including through process or product innovation, consistent with the long term temperature goal of the Paris Agreement: (a) generating, transmitting, storing, distributing or using renewable energy in line with Directive (EU) 2018/2001, including through using innovative technology with a potential for significant future savings or through necessary reinforcement or extension of the grid; (b) improving energy efficiency except for power generation activities that are referred to in Article 14(2a); (c) increasing clean or climate-neutral mobility; (d) switching to the use of sustainably sourced renewable materials; (e) increasing the use of environmentally safe carbon capture and utilisation (CCU) and carbon capture and storage (CCS) technologies that deliver a net reduction in greenhouse gas emissions; (fa) strengthening land carbon sinks, including through avoided deforestation and forest degradation, restoration of forests, sustainable management and restoration of croplands, grasslands and wetlands, afforestation, and regenerative agriculture; (g) establishing energy infrastructure required for enabling the decarbonisation of energy systems; (h) producing clean and efficient fuels from renewable or carbon-neutral sources; (i) enabling any of the above in accordance with Article 11a. 1a. For the purposes of paragraph 1, an economic activity for which there is no technologically and economically feasible low carbon alternative, shall be considered to contribute substantially to climate change mitigation as it supports the transition to a climate-neutral economy consistent with a pathway to limit the temperature increase to 1.5 degrees Celsius above pre-industrial levels including by phasing out greenhouse gas emissions, in particular from solid fossil fuels, where that activity: I. has greenhouse gas emission levels that correspond to the best performance in the sector or industry; II. does not hamper the development and deployment of low-carbon alternatives; and III. does not lead to a lock-in in carbon-intensive assets considering the economic lifetime of those assets. Eligibility Sector-specific criteria apply. In establishing thresholds for Taxonomy screening criteria, climate change mitigation objectives to mean net-zero emissions by 2050 and a 50–55% reduction by 2030 against 1990 levels, consistent with the commitments under the EU Green Deal	An economic activity shall be considered to contribute substantially to climate change adaptation where: a. that economic activity includes adaptation solutions that either substantially reduce the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on that economic activity itself without increasing the risk of an adverse impact on other people, nature and assets; or where b. that economic activity provides adaptation solutions that, in addition to the conditions laid down in Article 11a, contribute substantially to preventing or reducing the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on other people, nature or assets, without increasing the risk of an adverse impact on other people, nature and assets. 1.a The adaptation solutions referred to in point (a) of paragraph 1 shall be assessed and prioritised using the best available climate projections and shall, as a minimum, prevent or reduce: (a) The location-specific and context-specific adverse impact of climate change on the economic activity; or (b) The adverse impact that climate change may have on the environment within which the economic activity takes place Eligibility The following two-step process aims to demonstrate that an activity contributes to a substantial reduction of the negative effects of climate change: a. Assessing the expected negative physical effects of climate change on the underlying economic activity that is the focus of resilience-building efforts, drawing on robust evidence and leveraging appropriate climate information; b. Demonstrating how the economic activity will address the identified negative physical effects of climate change or will prevent an increase or shifting of these negative physical effects. The assessment of the contribution of the activity will vary based on its scope (asset, corporate, sector or market), as well as spatial and temporal scale. Moreover, the proposed approach recognises that an adaptation activity may target an entity (e.g. a corporation or a city) and/or a market, sector, or region

Annex C: Information on climate finance received reported in BURs

Country	Latest BUR	Year	Format	Level of information	Title (of activity, programme or project)	Programme/ project description	Channel	Recipient entity	Implementing entity	Amount received	Time frame	Financial instrument	Status (committed or received)	Type of support	Sector and subsector	Whether the activity has contributed to capacity building or technology transfer	Status of activity (planned, ongoing, completed)	Use, impact and estimated results	Additional information	Other
Afghanistan	BUR1	2019	Tabular / Textual	Project	■				■	■	■						■			
Albania	BUR1	2021	Text only	Project																
Andorra	BUR4	2021	No information on financial support received																	
Antigua and Barbuda	BUR1	2020	Tabular	Project	■	■			■	■	■	■					■			■
Argentina	BUR4	2021	Tabular	Project	■				■	■	■	■		■	■					■
Armenia	BUR3	2021	Tabular	Project	■	■				■		■				■				■
Azerbaijan	BUR2	2018	No information on financial support received																	
Belize	BUR1	2021	Tabular	Project	■	■		■	■	■	■	■	■	■	■					
Benin	BUR1	2019	Tabular	Project	■	■					■					■		■		■
Bosnia and Herzegovina	BUR2	2017	No information on financial support received																	
Botswana	BUR1	2019	Tabular	Project	■	■		■		■	■	■					■			■
Brazil	BUR4	2020	Tabular	Project	■					■	■	■		■	■	■				■
Burkina Faso	BUR1	2021	Tabular	Institution			■			■	■					■				
Cambodia	BUR1	2020	Tabular	Project	■					■		■								■
Chile	BUR4	2021	Tabular	Project	■	■				■					■	■				■
China	BUR2	2019	Tabular	Project	■	■				■	■									
Colombia	BUR3	2022	Tabular	Project	■	■	■		■	■	■			■		■	■			
Costa Rica	BUR2	2019	Tabular	Institution and theme			■			■				■						
Côte d'Ivoire	BUR1	2018	Tabular	Project	■			■	■	■		■		■						■
Cuba	BUR1	2020	Tabular	Project	■					■		■					■			
Dominican Republic	BUR1	2020	Tabular	Project	■			■		■	■					■				■

Country	Latest BUR	Year	Format	Level of information	Title (of activity, programme or project)	Programme/ project description	Channel	Recipient entity	Implementing entity	Amount received	Time frame	Financial instrument	Status (committed or received)	Type of support	Sector and subsector	Whether the activity has contributed to capacity building or technology transfer	Status of activity (planned, ongoing, completed)	Use, impact and estimated results	Additional information	Other
Ecuador	BUR1	2016	Tabular / Textual	Aggregate by channel																
Egypt	BUR1	2019	Tabular	Project																
El Salvador	BUR1	2018	No information on financial support received																	
Eritrea	BUR1	2021	Tabular	Project																
Gabon	BUR1	2021	Tabular	Institution																
Georgia	BUR2	2019	Tabular	Project																
Ghana	BUR3	2021	Tabular / Textual	Institution and theme																
Guinea Bissau	BUR1	2020	Tabular	Project																
Honduras	BUR1	2020	Tabular	Project																
India	BUR3	2021	Tabular	Project																
Indonesia	BUR3	2021	Tabular	Institution																
Israel	BUR1	2016	Text only	Project																
Jamaica	BUR1	2016	Text only	Institution																
Jordan	BUR2	2021	Tabular	Project																
Kuwait	BUR1	2019	No information on financial support received																	
Lao PDR	BUR1	2020	Tabular	Project																
Lebanon	BUR4	2021	tabular	Project																
Lesotho	BUR1	2021	Tabular	Project																
Liberia	BUR1	2021	Tabular	Institution																
Malawi	BUR1	2021	Text only	Project																
Malaysia	BUR3	2020	Tabular / Textual	Project																
Maldives	BUR1	2019	Tabular	Project																
Mauritania	BUR2	2021	Tabular	Project																
Mauritius	BUR1	2021	Tabular	Project																

Country	Latest BUR	Year	Format	Level of information	Title (of activity, programme or project)	Programme/ project description	Channel	Recipient entity	Implementing entity	Amount received	Time frame	Financial instrument	Status (committed or received)	Type of support	Sector and subsector	Whether the activity has contributed to capacity building or technology transfer	Status of activity (planned, ongoing, completed)	Use, impact and estimated results	Additional information	Other
Mexico	BUR3	2022	Tabular	Sector						■	■				■					
Mongolia	BUR1	2017	Tabular / Textual	Project	■		■			■						■				
Montenegro	BUR3	2022	Tabular	Project	■					■	■									■
Morocco	BUR3	2022	Tabular	Project	■					■	■			■						
Namibia	BUR4	2021	Tabular	Project	■					■							■			
Nigeria	BUR2	2021	Tabular	Institution		■				■	■	■		■	■					■
North Macedonia	BUR3	2021	Tabular	Project	■	■			■	■	■	■								■
Oman	BUR1	2019	Text only	Project																
Pakistan	BUR1	2022	Tabular	Project	■					■	■									■
Panama	BUR2	2021	Tabular	Project	■	■	■			■	■	■			■					■
Papua New Guinea	BUR2	2022	Tabular	Project	■		■		■	■	■	■		■		■	■			■
Paraguay	BUR3	2021	Tabular	Project	■	■		■	■	■	■	■		■			■			■
Peru	BUR2	2019	Tabular	Project	■		■	■		■	■				■	■				■
Republic of Korea	BUR4	2022	No information on financial support received																	
Republic of Moldova	BUR3	2021	Tabular	Project	■					■	■									■
Rwanda	BUR1	2021	Tabular	Project	■	■				■	■	■								■
Saint Lucia	BUR1	2021	Tabular	Project	■	■			■	■										■
Saudi Arabia	BUR1	2018	No information on financial support received																	
Serbia	BUR1	2016	No information on financial support received																	
Singapore	BUR3	2018	No information on financial support received																	
South Africa	BUR4	2021	Tabular	Project	■	■				■	■	■		■		■				■
Tajikistan	BUR1	2019	Tabular	Project	■	■		■		■	■				■				■	■
Thailand	BUR3	2020	Tabular	Project	■	■				■	■			■	■	■				■

Country	Latest BUR	Year	Format	Level of information	Title (of activity, programme or project)	Programme/ project description	Channel	Recipient entity	Implementing entity	Amount received	Time frame	Financial instrument	Status (committed or received)	Type of support	Sector and subsector	Whether the activity has contributed to capacity building or technology transfer	Status of activity (planned, ongoing, completed)	Use, impact and estimated results	Additional information	Other
Togo	BUR2	2021	Tabular	Project																
Trinidad and Tobago	BUR1	2021	Tabular	Project																
Tunisia	BUR2	2016	Tabular	Project																
Uganda	BUR1	2019	Tabular	Project																
Uruguay	BUR4	2021	Tabular	Project																
Uzbekistan	BUR1	2021	Tabular	Project																
Vanuatu	BUR1	2021	Tabular	Project																
Viet Nam	BUR3	2021	Tabular	Project																
Yemen	BUR1	2018	Tabular	Project																
Zambia	BUR1	2020	Tabular	Project																
Zimbabwe	BUR1	2021	Tabular	Project																

Annex D: Status of impact reporting under operating entities of the Financial Mechanism

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
Adaptation Fund Date operational: 2009 Data as of: Jun-20 Source: Annual Performance Report for the Fiscal Year 2020	Adaptation	Number of project/programme approved	n/a	121	
		Expected beneficiaries with vulnerability reduced (in millions)	31.21 (10.4 direct and 21.17indirect)	n/a	
		Early warning systems introduced	414	n/a	
		Coastline protected (metres)	161 775	n/a	
		Policies introduced or adjusted to address climate change risks	980	n/a	
		Natural assets (habitat, coastline) created, protected or rehabilitated (HA)	380 242	n/a	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
Green Climate Fund Date operational: 2015 Data as of: Mar 2022 Source: • GCF: Annual Results report (2021) • GCF website • GCF/B.27/17: 9th Report of the GCF to the COP	Adaptation / Mitigation	Expected direct and indirect beneficiaries reached (in millions)	588	14	Other core impact metrics not reported • Value of physical assets made more resilient to the effects of climate change and/or more able to reduce GHG emissions • Hectares of natural resource areas brought under improved low emission and/or climate-resilient management practices Enabling Environment indicators not reported (4-point scale scorecard: no - low - medium – high rating) • Institutional and regulatory frameworks for low-emission climate-resilient development pathways in a country-driven manner • Technology deployment, dissemination, development or transfer and innovation • Market development/transformation at the sectoral, local or national level • Knowledge generation and learning processes, and use of good practices, methodologies and standards. Paradigm Shift Potential indicators not reported (4-point scale where 0 = no evidence of change, 3 = high degree of evidence of change) • Scale (increase in results within and beyond scope of project) • Depth (integration/embeddedness) • Sustainability (continuity over time)
	Mitigation	GHG reduction (CO_2 equivalent, millions of metric tonnes)	1 980	54	
	Adaptation / Mitigation	Approved projects		190	
		Developing countries with approved projects		127	
		Projects under implementation		152	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
GEF-General Trust Fund Date operational: 1991 Data as of: Dec-21 Source: · GEF Corporate Scorecard December 2021	Mitigation	GHG reduction (CO_2 equivalent, millions of metric tonnes)	1 445.80 (of 1 500 programming target)	n/a	Sub-indicators · of which carbon sequestered or emissions avoided in the AFOLU sector 874.7 · of which emissions avoided 571.2 · Energy saved (gigawatt hours) 429 934.3 · Increase in installed renewable energy capacity per technology (megawatts) 5 431.0
	Adaptation / other objectives	Direct beneficiaries disaggregated by gender as co-benefit of GEF investment	190.1 (of which 92.2 million female)	n/a	
		Terrestrial protected areas created or under improved management for conservation and sustainable use (million HA)	102.1 (of 200 programming target)	n/a	Sub-indicators · of which newly created 6.5 · of which under improved management effectiveness 95.6
		Area of land restored (million HA)	8.0 (of 6.0 programming target)	n/a	Sub-indicators · of which degraded agricultural lands restored 4.1 · of which forest and forest land restored 2.3 · of which natural grass and shrublands restored 1.2 · of which wetlands (including estuaries and mangroves) 0.3

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
		Other Core and Sub-Indicators	Expected results available	n/a	Other expected core indicators reported in GEF-7 scorecard (includes series of sub-indicators not shown here) · Marine protected areas created or under improved management for conservation and sustainable use (million hectares) · Area of landscapes under improved practices (million hectares; excluding protected areas) · Area of marine habitat under improved practices to benefit biodiversity (million hectares; excluding protected areas) · Number of shared water ecosystems (fresh or marine) under new or improved cooperative management · Globally over-exploited marine fisheries moved to more sustainable levels (thousand metric tons) · Reduction, disposal/destruction, phase out, elimination, and avoidance of chemicals of global concern and their waste in the environment and in processes, materials, and products (thousand metric tons of toxic chemicals reduced) · Reduction, avoidance of emissions of persistent organic pollutants to air from point and non-point sources (grams of toxic equivalent gTEq)

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
GEF-LDCF Date operational: 2002 Data as of: Nov-21 • GEF/LDCF.SCCF.31/03 Work Programme for the LDCF • GEF/LDCF.SCCF.31/04/ Rev.01 Progress Report on the LDCF / SCCF • GEF/LDCF.SCCF.25/ Inf.05 Updated Results Architecture for LDCF and SCCF (2018–2022)	Adaptation	Expected beneficiaries with vulnerability reduced	52 810 000	17 137 622	Results in GEF-7 (In the GEF-7 period, the Updated Results Architecture for the LDCF and SCCF introduced a set of four Core Indicators that LDCF/SCCF projects are expected to track and report, in alignment with the Updated Results Architecture for the GEF Trust Fund.) Results are cumulative contributions of all LDCF projects approved in the GEF-7 period while expected results are expected contributions during LDCF/SSCF Work Programme (2018–2022) Sub-indicators of revised LDCF/SSCF Results architecture (2018–2022) not reported Outcome 1.1 Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience (based on 4 Output indicators) • Outcome 1.2 Innovative financial instruments and investment models enabled or introduced to enhance climate resilience (based on 2 Output indicators) • Outcome 2.1 Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience (aligned with PPCR with some modification) (based on 2 Output indicators) • Outcome 2.2 Increased ability of country to access climate finance or other relevant, largescale, programmatic investment (based on 2 Output indicators) • Outcome 3.1 Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis (based on 2 Output indicators) • Outcome 3.2 Institutional and human capacities strengthened to identify and implement adaptation measures (based on 1 Outcome and 1 Output indicator)\
		Beneficiaries with enhanced capacity to identify climate risks and/or engage in adaptation measures	1 650 000	621 100	
		Land brought under climate-resilient management (HA)	8 810 000	3 512 877	
		Policies, plans, or development frameworks that mainstream climate resilience	3 026	2 293	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
		Endorsed or Approved Projects	299	288	Reporting on Initial Results Architecture established during GEF-6 period
		Direct beneficiaries (million people)	52 810 000 (233 projects)	17 137 622	
		Land better managed to withstand the effects of climate change (million hectares)	8 810 000 (128 Projects)	3 512 877	
		Contribute to public awareness of climate change impacts, vulnerability and adaptation	181 (projects)	134 (projects)	
		Risk and vulnerability assessments, and other relevant scientific and technical assessments carried out and updated	901	1 469	
		Expand access to improved, climate-related early-warning information	85 (projects)	65 (projects)	
		Expand access to improved climate information services (million people)	24 670 000 (99 projects)	82 (projects)	
		People trained to identify, prioritize, implement, monitor and/or evaluate adaptation strategies and measures (people)	1 650 000	621 100	
		No. of regional, national and sub-national institutions with strengthened capacities to identify, prioritize, implement, monitor and/or evaluate adaptation strategies and measures	na	4 025	
		Policies, plans, and processes developed or strengthened to identify, prioritize, and integrate adaptation strategies and measures	3 026 (161 projects)	225 (regional, national, sectoral) 2 068 (sub-national)	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
GEF-SCCF Date operational: 2002 Data as of Sep 2021 • GEF/LDCF.SCCF.31/04/Rev.01 Progress Report on the LDCF / SCCF • GEF/LDCF.SCCF.25/Inf.05 Updated Results Architecture for LDCF and SCCF (2018–2022)	Adaptation	Projects approved	88	85	Results in GEF-7 (In the GEF-7 period, the Updated Results Architecture for the LDCF and SCCF introduced a set of four Core Indicators that LDCF/SCCF projects are expected to track and report, in alignment with the Updated Results Architecture for the GEF Trust Fund.) Actual Results from FY21 Annual Monitoring Review Sub-indicators of revised LDCF/SSCF Results architecture (2018–2022) not reported • Outcome 1.1 Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience (based on 4 Output indicators) • Outcome 1.2 Innovative financial instruments and investment models enabled or introduced to enhance climate resilience (based on 2 Output indicators) • Outcome 2.1 Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience (aligned with PPCR with some modification) (based on 2 Output indicators) • Outcome 2.2 Increased ability of country to access climate finance or other relevant, largescale, programmatic investment (based on 2 Output indicators) • Outcome 3.1 Climate-resilient planning enabled by stronger climate information decision-support services, and other relevant analysis (based on 2 Output indicators) • Outcome 3.2 Institutional and human capacities strengthened to identify and implement adaptation measures (based on 1 Outcome and 1 Output indicator)\
		Expected beneficiaries with vulnerability reduced (million)	7.38	6 577 672	
		Beneficiaries with enhanced capacity to identify climate risks and/or engage in adaptation measures	209 301 (46 projects)	104 226	
		Land brought under climate-resilient management (HA)	n/a	6 390 046	
		Policies, plans, or development frameworks that mainstream climate resilience	462 (51 projects)	605	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
CIF-CTF Date operational: 2008 Data as of Dec-20 Source: • CIF CTF website Based on 2021 CTF Results Report		*Direct beneficiaries (million people)*	7.38 (80 projects)	6 577 672	Reporting on Initial Results Architecture established during GEF-6 period
		Land better managed to withstand the effects of climate change (million hectares)	4.01 (30 projects)	6 390 046	
		Contribute to public awareness of climate change impacts, vulnerability and adaptation	56 (projects)	60 (projects)	
		Risk and vulnerability assessments, and other relevant scientific and technical assessments carried out and updated	175 (38 projects)	288	
		Expand access to improved, climate-related early-warning information	31 (projects)	19 (projects)	
		Expand access to improved climate information services (million people)	18 (projects)	28 (projects)	
		People trained to identify, prioritize, implement, monitor and/or evaluate adaptation strategies and measures (people)	209 301 (56 projects)	104 226	
		Policies, plans, and processes developed or strengthened to identify, prioritize, and integrate adaptation strategies and measures	462 (51 projects)	132 (regional, national and sectoral) 473 (subnational)	
	Mitigation	Number of project/programme expected		104	• Large infrastructure projects funded by CTF typically have a long gestation period, and only when they reach fully operational capacity, they start reporting results closer to targets. A project's age impacts the magnitude of its achieved results, with older projects more advanced in achieving targets than more recent projects.
		Number of beneficiaries (in millions)	2.1 (passengers per day using low carbon public transit)	0.290 (passengers per day using low carbon public transit)	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
CIF- SREP Date operational: 2010 Data as of Dec-20 Source: • CIF SREP website • SREP Operational and Results Report – June 2021		Installed renewable energy capacity	26 6 GW	8.2 GW	
		Electricity saving	11 037 GWh (annual energy savings)	5 392 GWh (annual energy savings)	
		GHG reduction (CO_2 equivalent, millions of metric tonnes)	69.4 (per year)	21.8 (per year)	
		Volume of co-finance leveraged through CTF funding (million USD)	48.8 (cumulative)	22.9 (cumulative)	
	Mitigation	Number of project/programme expected		53	• Large notable results are yet to be observed given that approximately 90 per cent of the projects (both number and funding volume) are under 5-years implementation, and 40 per cent of the portfolio is still within two years of MDB approvals.
		Electricity production from renewable energy (MWh annually)	3 778 421 (per year)	166 975 (per year)	
		GHG reduction (CO_2 equivalent, millions of metric tonnes)	2.8 (per year)	0.0235 (per year)	
		Additional businesses with improved energy access	143 316	2 722	
		People with improved access to electricity (million)	10	0.728	
		Volume of co-finance leveraged through CTF funding (million USD)		856	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
CIF-PPCR Date operational: 2008 Data as of Dec-20 Source: • PPCR Operational and Resullt Report - June 2021 • CIF PPCR website	Adaptation	Projects approved		65	
		Direct and indirect beneficiaries (million people)	+45	15	Of which: • 3.2 million households (target:5.1 million) • 9 300 communities (target:15 000) • 4 200 public entities (target:8 000) • 31 000 businesses (target:44 000)
		National, sectoral and local/community development plans integrate climate change	681	637	
		Government officials and public beneficiaries received training	203 641	241 715	
		Knowledge products, systems and studies	682	668	
		Degraded land restored through sustainable land and water management practices (HA)	185 379	186 576	
		Hydromet and climate services (HCS) stations (agromet stations, hydrological stations, and meteorological stations) built or rendered functional	2 443	2 272	Non-core indicators reported
		Climate-improved roads constructed or rehabilitated (km)	2 920	2 476	
		Climate-smart, small-scale structures (schools, hospitals, and disaster shelters) constructed	14 525	7 643	

Funds	Theme	Indicator	Reporting on expected results (ex ante)	Reporting on achieved results (ex post)	Other Impact metrics/comments
CIF-FIP Date operational: 2009 Data as of Dec-20 Source: • FIP Operational and Results Report – May 2021 • CIF FIP website	Mitigation	Project pipeline / under implementation	50	42	Note: Expected results from portfolio pipeline, Actual results from projects under implementation
		Land covered under sustainable land management (million HA)	41.3	44.7	Other indicators not reported on portfolio level (Mix of quantitative and qualitative metrics by project) • Biodiversity • Governance • Land Tenure, Rights, Access • Capacity Development
		Million people with livelihood co-benefits (million people)	1.4	1.1	
		GHG reduced (CO_2 equivalent, millions of metric tonnes)	71.25	20.5	

Annex E: Exemplary explicit modalities of multilateral climate change funds to facilitate climate finance access by developing countries

	Fund	Modality	Description	Funding (if applicable)
Support for climate finance readiness	AF	Readiness Package Grant	The objective of the readiness package is to provide enhanced support for accreditation by simultaneously employing a suite of tools to advance the delivery of climate finance through Direct Access. This includes enabling the recruitment of fiduciary, governance and other experts to support entities navigating the accreditation process to effectively address technical gaps and challenges, complete the process and obtain accreditation with the Fund.	Form: Grant Up to USD 150 000; available for accreditation of NIEs only, as a once off grant per country.
	GCF	Readiness and Preparatory Support Program	The GCF offers support to entities applying to become direct-access entities. The programme includes resources and capacity for activities such as (1) information exchange between institutions interested in accreditation and/or learning from each other's experiences undergoing the process; (2) conducting an institutional gap analysis of applicants against the fiduciary stan¬dards and environmental and social standards and GCF's gender policy or developing a personalized readiness and preparatory support plan; (3) building up the institutional capacities of AEs to better comply with GCF standards; and (4) developing project and programme proposals according to GCF standards and regulations. Target of at least 50% of readiness support towards particularly vulnerable countries, including LDCs, SIDS, and African States.	Form: Grant Up to USD 1 million per year Up to USD 3 million for formulation of National Adaptation Plans (NAPs) and/ or other adaptation planning processes.
	AF	South-South Cooperation Grants	Meant to increase peer-to-peer support among accredited National Implementing Entities (NIEs) and those seeking accreditation. These grants are aimed at strengthening the capacity of countries seeking accreditation with the Fund to undertake activities, and to prepare and submit relevant documents that lead to accreditation with the Fund.	Form: Grant Up to USD 50 000
	AF	Technical Assistance Grants	Small grants to help NIEs build their capacity to address and manage environmental and social as well as gender associated risks within their projects/programmes in accordance with the Fund's Environmental and Social Policy (ESP) and Gender Policy. Through this grant, NIEs have the option to hire consultant(s) to help them address these issues. There are two types of TA grants: 1) TA grants for ESP and Gender Policy help enable NIEs to put in place safeguards to address social and environmental risks as well as gender related issues posed by adaptation projects and programmes. 2) TA grants for Gender Policy enable NIEs that have previously received a TA Grant for ESP before the Fund's Gender Policy was in place (as of 2016) to update their environmental and social safeguards by integrating gender within their social and environmental policies and procedures.	Form: Grant Up to USD 25 000

	Fund	Modality	Description	Funding (if applicable)
Support for project preparation	CIF (includes CTF, FIP, SREP, PPCR)	CIF Technical Assistance Facility (CIF-TAF)	Provides support to client countries for strengthening policy and regulatory frameworks, building stakeholder capacity, and enabling transactions through the design of innovative tools like new business models, instruments, among others. Two tracks focus on 1) clean energy investments and 2) green and resilient recovery with a focus on COVID 19 response measures. Eligibility: Open to countries that meet ODA eligibility criteria and have an active MDB country programme.	Form: TA
	GEF	Enabling Activities (EA) – support to formulation of reporting obligations to Conventions	Provides finance for country preparation of a plan, strategy, or report to fulfil commitments under a Convention. The five conventions covered are: Convention on Biological Diversity (CBD), United Nations Framework Convention on Climate Change (UNFCCC), Stockholm Convention on POPs, UN Convention to Combat Desertification (UNCCD) and Minamata Convention on Mercury.	Form: Grant Both FSP (> USD 2 million) and MSP (< USD 2 million) are eligible
	GEF	Capacity-building Initiative for Transparency - support to formulation of reporting obligations under the Paris Agreement	Provides finance and capacity building support for country preparations of BTRs and other reporting obligations of the Enhanced Transparency Framework (ETF) under the Paris Agreement. Supports enhancement of domestic tracking frameworks of reporting on financial support provided and received and progress towards achieving Party's NDCs.	Form: Grant Both FSP (> USD 2 million) and MSP (< USD 2 million) are eligible
	AF	Project Formulation Grant	To build the capacity of NIEs in project preparation and design. NIEs that are at the concept development stage of the Fund's project cycle process have the option to request a **PFG**. PFGs can support project formulation activities, including among others, consultations feasibility studies or environmental impact assessment (EIA), vulnerability assessment (VA), a risk assessment, gender studies, and other environmental and social assessments.	Form Grant Up to USD 50 000 per project
	GCF	Requests for Proposals	Formulation of specific Requests for Proposals and pilot programmes to encourage National Designated Authorities (NDA), Accredited Entities (AE) to submit concept notes and funding proposals in areas with identified gaps of climate finance.	n/a
	GCF	Project Preparation Facility	Dedicated to project and programme development. Support from the Project Preparation Facility can be requested after the concept note has been approved by the GCF Secretariat. This support is open to all AEs, but direct-access entities applying for a funding proposal below USD 10 million in the micro or small size category are given a preference. With its two pillars of PPF funding and PPF services, the Project Preparation Facility can additionally support feasibility or pre-feasibility, environmental, social and gender studies, risk assessments and indicator development.	Form: Grant Maximum of USD 1.5 million

	Fund	Modality	Description	Funding (if applicable)
Supporting multilateral climate fund access and accreditation	AF	Project Formulation Assistance	PFA offer additional small grants on top of PFGs and available for NIEs that need funding to undertake a specific technical assessment (i.e. environmental impact assessment, vulnerability assessment etc.) during the project preparation and design stage.	Form: Grant Up to USD 30 000
	GEF / LDFC / SCCF	GEF7 Project Preparation Grant Request	The GEF provides preparation funding to help a proposer to develop a GEF co-financed project. Requires only submission of simple funding request.	Form: Grant USD 50 000–300 000 USD 50 000 for proposals up to USD 2 million USD 100 000 for proposals up to USD 3 million USD 150 000 for proposals up to USD 6 million USD 200 000 for proposals up to USD 10 million USD 300 000 for proposals above USD 10 million
	CIF (includes CTF, FIP, PPCR, SREP-LIC)	Project/Preparation Grant	Requires a separate project preparation application with a list of activities and deliverables.	Form: Grant Originally maximum of USD 3 million, Recent shift enables larger amounts granted on a case-by-case basis
	AF	Enhanced Direct Access	Empower developing country recipients of international climate finance beyond what can be achieved through Direct Access modality alone, by devolving decision-making in the programming of internationally allocated funds to the national and sub-national levels. Screening, review and selection of projects would be done at the national and sub-national level with stronger stakeholder engagement in the decision-making. Shall enable opportunities for: piloting innovation built on bottom-up approaches through local knowledge and locally led action; generating additional knowledge for replication; and promoting the development of public private partnerships.	Form: Grant Up to USD 5 million per country. The funding window does not count against the cap of funding for each country currently set at USD 20 million per country (2021).

	Fund	Modality	Description	Funding (if applicable)
	GCF	Simplified Approval Process	The Simplified Approval Process is an application process for smaller-scale projects developed by direct-access entities and requiring a GCF contribution of up to USD 25 million with minimal environmental and social risks and impacts. The GCF notes that the purpose of the Simplified Approval Process was to reduce the time and effort required to go from project conception to implementation.	Form: n/a (no funding support) Eligibility for projects up to USD 25 million (GCF in consideration process for an update to SAP, including options for increasing funding eligible for consideration in SAP proposals from USD 10 million to USD 20 million or USD 50 million; [155]
	GCF	Enhanced Direct Access (pilot)	The EDA pilot phase aims to enhance access to GCF climate finance by sub-national, national and regional, public and private accredited entities. The aim is to establish or support existing financial vehicles that can provide finance to subprojects at national and/or local level with a high degree of devolved decision making for project implementation. The set-up of a comprehensive decision-making body is required for an EDA project, that involves local actors such as civil society, local governments, private sector (or their representatives), central government entities (CBO) as well as other relevant stakeholders, as appropriate. EDA projects may benefit from PPF.	Form: Grants, loans, equity or guarantees. 10 Pilot programmes over USD 200 million (average USD 20 USD million each), including at least 4 pilots to be implemented in small island developing states (SIDS), least developed countries (LDC) and African states
	AF	Streamlined Accreditation Process	This process does not change the AF's fiduciary standards, but it helps smaller NIEs to demonstrate their fiduciary competency. The process involves instituting mitigating measures and controls that support NIEs to identify and implement viable alternative processes to meet the fiduciary requirements.	Form: n/a (no funding support) Available for NIEs typically seeking access to implementing projects of less than USD 5 million
	GEF	Country Support Program	The Country Support Program provides recipient countries with assistance and capacity building to fully participate in the GEF partnership and make good use of the trust fund's resources. As one of the key outreach vehicles for the GEF, the Country Support Program informs, assists, and empowers GEF focal points, Convention focal points, Council members and alternates, civil society organizations, and GEF Agencies to advance the protection of the global environment through an improved understanding of the institution.	n/a
	GCF	Project-Specific Assessment Approach	The GCF Board are considering whether accreditation could be granted to some entities on a one-off basis to deliver a specific project.	n/a

155) GCF. 2021. GCF/B.30/Inf.12: Status of the GCF portfolio: approved projects and fulfilment of conditions. GCF. Available at

	Fund	Modality	Description	Funding (if applicable)
	FIP (in collaboration with WBG)	Dedicated Grant Mechanism for indigenous people and local communities*	Support and develop the capacity of IPLCs to participate in FIP projects and national REDD+ processes with two mechanisms: 1.) The provision of grants to IPLCs to develop and implement sub-projects of their choice, under their control; 2.) Capacity-building for IPLC organizations. Inclusion processes enabled via two programme components: 1) country component, in which IPLC representatives are included in sub-project grant-making and national process and 2) global component with IPLC representatives engaged in international processes on climate and forestry.	Form: Grant USD 80 million dedicated fund with disbursements to 12 national DGM programs for allocation to sub-projects (as low as $30 000 USD or less)
	AF	Adaptation Fund Climate Innovation Accelerator*	Pilot innovation programme to enable small grants for non-accredited local institutions, (including NGOs, community groups and young innovators), that is administered through a multilateral implementing entity aggregator platform (UNDP & UNEP-CTCN).	Form: Grant Up to USD 250 000 (Total USD 10 million programme in first tranche)

***Note:** The DGM and AFCIA are not explicit access modalities, however the programme design characteristics are dedicated to enabling participation and indirect accreditation of indigenous and local-level stakeholders otherwise not reached and so are included in this table.

Sources: Review of the multilateral climate funds websites; Caldwell and Larsen 2021

Annex F: Estimates of domestic climate finance by country

Domestic public climate finance as reported in BURs, Climate Public Expenditure and Investment Reviews (CPEIRs), National budgets and tracking systems, and other sources in 2019 and 2020 (millions of USD)

Country	Source of data				Comment	Annualized expenditure 2017–2018 (USD million)
	BUR	Budget	CPEIR	Other		
Armenia			X		2019 only	73
Bangladesh		X			2019 and 2020 average	228
Cambodia			X		2019 and 2020 average	568
Colombia		X			2019 and 2020 average	711
Ghana	X				2019 and 2020 average	347
Honduras		X			2019 and 2020 average	2 466
India				X	2019 and 2020 average CPI(2022)	8 184
Indonesia		X			2019 only – 2020 expenditure review forthcoming	5 775
Lesotho	X				2019 and 2020 average	37
Mauritania	X				2019 and 2020 average	0.3
Mexico		X			2019 and 2020 average	4 305
Nepal		X			2019 and 2020 average	4 122
Nicaragua		X			2019 and 2020 average	80
Rwanda	X				2019 and 2020 average	5
Philippines		X			2019 and 2020 average	37 116
South Africa	X				2019 and 2020 average	203
Vietnam			X		2019 and 2020 average	1 447
Fiji		X			2019 only – climate-related spending category in national budget allocation	180
Chile		X			2019 and 2020 average	365
Timor Leste			X		2019 and 2020 average	191
Mauritius	X				2019 and 2020 average	55
France		X			Climate-relevant spending of Budget Vert only	23 812
Ireland		X			2019 and 2020 average	2 061
Italy		X			Air and climate share of Ecorendiconto only	1 224
Austria		X			2019 and 2020 average – national MoF analysis	922
Sweden		X			Budget allocation under climate-related spending category - 2020 only	362
EC		X			EC Budget expenditures - 2019 only	39 326
Total						134 167

Annex G: Characteristics of global climate finance

Sector	2017	2018	2019	2020	Data quality	Data completeness	Sources of data and relevant chapter
CLEAN ENERGY SYSTEMS							
Public	67	51	108	116	High	High	BNEF, CPI 2022; Chapter 2.2.2
Private	285	271	217	232			
Total	**351**	**322**	**325**	**347**			
SUSTAINABLE TRANSPORT							
Public	118	71	112	86	High	Medium	IEA 2021b, CPI 2022; Chapter 2.2.3
Private	42	50	63	76			
Total	**161**	**121**	**175**	**162**			
BUILDINGS AND INFRASTRUCTURE							
Public	36	35	26	40	Medium	Medium	CPI 2022, IEA 2021; Chapter 2.2.4
Private	97	105	134	140			
Total	**133**	**139**	**160**	**180**			
INDUSTRY							
Public			9.0	4.9	Medium	Medium	CPI 2022, IEA 2021; Chapter 2.2.5
Private	35	40	36.0	30.1			
Total	**35**	**40**	**45**	**35**			
AGRICULTURE, FORESTRY, AND OTHER LAND USE (AFOLU)							
Public	22.2	18.5	14.7	17.9	High	Medium	CPI 2022; Chapter 2.2.6
Private	0.1	0.2	0.3	0.6	High	Low	
Total	22.3	18.7	15.0	18.5			
OTHER SECTORS (Mitigation)[a]							
Public	14.4	13.5	24.3	15.4	High	High	CPI 2022; Chapter 2.2.7
Private	0.5	0.2	0.5	2.0	High	Low	
Total	15.0	13.7	24.8	17.4			
ADAPTATION[b]							
Public	24.7	34.1	42.4	56.2	High	Medium	CPI 2022 based on multiple sources, Chapter 2.2.8
BOTH MITIGATION AND ADAPTATION[b]							
Public		11.4	14	16.1	High	High	CPI 2022
Private	0.3	0.2	1.3	3.2	High	Low	
Total	12.9	11.6	15.3	19.3			
DOMESTIC CLIMATE-RELATED PUBLIC INVESTMENT							
	86.7	86.7	134.2	134.2	Low	Low	Country-level reporting: BURs, CPEIRs CPI Chapter 2.3

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