UNFCCC Standing Committee on Finance

2018 Biennial Assessment and Overview of Climate Finance Flows Technical Report

United Nations
Framework Convention on
Climate Change

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ACKNOWLEDGEMENTS

Special thanks go to the contributors of the technical report, Charlene Watson, Maria Athena Ballesteros, Barbara Buchner, Padraig Oliver, Caroline Ott and Guillaume Simon, for their valuable contribution to improvements in data quality and coverage.

Acknowledgments and appreciation go to all external contributors and their teams. Special recognition and thanks are due to CPI; the Development Co-operation Directorate and the Research Collaborative of the OECD; the group of MDBs consisting of AfDB, ADB, EBRD, EIB, ISDB, IADB, IFC and WB from the WBG; IDFC; ODI; and UNDP.

In addition, appreciation goes to the numerous experts who offered views and perspectives at two informal technical meetings held in conjunction with the meetings of the SCF in April and September 2018.[1] Although they are too numerous to mention individually, their contributions are deeply appreciated.

Within the SCF, the 2018 BA was prepared under the guidance of the co-facilitators of the dedicated working group, Outi Honkatukia and Hussein Alfa (Seyni) Nafo. The 2018 BA has benefited from inputs and guidance from the working group and other committee members, including Diann Black Layne and Lia Nicholson, Georg Børsting, Randy Caruso, Sonja Djukic and Erin Marchington, Zaheer Fakir and Omar El-Arini, Ivan Zambrana Flores, Peter Horne, Kazuhiro Iryu and Toru Sugio, Edith Kateme-Kasajja, Paul Herbert Oquist Kelley, Jonghun Lee, Gemma O'Reilly, Claudia Keller and Matthias Frumerie, Edmund Mortimer and Fiona Gilbert, Bernarditas Muller, Mohamed Nasr, Vicky Noens, Ayman Shasly, Pieter Terpstra and Ismo Ulvila.

1) Further information on the technical meetings is available at http://unfccc.int/8034.

SUMMARY AND RECOMMENDATIONS BY THE STANDING COMMITTEE ON FINANCE ON THE 2018 BIENNIAL ASSESSMENT AND OVERVIEW OF CLIMATE FINANCE FLOWS

I. Context and mandates

1. The Standing Committee on Finance (SCF) assists the Conference of the Parties (COP) in exercising its functions with respect to the Financial Mechanism of the Convention, inter alia, in terms of measurement, reporting and verification of support provided to developing country Parties, through activities such as the biennial assessment and overview of climate finance flows (BA).[2]

2. Subsequent to the 2014 BA, the COP requested the SCF to consider: the relevant work of other bodies and entities on measurement, reporting and verification of support and the tracking of climate finance;[3] ways of strengthening methodologies for reporting climate finance;[4] and ongoing technical work on operational definitions of climate finance, including private finance mobilized by public interventions, to assess how adaptation and mitigation needs can most effectively be met by climate finance.[5] It also requested the Ad Hoc Working Group on the Paris Agreement, when developing the modalities, procedures and guidelines for the transparency framework for action and support, to consider, inter alia, information in the BA and other reports of the SCF and other relevant bodies under the Convention.

3. The COP welcomed the summary and recommendations by the SCF on the 2016 BA, which, inter alia, encourages Parties and relevant international institutions to enhance the availability of information that will be necessary for tracking global progress on the goals outlined in Article 2 of the Paris Agreement. The COP requested the SCF, in preparing future BAs, to assess available information on investment needs and plans related to Parties' nationally determined contributions (NDCs) and national adaptation plans.

4. The 2018 BA provides an updated overview of climate finance flows in 2015 and 2016 from provider to beneficiary countries, available information on domestic climate finance and cooperation among Parties not included in Annex I to the Convention (non-Annex I Parties), and the other climate-related flows that constitute global total climate finance flows. It also includes information on trends since the 2014 BA. The 2018 BA then considers the implications of these flows and assesses their relevance to international efforts to address climate change. It explores the key features of climate finance flows, including composition and purposes. It also explores emerging insights into their effectiveness, finance access, and ownership and alignment of climate finance with beneficiary country needs and priorities related to climate change. It also provides information on recent developments in the measurement, reporting and verification of climate finance flows at the international and domestic level, and insights into impact reporting practices.

5. The 2018 BA includes, for the first time, information relevant to Article 2, paragraph 1(c), of the Paris Agreement, including methods and metrics, and data sets on flows, stocks and considerations for integration. It also discusses climate finance flows in the broader context.

6. The 2018 BA comprises this summary and recommendations, and a technical report. The summary and recommendations was prepared by the SCF. The technical report was prepared by experts under the guidance of the SCF and draws on information and data from a range of sources. It was subject to extensive stakeholder input and expert review, but remains a product of the external experts.

2) Decision 2/CP.17, paragraph 121(f).
3) Decision 1/CP.18, paragraph 71.
4) Decision 5/CP.18, paragraph 11.
5) Decision 3/CP.19, paragraph 11.

II. Challenges and limitations

7. The 2018 BA provides an updated overview of current climate finance flows over the years 2015 and 2016, along with data on trends from 2011 to 2014 collated in previous BA reports. Due diligence has been undertaken to utilize the best information available from the most credible sources. In compiling estimates, efforts have been made to avoid double counting through a focus on primary finance, which is finance for a new physical item or activity. Challenges were nevertheless encountered in collecting, aggregating and analysing information from diverse sources. The lack of clarity with regard to the use of different definitions of climate finance limits the comparability of data.

8. **Data uncertainty.** There are uncertainties associated with each source of data which have different underlying causes. Uncertainties are related to the data on domestic public investments, resulting from the lack of geographic coverage, differences in the way methods are applied, significant changes in the methods for estimating energy efficiency over the years, and the lack of available data on sustainable transport and other key sectors. Uncertainties also arise from the lack of procedures and data to determine private climate finance; methods for estimating adaptation finance; differences in the assumptions of underlying formulas to attribute finance from multilateral development banks (MDBs) to members of the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC), minus the Republic of Korea; the classification of data as 'green finance'; and incomplete data on non-concessional flows.

9. **Data gaps.** Gaps in the coverage of sectors and sources of climate finance remain significant, particularly with regard to private investment. Although estimates of incremental investments in energy efficiency have improved, there is still an inadequate understanding of the public and private sources of finance and the financial instruments behind those investments. For sustainable transport, efforts have been made to improve public and private investment in electric vehicles. However, information on sources and instruments for finance in public mass transit remains unreported in many countries. High-quality data on private investments in mitigation and finance in sectors such as agriculture, forests, water and waste management are particularly lacking. In particular, adaptation finance estimates are difficult to compare with mitigation finance estimates due to the former being context-specific and incremental, and more work is needed on estimating climate-resilient investments.

10. The limitations outlined in paragraphs 8 and 9 above need to be taken into consideration when deriving conclusions and policy implications from the 2018 BA. The SCF will contribute, through its activities, to the progressive improvement of the measurement, reporting and verification of climate finance information in future BAs to help address these challenges.

III. Key findings

A. Methodological issues relating to measurement, reporting and verification of public and private climate finance

1. Developments in the period 2015–2016

11. Following the recommendations made by the SCF in the 2016 BA, the 2018 BA identifies the improvements listed in paragraphs 12–16 below in the tracking and reporting of information on climate finance.

(a) Annex II Parties

12. Revision of the biennial report (BR) common tabular format (CTF) tables 7, 7(a) and 7(b) has facilitated the provision of more qualitative information on the definitions and underlying methodologies used by Parties included in Annex II to the Convention (Annex II Parties) in the documentation boxes in the BR3 CTF tables. The BR3 CTF tables submitted as at October 2018 suggest some increase in the provision of quantitative information, including information on public financial support in CTF table 7(b) and climate-related private finance in the BRs.

(b) International organizations

13. Making data available on private shares of climate co-finance associated with MDB finance and reporting on amounts mobilized through public interventions deployed by other development finance institutions (DFIs) included in the regular OECD-DAC data collection process.

14. Facilitating the increased transparency of information through biennial surveys to collect information from OECD-DAC members on the measurement basis for reporting (i.e. committed, disbursed or "other"), and on the shares of the activity reported as mitigation, adaptation or cross-cutting to the UNFCCC.

15. Institutionalizing the mitigation and adaptation finance tracking and reporting, and ongoing efforts aimed at better tracking and reporting on projects that have mitigation and adaptation co-benefits (i.e. cross-cutting) among MDBs.

16. Measuring and reporting on impact is now common practice among multilateral climate funds, and there is now growing interest in this field by MDBs and the International Development Finance Club (IDFC), which are also undertaking work on methodologies for impact measuring in the light of the Paris Agreement. The ongoing efforts of MDBs to develop additional metrics that demonstrate how MDB financing supports climate-resilient development pathways are an important step in this direction.

(c) Insights into reporting by Annex II Parties and non-Annex I Parties

17. Notwithstanding the improvements in methodologies for reporting climate finance via the BR3 CTF tables 7, 7(a) and 7(b), some reporting issues persist that complicate the aggregation, comparison and analysis of the data. The current "UNFCCC biennial reporting guidelines for developed country Parties"[6] were designed to accommodate reporting on a wide range of climate finance instruments and activities. This required a reporting architecture that was flexible enough to accommodate a diversity of reporting approaches. In some cases, limited clarity with regard to the diversity of reporting approaches limits comparability in climate finance reporting.

18. The current "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention"[7] for reporting by non-Annex I Parties on financial, technical and capacity-building needs and support received do not require information on underlying assumptions, definitions and methodologies used in generating the information. Nevertheless, the provision of such information is useful.

(d) Insights into broader reporting aspects

19. Notwithstanding ongoing efforts to make information on domestic climate-related finance available through biennial update reports (BURs), published climate public expenditure and institutional reviews, and other tools, collecting and reporting domestic climate-related finance is often not undertaken systematically, thereby limiting the availability of information.

20. There are significant data gaps on climate finance flows in the context of cooperation among non-Annex I Parties.

2. Information relevant to Article 2, paragraph 1(c), of the Paris Agreement: methods and metrics

21. Ongoing voluntary efforts to develop approaches for tracking and reporting on consistency of public and private sector finance with the Paris Agreement are important for enhancing the collective understanding of the consistency of the broader finance and investment flows with Article 2, paragraph 1(c), of the Paris Agreement.

22. Some financial actors, such as MDBs and bilateral DFIs, have started to develop approaches for tracking the integration of climate change considerations into their operations. However, there was no publicly available information on the progress made on this matter at the time of preparation of the 2018 BA. Ongoing work for developing climate-resilience metrics is important for enhancing understanding of the consistency of multilateral and bilateral development finance with the Paris Agreement.

B. Overview of current climate finance flows in the period 2015–2016

1. Global finance flows

23. On a comparable basis, climate finance flows increased by 17 per cent in the period 2015–2016 compared with the period 2013–2014. High-bound climate finance estimates increased from USD 584 billion in 2014 to USD 680 billion in 2015 and to USD 681 billion in 2016 (see figure 1). The growth seen in 2015 was largely driven by high levels of new private investment in renewable energy, which is the largest segment of the global total. Despite decreasing technology costs (particularly in solar photovoltaic and wind power generation), which means that every dollar invested finances more renewable energy

6) Decision 2/CP.17, annex I.
7) Decision 2/CP.17, annex III.

than it previously did, a significant number of new projects were financed in 2015. In 2016, a decrease in renewable energy investment occurred, which was driven by both the continued decline in renewable technology costs and the lower generation capacity of new projects financed.[8] However, the decrease in renewable energy investment in 2016 was offset by an 8 per cent increase in investment in energy efficiency technologies across the building, industry and transport sectors.

24. The quality and completeness of data on climate finance has improved since the 2016 BA. Methodological improvements in estimating finance flows have changed the comparative basis against previous estimates. In particular, 2014 estimates for energy efficiency have been revised downward owing to a more accurate bottom-up assessment model being employed by the International Energy Agency. This has resulted in a revised estimate of USD 584 billion from USD 741 billion for total global climate finance in 2014. In addition, data coverage in sustainable transport has improved, with estimates for public and private investment in electric vehicle sales in 2015 and 2016.

(a) Flows from Annex II Parties to non-Annex I Parties as reported in biennial reports

25. Climate-specific finance reported in BRs submitted by Annex II Parties has increased in terms of both volume and rate of growth since the previous BA. Whereas the total finance reported increased by just 5 per cent from 2013 to 2014, it increased by 24 per cent from 2014 to 2015 (to USD 33 billion), and subsequently by 14 per cent from 2015 to 2016 (to USD 38 billion). Out of these total amounts, USD 30 billion in 2015 and USD 34 billion in 2016 were reported as climate-specific finance channelled through bilateral, regional and other channels; the remainder flowed through multilateral channels. From 2014 to 2016, both mitigation and adaptation finance grew in more or less equal proportions, namely by 41 and 45 per cent, respectively.

(b) Multilateral climate funds

26. Total amounts channelled through UNFCCC funds and multilateral climate funds in 2015 and 2016 were USD 1.4 billion and USD 2.4 billion, respectively. The significant increase from 2015 to 2016 was a result of the Green Climate Fund (GCF) ramping up operations. On the whole, this represents a decrease of approximately 13 per cent compared with the 2013–2014 biennium and can be accounted for by a reduction in the commitments made by the Climate Investment Funds, in line with changes in the climate finance landscape as the GCF only started to scale up operations in 2016.

(c) Climate finance from multilateral development banks

27. MDBs provided USD 23.4 billion and USD 25.5 billion in climate finance from their own resources to eligible recipient countries in 2015 and 2016, respectively. On average, this represents a 3.4 per cent increase from the 2013–2014 period.

28. The attribution of MDB finance flows to members of OECD-DAC, minus the Republic of Korea, is calculated at up to USD 17.4 billion in 2015 and USD 19.7 billion in 2016 to recipients eligible for OECD-DAC official development assistance.

(d) Private climate finance

29. The most significant source of uncertainty relates to the geographic attribution of private finance data. Although efforts have been made by MDBs and OECD since the 2016 BA to estimate private climate finance mobilized through multilateral and bilateral institutions, data on private finance sources and destinations remain lacking.

30. MDBs reported private finance mobilization in 2015 was USD 10.9 billion and increased by 43 per cent the following year to USD 15.7 billion. OECD estimated USD 21.7 billion in climate-related private finance mobilized during the period 2012–2015 by bilateral and multilateral institutions, which included USD 14 billion from multilateral providers and USD 7.7 billion from bilateral finance institutions. It is estimated that, in 2015, USD 2.3 billion was mobilized through bilateral institutions. The Climate Policy Initiative estimated renewable energy flows for new projects ranged from USD 2.4 billion in 2015 to USD 1.5 billion in 2016; this was, however, a significant underestimation given the underlying reporting approaches.

(e) Recipients

31. A total of 34 Parties included in Annex I to the Convention provided information on recipients in the BR3s, while 16 out of 40 BURs submitted as first or second BURs as at October 2018 include, to varying degrees, quantitative information on climate finance received

8) Approximately 52 per cent of the decrease in 2016 was due to reduced technology costs in solar photovoltaic and wind energy.

in the 2015–2016 period. Therefore, at the time of the preparation of the 2018 BA, it is not possible to present a clear picture of climate finance received on the basis of the information included in national reports submitted to the UNFCCC secretariat.

32. Other sources of information provide insights on recipients. For example, of the bilateral finance reported to OECD-DAC, national and local governments received 51 and 61 per cent of bilateral climate-related assistance in 2015 and 2016, up from 43 and 42 per cent in 2013 and 2014, respectively. The remainder was received by international organizations, non-governmental organizations and public and private sector organizations from the support-providing countries. No information is available on the channels of delivery for 91–97 per cent of the other official flows of a non-concessional nature in the period 2015–2016. Of the total climate finance committed by MDBs from their own resources, 72 per cent was channelled to public sector recipients in 2015, and 74 per cent in 2016. Adaptation finance, in particular, went predominantly to public sector institutions: 90 per cent in 2015 and 97 per cent in 2016.

2. Domestic climate finance

33. Domestic climate expenditures by national and subnational governments are a potentially growing source of global climate finance, particularly as, in some cases, NDC submissions are translated into specific investment plans and domestic efforts to monitor and track the domestic climate expenditures are stepped up. However, comprehensive data on domestic climate expenditure are not readily available, as these data are not collected regularly or with a consistent methodology over time within or across countries. Of the 30 countries that reported data on climate expenditures included in the 2016 BA, 19 countries provided such data in 2015 or 2016, with the 2015 data for 5 countries being included in the 2016 BA. Four countries reported expenditure of USD 0.335 billion in their BURs, while seven countries published climate public expenditure and institutional reviews amounting to USD 16.5 billion.[9] In two other countries, updated data are available amounting to USD 49 billion. In total, this brings domestic public climate finance estimates for the period 2015–2016 to USD 67 billion.

3. Flows among countries that are not members of the Development Assistance Committee of the Organisation for Economic Co-operation and Development, recipients eligible for official development assistance and Parties not included in Annex I

34. Information on climate finance flows among non-Annex I Parties is not systematically tracked, relying on voluntary reporting by countries through the OECD-DAC Creditor Reporting System and DFIs through IDFC that are based in countries that are not members of the Organisation for Economic Co-operation and Development (non-OECD). Total estimates of such flows amounted to USD 12.2–13.9 billion in 2015 and USD 11.3–13.7 billion in 2016. This represents an increase of approximately 33 per cent on average from the 2013–2014 period, driven primarily by non-OECD member institutions of IDFC increasing finance significantly to other non-OECD members. New multilateral institutions include the Asian Infrastructure Investment Bank (AIIB) and the New Development Bank. Together, they provided USD 911 million to renewable energy projects in 2016. The AIIB portion of this amount included outflows that may be attributable to OECD-DAC members that are shareholders in AIIB.

4. Information relevant to Article 2, paragraph 1(c), of the Paris Agreement: data sets on flows, stocks and integration

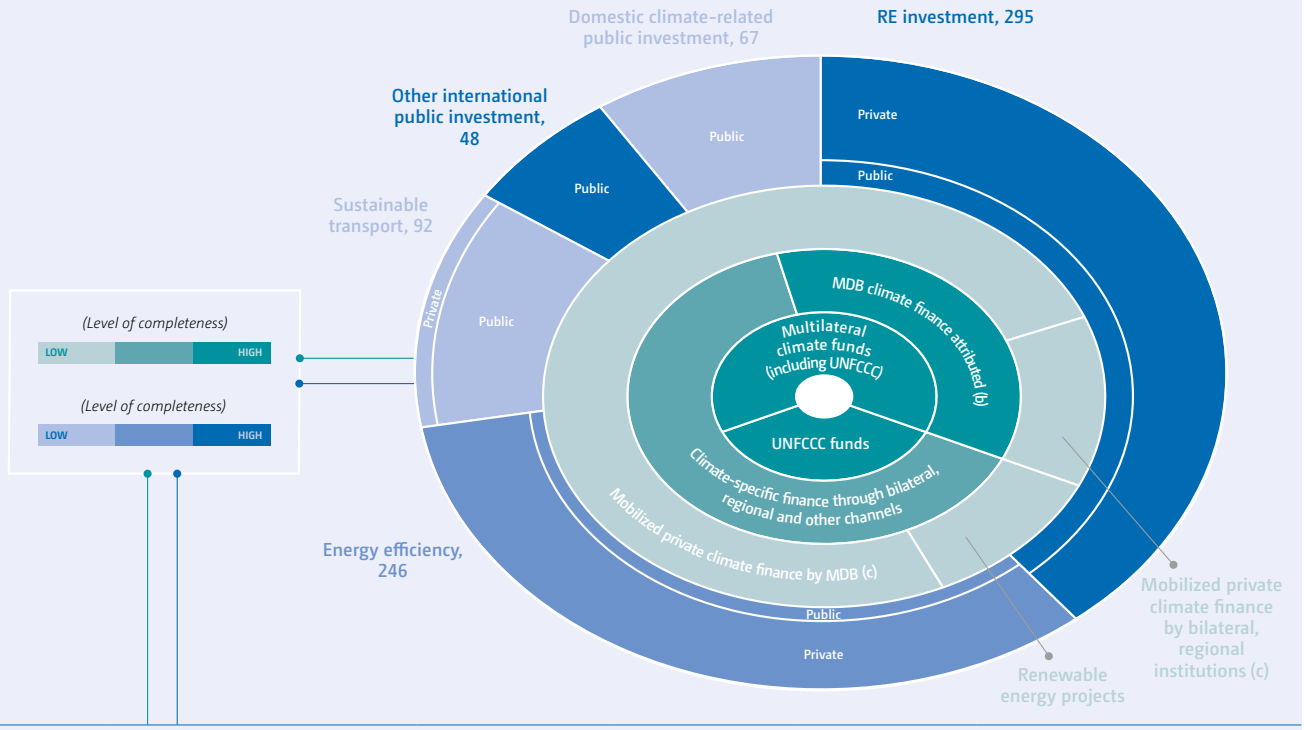
35. The 2018 BA includes information on available data sets that integrate climate change considerations into insurance, lending and investment decision-making processes and that include information that may be relevant to tracking consistency with Article 2, paragraph 1(c), of the Paris Agreement.

36. Across the financial sector, both the reporting of data on financial flows and stocks consistent with low greenhouse gas (GHG) emissions and climate-resilient pathways, and the integration of climate considerations into decision-making are at a nascent stage. The data sets available on bond markets are the most advanced, with regular and reliable data published based on green bond labelling and analysis of bonds that may be aligned with climate themes. Less information is available on bonds that may be inconsistent with low GHG emissions and

9) This includes Hebei Province in China, reporting an expenditure of USD 6.1 billion in 2015.

Figure 1

Climate finance flows in the period 2015–2016 (Billions of United States dollars, annualized)



		2015 (USD billion face value)	2016 (USD billion face value)	Sources of data and relevant chapter
Global total flows	Renewable energy investments	320.9	269.5	Chapter 2.2.1
	Public investment	61.7	52.3	CPI based on multiple sources
	Private investment	259.2	217.1	
	Energy efficiency investments	233.9	257.8	Chapter 2.2.2
	Public investment	25.7	32.9	IEA Energy Efficiency Market Reports/CPI
	Private investment	208.2	224.9	
	Sustainable transport	78.0	105.8	Chapter 2.2.3
	Public investment	69.7	92.5	IEA World Energy Investment Report/CPI
	Private investment	8.3	13.3	
	Other sectors public investment	47.3	47.5	Chapter 2.2.2 – 2.2.5
				CPI based on multiple sources
	Domestic climate-related public investment	67.0	67.0	Chapter 2.3
				BURs, CPEIRs (UNDP), I4CE
Flows to non-Annex I Parties	UNFCCC funds	0.6	1.6	Chapter 2.5.2
				Fund financial reports, CFU
	Multilateral climate funds (including UNFCCC)	1.4	2.4	Chapter 2.5.2
				Fund financial reports, CFU
	Climate-specific finance through bilateral, regional and other channels	29.9	33.6	Chapter 2.5.1
				Annex II Party Biennial Reports
	MDB climate finance attributed (b)	17.4	19.7	Chapter 2.5.2
	Renewable energy projects	2.4	1.5	Chapter 2.5.4
				CPI based on multiple sources
	Mobilized private climate finance by MDB (c)	10.9	15.7	Chapter 2.5.4
				MDB Joint Reports
	Mobilized private climate finance by bilateral, regional institutions (c)	2.3		Chapter 2.5.4
				OECD

Abbreviations: BEV = battery electric vehicle, BUR = biennial update reports, CPEIR = climate public expenditure and institutional reviews, CPI = Climate Policy Initiative, IEA = International Energy Agency, I4CE = Institute for Climate Economics, MDB = multilateral development bank, OECD = Organisation for Economic Co-operation and Development, UNDP = United Nations Development Programme.

Notes: [a] Value discounts transport energy efficiency estimates by 8.5 per cent to account for overlap with electric vehicle estimates. [b] From members of the OECD Development Assistance Committee (DAC), minus the Republic of Korea, to OECD-DAC recipients eligible for official development assistance. Refer to chapter 2.5.2 of the 2018 Biennial Assessment and Overview of Climate Finance Flows technical report for further explanation. [c] Estimates include private co-financing with MDB finance.

climate-resilient pathways. Other market segments lack completeness of coverage and reporting quality across peer institutions. With regard to integrating climate change considerations into investment decision-making, some market segments such as listed corporations and institutional investors are participating in emerging reporting initiatives, including through target-setting processes, that will likely improve the availability of data over time. Other market segments such as insurance companies participate in comprehensive and regular survey reporting on climate integration into governance and risk-management processes. Other market segments, particularly in banking, insurance and financial services, lack breadth of coverage in reporting or are at an early stage of considering how to report data.

C. Assessment of climate finance flows

37. An assessment of the data underlying the overview of climate finance flows presented offers insights into crucial questions of interest in the context of the objective of the Convention and the goals outlined in the Paris Agreement. Development banks, DFIs and multilateral climate funds play a vital role in helping countries to deliver on their NDCs. The key features of a subset of these different channels of public climate finance for beneficiary countries are summarized in figure 2, including the areas of support (adaptation, mitigation or cross-cutting) and the instruments used to deliver climate finance.

38. Overall, trends in climate finance point to increasing flows towards beneficiary countries. Bilateral climate finance flows, and those channelled through MDBs, have increased since the 2016 BA, whereas flows from the multilateral climate funds have fluctuated, having decreased in 2015 before rebounding in 2016, although the average remains lower than in the 2013–2014 period, which reflects changes in the climate finance landscape.

39. When considering these flows in aggregate, support for mitigation remains greater than support for adaptation across all sources (noting, however, measurement differences). Bilateral finance flows from OECD-DAC providers had the greatest proportion intended for adaptation (29 per cent) in the period 2015–2016, followed by multilateral climate funds (25 per cent) and MDBs (21 per cent). However, the 2018 BA finds an increase in public climate finance flows that contributes towards both adaptation and mitigation

Figure 2

Characteristics of international public climate finance flows in the period 2015–2016

	Annual average USD billion	Area of support				Financial instrument		
		Adaptation	Mitigation	REDD-plus[a]	Cross-cutting	Grants	Concessional loans	Other
Multilateral climate funds[b]	1.9	25%	53%	5%	17%	51%	44%	5%
Bilateral climate finance[c]	31.7	29%	50%	–	21%	47%	52%	<1%
MDB climate finance[d]	24.4	21%	79%	–	–	9%	74%	17%

Note: All values based on approvals and commitments.

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 biennial reports from Parties included in Annex II to the Convention (that further include regional and other channels) for the annual average. Information related to the United States of America is drawn from preliminary data provided by the United States. The thematic split and the financial instrument data are taken from data 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. Section C of the summary and recommendations and chapter III of the technical report uses 'bilateral finance' to refer only to concessional flows of climate-related development assistance reported by OECD-DAC members.

[d] The annual average and thematic split of MDBs includes their own resources only, while the financial instrument data include data from MDBs and from external resources, due to the lack of data disaggregation.

from both bilateral contributors and multilateral climate funds. This makes it more difficult to track the progress made in ramping up adaptation finance. When, however, considering flows based on other groupings, there are variations in the composition of the types of support.

40. Grants continue to be a key instrument for the provision of adaptation finance. In the period 2015–2016 grants accounted for 62 and 94 per cent of the face value of bilateral adaptation finance reported to OECD and of adaptation finance from the multilateral climate funds, respectively. During the same period, 9 per cent of adaptation finance flowing through MDBs was grant-based. Mitigation finance remains less concessional in nature, with 25 per cent of bilateral flows, 31 per cent of multilateral climate fund approvals and 4 per cent of MDB investments taking the form of grants. These figures, however, may not fully capture the added value brought by combining different types of financial instruments, or technical assistance with capital flows, which can often lead to greater innovation or more sustainable implementation.

41. With regard to geographic distribution, Asia remains the principal recipient region of public climate finance flows. In the period 2015–2016, the region received 31 per cent of funding from multilateral climate funds, 42 per cent of bilateral finance reported to OECD and 41 per cent of MDB flows (including to the Pacific region). The Latin America and Caribbean region and sub-Saharan Africa each secured 22 per cent of approvals from the multilateral climate funds in the same period. Latin America and the Caribbean received 17 per cent of MDB financing and 10 per cent of bilateral finance reported to OECD, whereas sub-Saharan Africa received just 9 per cent of MDB financing but 30 per cent of bilateral finance reported to OECD.

42. With regard to flows to the least developed countries (LDCs) and small island developing States (SIDS) in the period 2015–2016, funding directed at the LDCs represented 24 per cent of bilateral flows, whereas that directed at SIDS accounted for 2 per cent of such flows. Of the bilateral finance provided to the LDCs and SIDS, around half was earmarked for adaptation. Similarly, 21 per cent of finance approved by multilateral climate funds went to the LDCs and 13 per cent to SIDS, and more than half of this finance was focused on adaptation. MDBs channelled 15 per cent of their climate finance to the LDCs and SIDS. The percentage of adaptation spending to these countries (41 per cent) is twice their climate finance spending overall.

43. The management of climate finance, as well as the development and implementation of the projects that it supports, necessarily entails costs. The degree of such costs, which are often recovered through mechanisms such as administrative budgets and implementing agency fees, varies across institutions. Among the major multilateral climate change funds, fees account for between 1 and 9 per cent of total fund value, ranging from USD 65,000 to USD 1.2 million per project. Although these costs tend to decrease over time as management and disbursement mechanisms become more streamlined, there is evidence to suggest that the alignment of administrative functions between funds (e.g. the Global Environment Facility administration of the Least Developed Countries Fund and Special Climate Change Fund) offers the best opportunity to keep administrative costs down. This is essential in order to retain the trust that providers and recipients place in the funds.

44. The push to diversify modalities of access to climate finance continues. Institutions in beneficiary countries are increasingly able to meet fiduciary and environmental and social safeguard requirements for accessing funds. There has been a notable increase in the number of regional and national implementing entities to the multilateral climate funds, despite large amounts remaining programmed through multilateral entities.

45. Ownership remains a critical factor in the delivery of effective climate finance. A broad concept of ownership encompasses the consistency of climate finance with national priorities, the degree to which national systems are used for both spending and tracking, and the engagement of a wide range of stakeholders. There have been a number of efforts to build capacity to access and make strategic choices about how to use finance and oversee implementation. With regard to the role of governments, while there has been greater commitment by ministries of finance and planning to integrate climate finance into national budgetary planning, this is often not done fully. National-level institutions in beneficiary countries are playing a greater role in managing climate finance, particularly through domestic tracking systems. NDCs for which further financial resources need to be found are emerging as a platform that governments can use to stimulate engagement and strengthen national ownership of climate finance.

46. Mechanisms for monitoring the impact of climate finance have improved, albeit not uniformly. Thus, although the reporting of results (in terms of outputs) has increased, it is difficult to assess properly the quality

of the impacts achieved (i.e. outcomes). These impacts are, moreover, presented in a multitude of formats. The reduction of GHG emissions remains the primary impact metric for climate change mitigation. Core mitigation-related multilateral funds are expected to reduce GHG emissions by over 11 billion tonne of carbon dioxide equivalent (t CO_2 eq), with reported reductions already approaching 37 million t CO_2 eq. GHG reduction results are complemented by other quantitative data, such as the number of beneficiaries and the renewable energy capacity installed. The metrics, benchmarks and frameworks for monitoring the impact of mitigation projects continue to evolve, thereby helping to inform investment decisions.

47. Discussion on impact measurement of adaptation projects continues to be focused on the number and type of people that benefit from them, although the nature and extent of their beneficial effects are still difficult to quantify, both directly and indirectly. Adaptation finance channelled through core multilateral climate funds has so far reached over 20 million direct beneficiaries. The target for the combined number of direct and indirect beneficiaries is 290 million. Further work is necessary to develop adaptation and resilience metrics that can capture the whole spectrum of sectors receiving support and the many different approaches used, while allowing for aggregation of data and comparability between projects and funds.

48. The extent of co-financing remains important for the mobilization of private finance, but is challenged in terms of the availability of data, definitions and methods. Research suggests that multilateral climate funds can perform on a par with DFIs with regard to private co-financing ratios. The degree to which such finance can be mobilized, however, is often heavily influenced by the investment conditions in a country, which are in turn created by the policy and regulatory frameworks in place.

Information relevant to Article 2, paragraph 1(c), of the Paris Agreement: climate finance in context

49. Climate finance continues to account for just a small proportion of overall finance flows (see figure 3); the level of climate finance is considerably below what one would expect given the investment opportunities and needs that have been identified. However, although climate finance flows must obviously be scaled up, it is also important to ensure the consistency of finance flows as a whole (and of capital stock) pursuant to Article 2, paragraph 1(c), of the Paris Agreement. This does not mean that all finance flows have to achieve explicitly beneficial climate outcomes, but that they must reduce the likelihood of negative climate outcomes. Although commitments are being made to ensure that finance flows from DFIs are climate consistent, more can be done to understand public finance flows and ensure that they are all consistent with countries' climate change and sustainable development objectives.

50. Awareness of climate risk in the financial sector has increased over the past few years. Positive developments are being seen in the sector, particularly with regard to the investment and lending policies of both public and private sector actors, and with regard to regulatory and fiscal policies and the information resources that guide decision-making.

IV. Recommendations

51. The SCF invites the COP to consider the following recommendations:

Chapter I (methodologies)

(a) *Request* developed country Parties and *encourage* developing country Parties, building on progress made so far and ongoing work, to continue enhancing the transparency, consistency and comparability of data on climate finance provided and mobilized through public interventions, and taking into consideration developments in relevant organizations and institutions;

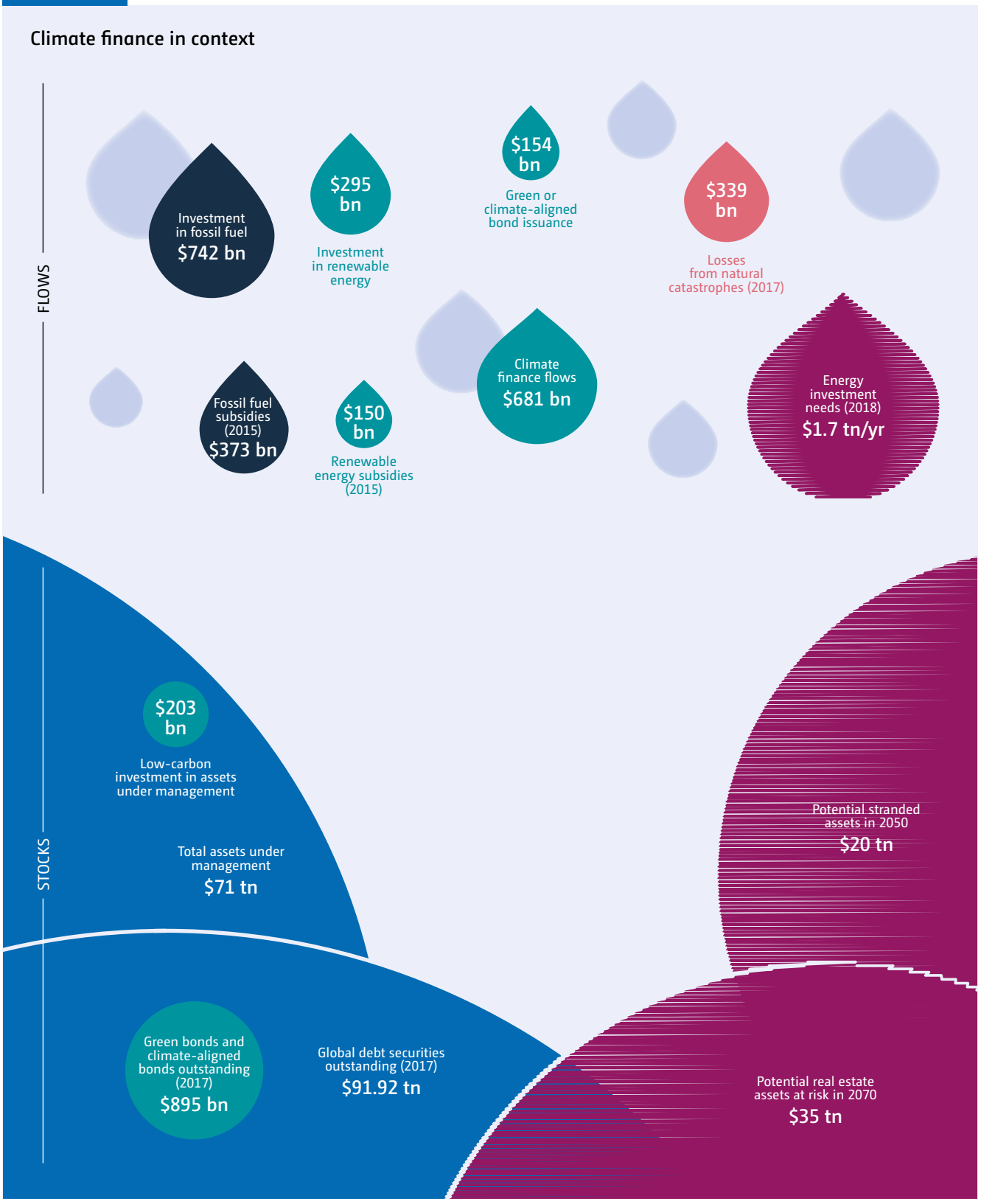
(b) *Encourage* Parties providing climate finance to enhance their reporting of climate finance provided to developing country Parties;

(c) *Invite* Parties, through their board memberships in international financial institutions, to encourage continued efforts in the harmonization of methodologies for tracking and reporting climate finance among international organizations;

(d) *Encourage* developing country Parties, building on progress made so far and ongoing work, to consider, as appropriate, enhancing their reporting on the underlying assumptions, definitions and methodologies used in generating information on financial, technical and capacity-building needs and support received;

Figure 3

Climate finance in context



Note: All flows are global and annual for 2016 unless stated otherwise. Energy investment needs are modelled under a 2 °C scenario. The representation of stocks that overlap is not necessarily reflective of real of world overlaps. The flows represented are not representative of all flows contributing to the stocks presented. Data points are provided to place climate finance in context and do not represent an aggregate or systematic view. Climate finance flows are those represented in Section B of the Summary and Recommendations and as reported in chapter 2 of the 2018 Biennial Assessment and Overview of Climate Finance Flows technical report. Investment in renewable energy overlaps with this estimate of climate finance flows.

Source: Asset Owner Disclosure Project, 2017; Bosteels and Sweatman, 2016; Boston Consulting Group, 2018; CBI, 2017; IEA, 2017; IEA, 2018; IRENA 2017; OECD, 2018b; SIFMA, 2017; Swiss Re Institute, 2018.

Chapter II (overview)

(e) *Encourage* Parties, building on progress made so far, to enhance their tracking and reporting on climate finance flows from all sources;

(f) *Encourage* developing country Parties that provide support to report information on climate finance provided to other developing country Parties;

(g) *Encourage* developed countries and climate finance providers, as well as multilateral and financial institutions, private finance data providers and other relevant institutions, to enhance the availability of granular, country-level data on mitigation and adaptation finance, inter alia, transport, agriculture, forests, water and waste;

(h) *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;

(i) *Request* the SCF to continue its work in the mapping of available data sets that integrate climate change considerations into insurance, lending and investment decision-making processes, and to include information relevant to Article 2, paragraph 1(c), of the Paris Agreement in future BAs;

Chapter III (assessment)

(j) *Invite* Parties to strive for complementarity between climate finance and sustainable development by, inter alia, aligning climate finance with national climate change frameworks and priorities, as well as broader economic development policies and national budgetary planning;

(k) *Encourage* developing countries to take advantage of available resources through the operating entities of the Financial Mechanism to strengthen institutional capacity for programming their priority climate action, as well as tracking climate finance, effectiveness and impacts;

(l) *Encourage* 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;

(m) *Encourage* climate finance providers to improve tracking and reporting on gender-related aspects of climate finance, impact measuring and mainstreaming;

(n) *Invite*, as in the 2016 BA, multilateral climate funds, MDBs, other financial institutions and relevant international organizations to continue to advance work on tracking and reporting on impacts of mitigation and adaptation finance;

(o) *Encourage* all relevant United Nations agencies and international, regional and national financial institutions to provide information to Parties through the secretariat on how their development assistance and climate finance programmes incorporate climate-proofing and climate-resilience measures, in line with new available scientific information;

(p) *Request* the SCF, in preparing future BAs, to continue assessing available information on the alignment of climate finance with investment needs and plans related to Parties' NDCs and national adaptation plans;

(q) *Request* the SCF, in preparing the 2020 BA, to take into consideration available information relevant to Article 2 of the Paris Agreement.

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INTRODUCTION

1. Background and objectives

1. This report is the third biennial assessment and overview of climate finance flows (BA). The 2018 BA comprises a summary and recommendations prepared by the Standing Committee on Finance (SCF) and included in the annual report to the Conference of the Parties (COP) at its twenty-fourth session, the technical report that was prepared by external experts under the guidance of the SCF and the content presented in an interactive format on the dedicated website.[10]

2. Like the previous BAs, the preparation of the 2018 BA was guided by mandates given to the SCF by the COP.[11] In addition, the 2018 BA was prepared with due consideration to the outcomes of the historic Paris Agreement, particularly provisions related to the purpose of the framework for transparency of support[12],[13] and the goal outlined in Article 2.1(c) of the Paris Agreement, which refers to "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development", as one of the ways for enhancing the implementation of the Convention. The SCF, through the preparation of the 2018 BA, has also sought to contribute to developing an understanding of the climate finance flows in a broader context.

3. The specific objectives of this report include to:

(a) Take stock of efforts aimed at improving the methodologies used for measuring, reporting and verifying public and private finance flows – including the use of operational definitions of climate finance and limitations of methodologies – following recommendations made in the 2014 and 2016 BAs;
(b) Provide an 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;
(c) Identify data gaps as well as ways to strengthen, enhance and improve methodologies for reporting and verifying financial information;
(d) Consider the implications of climate finance flow, 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.

2. Scope

4. This report focuses on climate finance flows for 2015 and 2016. 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, NGOs and the private sector. Data from these organizations enhance the comprehensiveness of this report and provide further 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 SCF in the first quarter of 2018[14] and a wide range of reports that explore topics related to the assessment of climate financial flows.

5. Chapter I considers methodological issues relating to the MRV of climate finance. It provides the latest information about the ongoing efforts of data producers and aggregators aimed at harmonizing reporting approaches (section 1.2 below). It also outlines improvements made in enhancing the consistency, transparency and completeness of the provision of information on financial support provided and received by individual Parties under the Convention, and identifies areas for further improvement in the UNFCCC reporting guidelines and formats (section 1.3 below). It further reviews the methods to track and estimate total private finance (section 1.4 below), as well as the current systems for tracking and reporting climate finance at the domestic level (section 1.5 below). Chapter I also includes information on emerging methodologies for measuring mitigation and adaptation finance outcomes (section 1.6 below). Finally, it presents the state of play on metrics and methods for assessing the availability of information

10) Available at https://unfccc.int/topics/climate-finance/resources/biennial-assessment-of-climate-finance.
11) Decisions 2/CP.17, paragraph 121(f), 1/CP.18, paragraph 71, 5/CP.18, paragraph 11, and 3/CP, paragraph 11.
12) Article 13, paragraph 6.
13) Article 9, paragraph 7. In decision 1/CP.21, paragraph 94(e), the COP requested the Ad Hoc Working Group on the Paris Agreement, when developing the modalities, procedures and guidelines referred to in paragraph 91 in the same decision, to consider, inter alia, information in the BA and other reports of the SCF and of other relevant bodies under the Convention.
14) Available at https://unfccc.int/sites/default/files/resource/Call%20for%20evidence%20for%20the%202018%20BA%20deadline%20extended%20to%2015%20May%202018.pdf.

needed to track global progress towards the goal outlined in Article 2.1(c) of the Paris Agreement (section 1.7 below) (see figure 1).

6. Chapter II provides an updated overview of current climate finance flows over the years 2015 and 2016 to complement data gathered in the previous BA. It also includes information on trends. Estimates of climate finance flows are based on activities in line with the operational definition of climate finance adopted in BA 2014. In compiling estimates, efforts are made to avoid double counting. The chapter compiles information from multiple sources of data to arrive at an aggregate estimate for global climate finance flows (section 2.2 below), domestic public climate finance (section 2.3 below), South–South cooperation on climate finance (section 2.4 below) and flows from developed to developing countries (section 2.5 below). A final section reviews available data sets on finance flows that may contribute to discussions relating to Article 2.1(c) of the Paris Agreement (see figure 1).

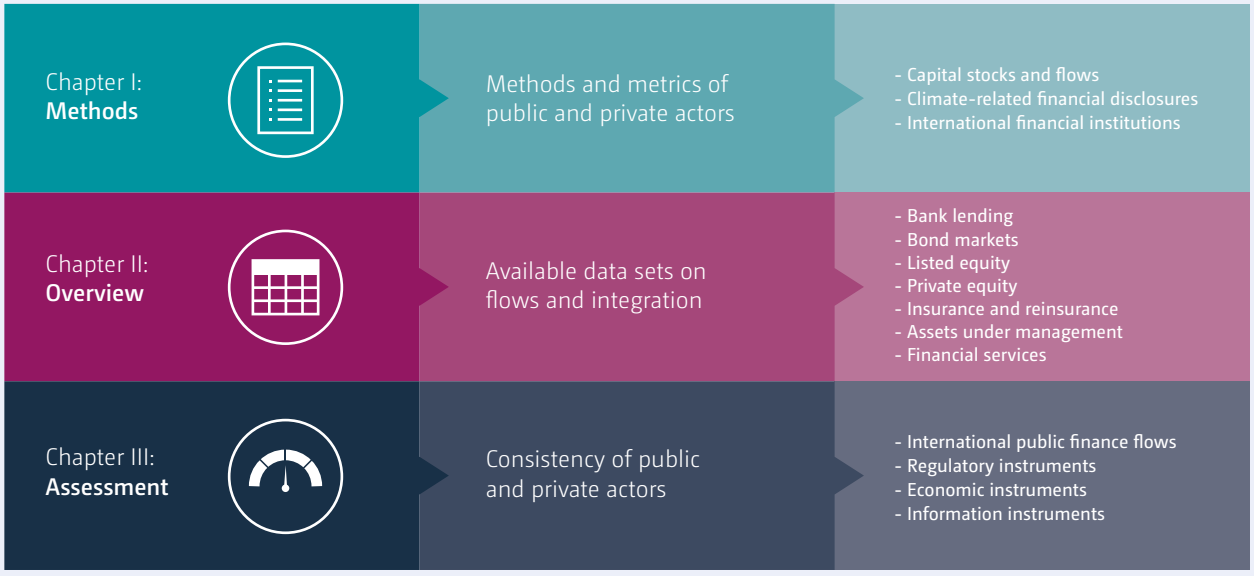
7. Chapter III considers the implications of the climate finance flows presented in chapter II and assesses their relevance to international efforts to address climate change. It first explores the key features of public climate finance from developed countries to developing countries given their commitments in this context under the UNFCCC (section 3.2 below). Emerging insights into the effectiveness of climate finance flows to developing countries are then presented by exploring aspects of climate finance access, ownership and the alignment of climate finance with developing country needs and priorities related to climate change. It further discusses the emerging impact of public climate finance flows (section 3.3 below). The chapter concludes by reflecting on the overall amount of climate finance, including global total flows and flows to developing countries. It seeks to put the identified climate finance flows in the context of other relevant financial flows and outline actions that over time can contribute to making all financing flows consistent with a pathway towards low-emission and climate-resilient futures in the context of sustainable development (section 3.4 below) (see figure 1).

3. Challenges and limitations

8. The 2018 BA provides an updated overview of current climate finance flows in 2015 and 2016, along with data on trends gathered from 2011 to 2014 in the previous BA reports. Due diligence has been undertaken to use the best information available from the most credible sources. In compiling estimates, efforts have been made to avoid double counting finance towards different

Figure 1

Information relevant to tracking progress on "making financial flows consistent with low greenhouse gas emissions and climate resilient development" (Article 2.1 (c) of the Paris Agreement)



development stages by focusing on primary finance – the finance for a new physical item or activity. Challenges were nevertheless encountered in collecting, aggregating and analysing information from diverse sources with varying degrees of transparency. The limited clarity with regard to using different definitions of climate finance limits the comparability of data.

9. **Data uncertainty:** Uncertainties are associated with each source of data, and these have different underlying causes. Reporting data through different formats or approaches can limit aggregation of the data into overall estimates. For example, classification of sectors or geographic regions may not be uniform across data sources, particularly when aggregating finance estimates for flows from developed to developing countries. Methodological assumptions also may impact how data may be interpreted. Renewable energy finance estimates are regarded as extensive, yet also rely on technology or country-level assumptions to arrive at overall investment values. Issues related to climate finance definitions and underlying data sets also introduce uncertainties. Although estimates of incremental investment in energy efficiency have improved, it is unclear whether such improvements are enough to align the building, industrial plant or mode of transport to the level of emission intensity necessary for a 2 °C low GHG emissions pathway. For sustainable transport, efforts have been made to improve estimates on public and private investment in electric vehicles, yet uncertainties remain as to how the reliance of electric vehicles on highly emission-intensive electricity grids is viewed within climate finance definitions.

10. **Data gaps:** Gaps in the coverage of sectors and sources of climate finance remain significant, particularly with regard to private investment. Although estimates of incremental investments in energy efficiency have improved, there is still an inadequate understanding of the public and private sources of finance and the financial instruments behind those investments. For sustainable transport, efforts have been made to improve public and private investment in electric vehicles. However, information on sources and instruments for finance in public mass transit remains unreported in many countries. High quality data on private investments in mitigation and finance in sectors such as agriculture, forests, water and waste management are particularly lacking. In particular, adaptation finance estimates are difficult to compare to mitigation finance estimates due to being context-specific and incremental, and more work is needed on estimating climate-resilient investments.

11. The limitations outlined above need to be taken into consideration when deriving conclusions and policy implications from this BA. The SCF will contribute, through its activities, to the progressive improvement of the measurement, reporting and verification of climate finance information in future BAs to help address these challenges.

4. Approaches used in the preparation

12. This technical report is a metadata study. It draws on existing analytical work and available data on climate finance flows.

The term "climate finance" as used in this report

13. As was the case with the 2014 and 2016 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, such as holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

Work undertaken to improve the quality and coverage of data

14. Additional work was undertaken with a view to improving the quality and coverage of the data with the objective of contributing to the progressive improvement of the MRV of information on climate flows. The following activities were undertaken with the support of external expertise:

(a) Data gap analysis and identification of areas of improvement in data coverage;
(b) A technical review of the information currently reported in the BR CTF tables with the identification of possible areas of improvement was undertaken for this 2018 BA.
(c) Harmonization of data sets used for estimating the global total to minimize misalignment between data reported according to fiscal and calendar years;
(d) Efforts to expand data coverage that was not captured previously (e.g. sustainable transport finance).

Work undertaken to assemble information relevant to the long-term goal outlined in Article 2.1(c) of the Paris Agreement

15. Additional work was undertaken with a view to enhancing the collective understanding of what the goal outlined in Article 2.1(c) of the Paris Agreement means to public and private finance actors, as well as to identify a working framework for considering information that is relevant for tracking global progress on this goal.

Approach taken in organizing information and data

16. Climate finance data were aggregated and assessed for the period 2015–2016. The data were classified as follows:

(a) Global total climate finance flows: As in the 2014 and 2016 BAs, global total climate finance estimates were gathered against an operational definition of climate finance, namely flows whose expected effect is to reduce net GHG emissions and/or enhance resilience to the impacts of climate variability and projected climate change. Efforts were made to avoid double counting finance flows by focusing on the primary financing of a new physical asset or activity. The total investment costs related to the physical asset or activity are covered, apart from in energy efficiency estimates where a mix of full-cost and incremental estimates are applied, and in adaptation, where the specific cost of adaptation-related activities within projects is reported. Estimates cover private and public finance, international and domestic climate finance, and South–South cooperation on climate finance. The global total estimates for climate finance in 2015 and 2016 were aggregated using the same sources of data as in the 2016 BA. This required recalculating 2014 estimates on global climate finance (the earliest available year of data) for comparability.

(b) Climate finance flows from developed to developing countries: The report draws primarily from the reporting of the operating entities of the Financial Mechanism of the Convention, as well as the BR3 CTF tables, in estimating climate finance provided through bilateral and multilateral channels by Annex II Parties. These data are complemented by commitments in developing countries by MDBs from their own resources and 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 complemented these data sources to provide more granularity on specific issues related to sectors and themes. Estimates of mobilized private finance flows in developing countries were gathered from MDBs, IDFC and OECD data sources but were unable to be differentiated between private finance originating in developed countries and private finance mobilized locally in developing countries.

17. 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 including for example: OECD members/non-OECD members; OECD DAC members/OECD-DAC ODA eligible countries; Annex II/Annex I/non-Annex I countries; and other relevant classifications. For South-south, this refers to non-Annex I, non-OECD DAC members and other similar classifications. Please refer to Annex A for a definition of different country classifications used in the report.

5. Approach taken in organizing the technical work

18. The technical work combined a literature review with two technical meetings in April and September 2018 involving data providers and representatives of organizations specializing in climate finance tracking and reporting such as MDBs, DFIs, international organizations, research institutions, think tanks and private sector financial institutions networks.

19. Numerous international financial institutions, United Nations agencies, NGOs and representatives of the private sector and civil society have provided valuable inputs, including in response to the call for evidence issued by the SCF in April 2018 in the preparation process of the technical report, as well as by sharing their experiences in tracking of and reporting on current climate finance flows.

Chapter I

METHODOLOGICAL ISSUES RELATING TO THE MEASUREMENT, REPORTING AND VERIFICATION OF CLIMATE FINANCE

1.1 Introduction

20. This chapter introduces ongoing work on the MRV of climate finance information since the publication of the 2016 BA. It also provides updated information on definitional and methodological issues that affect the compilation and assessment of climate finance data, particularly the methods for accounting of, reporting and reviewing public and private climate finance from various sources.

21. As in the 2014 and 2016 BA, this chapter responds to a request by the COP for the SCF to look into relevant work by other bodies and entities on the MRV of support and the tracking of climate finance[15] and to consider ways of strengthening methodologies for reporting climate finance.[16] Furthermore, recognizing the challenges posed by the lack of a common definition of climate finance, the COP requested the SCF to consider ongoing technical work on the operational definitions of climate finance.[17]

22. Reporting on climate-related finance is undertaken for different purposes and using different processes. This can compound the difficulty in developing aggregate estimates of volumes of climate finance. It is therefore important to understand the methods for accounting of the financial resources provided and mobilized and the ongoing efforts aimed at harmonizing reporting approaches through the lens of transparency, accuracy, consistency, comparability and completeness. Furthermore, it is important to understand how and which accounting methods and reporting approaches facilitate the provision of disaggregated information, including by channel, thematic distribution (i.e. mitigation, adaptation and cross-cutting), funding source, financial instrument and status (i.e. commitment and disbursement).

23. Chapter I then discusses why information on methodologies for measuring, reporting and reviewing is useful to the UNFCCC process, particularly in the light of ongoing work related to modalities, procedures and guidelines for the transparency of support under the enhanced transparency framework of the Paris Agreement, which includes work on modalities for accounting for financial resources provided and mobilized through public interventions referred to in decision 1/CP.21, paragraph 57, as well as for consideration included in paragraph 95 of the same decision.

24. This chapter may also contribute to the ongoing work on approaches for tracking and reporting information on climate and non-climate related financial flows, which is further discussed in chapters II and III.

25. Chapter I is structured as follows:

(a) Section 1.2 provides updated information on measuring, reporting and reviewing climate finance flows;
(b) Section 1.3 includes updated information on reporting and reviewing climate finance under the Convention;
(c) Section 1.4 presents information on methods for tracking and estimating private climate finance;
(d) Section 1.5 highlights developments in systems for tracking and reporting climate finance at the domestic level;
(e) Section 1.6 contains information on emerging methodologies for measuring mitigation and adaptation finance outcomes;
(f) Section 1.7 provides insights into emerging practices and metrics relevant for tracking progress by different actors towards the goal outlined in Article 2.1(c) of the Paris Agreement;
(g) Section 1.8 includes information on other methodological issues;

1.2 Measuring, reporting and reviewing climate finance flows

26. The transparency, accuracy, completeness, comparability and consistency principles set out in decision 1/CP.21, particularly the principles of transparency and consistency referred to in Article 9.7 of the Paris Agreement, highlight the importance of the continued harmonization of reporting approaches and operational definitions of climate finance over time, including sectoral classifications. Such harmonization is important for generating comparable data to ensure the transparency of support provided and received by relevant Parties to provide a full overview of aggregate financial support provided and to inform the global stocktake under Article 14. This harmonization is also relevant in the light of Article 2.1(c).

15) Decision 1/CP.18, paragraph 71.
16) Decision 5/CP.18, paragraph 11.
17) Decision 3/CP.19, paragraph 11.

27. The following subsections provide updated information on the operational definitions of climate finance and reporting approaches adopted by international institutions.

1.2.1 Reporting on climate finance and other official flows by public international organizations

1.2.1.1 State of play with respect to operational definitions of climate finance

28. In determining the amounts to be reported as climate finance, reporting entities rely on their own operational definitions, and differences can affect estimates of overall finance flows. Efforts to harmonize these definitions continued in 2015–2016 and are ongoing.

29. Annex B provides updated information on the operational definitions of climate finance adopted by international institutions as at June 2018. The core definition adopted by OECD, MDBs and IDFC is generally in accordance with the definition suggested in the 2014 BA: "Climate finance aims at reducing emissions, and enhancing sinks of GHG and aims at reducing vulnerability, and maintaining and increasing the resilience of human and ecological systems to negative climate change impacts". Although this remains a robust working definition, it should be noted that Article 2.1(c) of the Paris Agreement refers to finance flows that are "consistent with", rather than aimed at, a pathway towards low-GHG and climate-resilient development.

1.2.1.2 Reporting on climate-related development finance under the Organisation for Economic Co-operation and Development – Development Assistance Committee to countries and institutions eligible for official development assistance

30. The OECD-DAC database aims to provide a complete picture of climate-related development finance flows. It includes both bilateral and multilateral flows as well as private finance mobilized through official interventions. The DAC statistical system allows for climate-related development finance to be considered from two perspectives. The recipient perspective[18] captures development finance to developing countries from both bilateral and multilateral providers. Under this perspective, data include bilateral activities targeting climate change objectives identified using the Rio markers[19] and climate-related multilateral activities collected from multilateral providers active in the climate field identified using the Rio markers or climate components methodologies (i.e. identifying climate components within projects).[20] The

18) Note that the meaning of "recipient perspective" is different in the OECD-DAC and UNFCCC contexts.

19) A handbook (OECD, 2016b) has been developed to summarize methodological information on the mitigation and adaptation markers, which includes agreed definitions as well as reporting instructions to provide guidance to support activity-level screening. A guidance table developed by the DAC secretariat has been available since 2017 to facilitate use (see http://www.oecd.org/dac/environment-development/Guidance%20table%20Rio%20markers%20.xlsx).

20) Based on the MDB-IDFC common principles for climate finance tracking (AfDB, ADB, EBRD, et al., 2015c and AfDB, ADB, EBRD, et al., 2015d).

provider perspective is a measure of bilateral providers' effort comprising their bilateral contributions and their contributions to international organizations. Under the provider perspective, data include bilateral activities targeting climate change objectives identified using the Rio markers and the climate share of core contributions (inflows) to international organizations estimated by calculating "imputed multilateral contributions".[21] Annexes B and C contain a description of the Rio markers methodology and of the reporting approach under the OECD-DAC. A methodological note[22] has been developed in 2018 to describe the methodology supporting the climate-related development finance databases available on the OECD website (Simon G., 2018).

31. In reporting to the UNFCCC on climate finance in their BRs, OECD-DAC members[23] 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 towards the objectives of the Convention (OECD, 2015g). To further increase the transparency of information reported by DAC members to the UNFCCC, the OECD-DAC secretariat is introducing in 2018 a new biennial survey[24] to collect information from DAC members on (1) the measurement basis for reporting to the UNFCCC (i.e. committed, disbursed and "other") and (2) the shares of the activity reported as mitigation, adaptation and cross-cutting to UNFCCC. Reporting to the survey will be voluntary and will not alter the application of the Rio marker methodology, which remains the basis for members reporting on environment-related development finance in the framework of OECD-DAC statistics.

32. DAC agreed in December 2014 to modernize the reporting on loans in DAC statistics by introducing the measurement of donor effort in ODA on a grant-equivalent basis (see annex H). This new statistical framework measures ODA loans more accurately and credibly, thereby ensuring the comparability of data across providers. It also incentivizes more and better allocation of concessional resources to implement the SDGs. Finally, the framework promotes greater transparency and heightened accountability, which helps to ensure that ODA goes where it is most needed and has the greatest development impact (OECD, 2015h). ODA figures will, in the future (starting with 2018 flows), be recorded and published on a grant-equivalent basis. However, grant equivalents apply only to disbursements, and climate-related development finance is currently published based on commitments only. Therefore, no climate-related development finance is currently being published by the DAC secretariat on a grant-equivalent basis.[25]

1.2.1.3 Reporting on climate finance provided to developing countries by multilateral development banks

33. In 2011, MDBs started jointly reporting on their mitigation and adaptation finance activities. Their joint report on climate finance (AfDB et al., 2018c) is a collaborative effort to make MDB climate finance figures in developing and emerging economies public on an annual basis. Their tracking methodology, developed as a joint exercise by the MDB climate finance tracking group, has been gradually updated and detailed over time and includes an approach to reporting on climate co-finance along with MDB climate finance (see section 1.4.2.2 below).

34. Climate finance in the MDB joint report is composed of amounts committed by MDBs to finance climate change mitigation and adaptation activities in projects. It includes commitments from the MDBs' own account and from external resources channelled through and managed by the banks.[26] The financial instruments covered are advisory services, equity, grants, guarantees, investment loans, lines of credit and policy-based lending. The projects included reflect financial commitments at the time of board approval or financial agreement signature, and climate finance in the report is therefore based on ex ante estimations (no revisions are issued when changes in the project either increase or decrease climate financing). The reporting period is the fiscal year. Not all MDBs follow the same reporting cycle, but all cycles correspond to a 12-month period. In terms of geographical coverage, the list of countries varies among MDBs.

35. MDBs track and report climate finance in a granular and potentially more conservative manner. The climate

21) Imputed multilateral shares are published online on the OECD-DAC website and are available at http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm. Since the 2016 BA, AIIB, the GCF, and the Global Green Growth Institute have been added to the list.

22) Available at http://www.oecd.org/dac/financing-sustainable-development/development-finance-data/methodological_note.pdf.

23) 26 out of 28 in 2015 (OECD, 2015g).

24) The first edition of the survey will collect data on 2015 and 2016 flows, in line with the UNFCCC reporting calendar.

25) Not all DAC members report climate-related development finance on a disbursement basis, and the coverage for disbursements is much lower than for commitments. This has prevented, so far, the publication of climate-related development finance on a disbursement basis. This situation may evolve in the future, and discussions on the topic are expected to take place at the Working Party on Development Finance Statistics by early 2019.

26) "Refers to operations supported by bilateral institutions through dedicated climate finance entities such as GEF and CIF, or other donor funds such as EU blending facilities, which may also be reported to the Development Assistance Committee of the Organisation for Economic Co-operation and Development by contributor countries" (AfDB et al., 2018, p.19).

finance reported covers only those components (and/or subcomponents or elements/proportions) of projects that directly contribute to or promote adaptation and/or mitigation. The MDBs' methodologies for climate finance tracking align with the common principles for climate change mitigation and adaptation finance tracking (AfDB, ADB, EBRD, et al., 2015c; AfDB, ADB, EBRD, et al., 2015d) jointly agreed by the MDBs and IDFC. For more details see annexes B and C.

36. The MDBs are working internally on the best reporting method for cross-cutting projects. Taking account of the Paris Agreement, in 2016 the joint MDB climate finance tracking group also formalized the coordination of two existing workstreams to further enhance tracking methodologies for climate change mitigation and climate change adaptation. These workstreams are coordinated by EIB and IADB, respectively.

1.2.1.4 Reporting on climate-related flows by the International Development Finance Club

37. IDFC reports green finance[27] flows from DFIs based in both OECD and non-OECD countries. IDFC does not currently have standardized reporting guidelines, although the survey templates sent out to member institutions during the data-collection process do contain some guidance on reporting. IDFC also jointly agreed with the group of MDBs on common principles for climate mitigation and adaptation finance tracking (AfDB, ADB, EBRD, et al., 2015c; AfDB, ADB, EBRD, et al., 2015d). These common principles form an approach that both groups (MDBs and IDFC) should be following for tracking climate change adaptation and mitigation activities.

38. IDFC does not publish a common database containing green or climate finance data from its members, although it has regularly published, since 2011, the *IDFC Green Finance Mapping Report* that contains some aggregates by instrument type, region[28] and categories (sector). This mapping exercise includes financial commitments signed or approved by the board of the reporting institution during the 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, 2017).

39. To provide accurate and comparable data for this exercise, a consistent categorization of mitigation and adaptation activities was agreed to by IDFC members, also taking into consideration the outcomes of the MDBs-IDFC common principles for climate finance tracking. The mapping exercise adopted a two-step approach based on (1) a global definition of mitigation, adaptation and other environment projects and (2) a core list of project categories (sectors) that were consensually accepted by all IDFC members as projects that typically contribute to tackling climate change (IDFC, 2017). For more details, see annexes B and C.

1.2.1.5 International Aid Transparency Initiative standard

40. IATI data include information on climate-related finance flows. The IATI standard is a framework for publishing data on development cooperation activities using standard formats, codes and classifications that are largely aligned with the OECD-DAC statistical system. The standard accommodates reporting on a wide variety of activities, including climate finance (mitigation and adaptation) from more than 525 publishers and institutions such as bilateral and multilateral organizations, DFIs, NGOs and private development assistance providers. IATI publishers provide timely, comprehensive and forward-looking data and update them on a regular basis (monthly or quarterly), and data users can easily locate and access the data at the source, avoiding the need for publishers to duplicate reporting in many different formats and locations.[29] However, data made available through the IATI standard can be based on different methodologies; the consistency and comparability of the data are not always ensured. Furthermore, the coverage and perimeter of each publisher's data may be unclear.

41. The IATI standard can be applied to all resources and flows, and thus aims to provide an overview of resources available for different purposes. It is compatible with OECD-DAC fields and standards but it is not a statistical system (the same resources can be reported by several publishers, which can lead to double counting). The IATI standard also allows reporting organizations to include many types of data, including results data, links to documents, geographical data and other sets of codes such as the SDGs, targets or indicators, or more specific code lists that could be important to certain types of reporting organizations.

27) Green finance includes, but is not limited to, climate finance. It also refers to a wider range of other environmental objectives, for example, industrial pollution control, water sanitation and biodiversity protection. Climate finance comprised 92 per cent of total green finance reported in the 2016 IDFC report.

28) Cross financial flows between IDFC banks are minimal in the climate financing area and hence are not accounted for in the assessment.

29) For example, Sweden and the Netherlands are working on a climate finance dashboard using IATI data (see https://openaid.se/aid/ and https://www.openaid.nl/).

Box 1.1

Methodological convergences among public international organizations

In 2015 MDBs and IDFC members, in a step towards harmonized reporting approaches, aligned their principles for tracking climate mitigation activities[a] and agreed on initial principles for tracking adaptation finance[b] MDBs and IDFC members have also begun taking the next steps to harmonize their approaches in tracking adaptation finance. These common principles are intended to improve comparability and reduce double counting. They are voluntary, and their implementation is the responsibility of each institution. Stakeholders should promote these common principles as their starting point and ensure that all differences in reporting are dealt with transparently.

The MDB climate mitigation finance working group, in close collaboration with IDFC members, works to improve the harmonization of approaches in the application of the joint methodology and to review and strengthen the methodology to ensure alignment with low-carbon pathways consistent with the Paris Agreement.

The OECD-DAC and MDBs continue to closely engage on the harmonization of methodologies for measuring and reporting climate finance. OECD-DAC recently updated its guidance for applying the Rio marker on adaptation by recommending as a best practice that DAC members use the three-step approach elaborated by the MDBs to justify a principal score.

Note: [a] AfDB, ADB, EBRD, et al., 2015d. Common Principles for Climate Change Mitigation Finance Tracking. EIB. Available at http://www.eib.org/attachments/documents/mdb_idfc_mitigation_common_principles_en.pdf. [b] AfDB, ADB, EBRD, et al., 2015c. Common Principles for Climate Change Adaptation Finance Tracking. EIB. Available at http://www.eib.org/attachments/documents/mdb_idfc_adaptation_common_principles_en.pdf.

42. To better understand the climate finance reporting systems of public international organizations it is important to clearly differentiate between the data producers and the data aggregators (which are often the actual publisher of the data). Many countries and institutions report or voluntarily provide data to multiple data aggregators. For example, climate finance that is reported to both IDFC and OECD-DAC may result in different aggregate figures, as shown in chapters II and III of the report, which can potentially lead to double counting (see figure 1.1).

1.2.2 Processes to review reporting on climate finance and other official flows by international public organizations

1.2.2.1 Processes to review and verify climate finance reported to the International Aid Transparency Initiative

43. Information included in the IATI platform can be available at the activity level, which provides transparency on the activity reported.[30] However, IATI does not have a standard procedure to review the quality of its data. Data reporters may have their own internal review processes and quality control, but the lack of quality assurance may prevent the use of the information for policy analysis.

1.2.2.2 Processes to review and verify climate finance reported by the International Development Finance Club

44. There have not been any evaluations of the IDFC methodology, including on any guidance provided to individual banks. IDFC has received external guidance on reporting methodologies, and some members have received individual assistance in preparing inputs for the *IDFC Green Finance Mapping Report* (IDFC, 2017). Data quality reviews are limited and not systematic. Issues encountered by some IDFC participants include insufficient reporting systems, a lack of resources dedicated to collecting data, non-availability of data and confidentiality issues.

1.2.2.3 Processes to review and verify climate finance reported by multilateral development banks

45. MDBs do not have a common standard procedure to review the quality of their data. In a few instances, this is due to the proprietary nature of some private information. However, individual MDBs may have their own internal processes to facilitate data reviews and quality control, together with independent third-party evaluations. Additionally, a dedicated working group facilitates the exchange of information among MDBs on how individual MDBs identify activities eligible for classification as climate finance, accounting practices and the criteria that guide the selection of case studies for inclusion in the joint report on MDB climate finance.

30) In the case of the Netherlands, project information, including the rationale for applying the Rio markers, can be found through IATI.

Figure 1.1

Mapping of data producers and data aggregators

		Aggregator and data publisher			
		IDFC Green Finance Mapping Report	OECD DAC climate-related development finance database	MDBs joint report in climate finance	
Institutions / countries providing the data	**Development finance institutions (DFIs)**	20 DFIs reporting to the IDFC survey	12 from DAC member countries	-	**Parties draw on these data for international reporting (such as UNFCCC).**
	DAC members	12 DFIs from DAC member countries	All 30 DAC members	EIB only	
	Multilateral Development Banks (MDBs)	-	6 members of the MDBs group	6 members of the MDBs group	

Note: All numbers refer to the 2015–2016 period.

Box 1.2

Facilitating cross-checking through enhanced accessibility to activity-level data

IATI	Information included in the IATI platform can be accessed at the activity level, which provides transparency on many of the activities reported.[a] IATI gathers all published data into a single source and enables queries for several reporting parameters.[b] It is expected that every organization publishing IATI data includes at least one activity file. Project documents and financial transactions can also be downloaded through IATI for many projects.
IDFC	IDFC publishes figures for overall climate finance provided by its members, but it does not adequately disaggregate these flows, and no consolidated activity-level database can be accessed online. Such a lack of disaggregation reduces comparability with reporting from other institutions and can create a risk of double counting. In particular, there is a risk of double counting with the OECD-DAC database, as some IDFC members such as the Japan International Cooperation Agency, the Kreditanstalt für Wiederaufbau or the Agence Française de Développement report on their climate-related development finance activities to both OECD-DAC and their climate finance to the IDFC.
MDBs	MDBs currently do not jointly publish the underlying project and activity-level data,[c] although certain MDBs individually make such data publicly available. Beyond total climate finance aggregates, MDBs also report on the type of recipients of overall mitigation and adaptation finance provided by the MDB group (as a whole) and the breakdown for their own and external resources by individual MDBs, differentiating between public and private recipients. In addition, in the 2017 joint report, the MDBs reported country-level aggregates. These developments represent an increase in transparency. All MDBs also make available project-level data via OECD-DAC database.[d] The great majority of MDB projects are therefore included in the activity-level OECD-DAC database, which facilitates cross-checking of MDB data. The level of transparency when reporting to the OECD-DAC database varies between MDBs.
OECD-DAC	The OECD-DAC climate-related development finance database is accessible at the activity level on the OECD-DAC Climate webpage.[e] This permits full transparency on what is being included and accounted for under climate-related development finance by OECD-DAC and facilitates cross-checking. External users can consult and download the full database,[31] which includes descriptive information relative to activities reported.

Note: [a] The IATI activity standard is designed for reporting the details of individual development cooperation activities and projects. An activity is defined by the reporting organization (it might be a large programme, a small project or another logical grouping of work and resources, see http://reference.iatistandard.org/203/activity-standard. [b] The Swedish International Development Cooperation Agency has carried out a pilot to show the potential of Swedish IATI data, see http://www.climatefinance.se. [c] This can lead to situations of double counting when adding-up total mobilized finance with the information provided by other data aggregators. Finance mobilized by MDBs can for instance include finance from DFI also included in the total published by IDFC or OECD-DAC. [d] Based on the OECD-DAC reporting rules and perimeter for climate-related development finance, see section 1.2.1.2 above. [e] Available at http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm.

31) Except for some non-concessional activities which are anonymized and for which only limited information is available.

1.2.2.4 Processes to review reporting on climate-related development finance at the Organisation for Economic Co-operation and Development – Development Assistance Committee

46. DAC members reporting is subject to annual data quality reviews by the OECD-DAC secretariat, and results are shared with the OECD-DAC Working Party on Development Finance Statistics. These reviews address issues such as timeliness, consistency of aggregate versus activity reporting, accuracy of coding (sectors, types of aid and channels – bilateral versus multilateral) and quality of descriptive information. Data reported by DAC members also periodically go through quality reviews[32] specifically focusing on Rio markers (mitigation and adaptation, including any possible inconsistencies). The reviews are carried out by the OECD-DAC secretariat, and reports are provided to members for consideration and ultimately to improve the consistency of reporting (OECD, 2016b).

1.2.3 Updated information on methodologies used for aggregating information and data on climate finance flows

1.2.3.1 Accounting frameworks at the national level

47. Reporting of climate finance provided, mobilized and received at the country level is underpinned by national accounting frameworks. Reporting of financial support provided and received under the Convention is governed by reporting guidelines and instructions in CTF tables 7, 7(a) and 7(b), which reflects the reporting architecture that was built to be flexible enough to accommodate a diversity of reporting approaches. In some cases, limited clarity with regard to the diversity in reporting approaches limits comparability in climate finance reporting (see section 1.3.2 below).

48. In order to enhance transparency, consistency and comparability of financial information through the arrangements for the enhanced transparency of support, there will need to be an improved understanding among Parties regarding how to consider underlying accounting challenges, including issues such as double counting and attribution. This may require the development of improved guidelines and formats for reporting and accounting of financial resources provided and mobilized through public interventions and for reviewing information. Work on the development of modalities for the accounting of financial resources provided and mobilized through public interventions is ongoing under SBSTA.

1.2.3.2 Accounting frameworks for the aggregation of data on global climate finance flows from different sources

49. As stipulated in Article 13.6 of the Paris Agreement, the purpose of the framework for transparency of support is, to the extent possible, to provide a full overview of aggregate financial support provided, to inform the global stocktake.

50. There are a number of ways in which global total climate finance flows can be calculated, including by aggregating deployed finance, mobilized finance, finance received or finance flowing into any sector. However, complete data on global total climate finance are not available for any of these approaches, so the totals are usually estimated using available data in ways that avoid double counting.

51. The approach taken in the 2018 BA, whereby data overlaps and complementarities are discussed under each flow segment, facilitates an enhanced understanding of data quality (see section 2.2).

52. Accounting frameworks for the aggregation of data on total climate finance flows have also been suggested by institutions that do not aggregate climate finance totals themselves. These frameworks can be found in reports such as Oxfam's *Climate Finance Shadow Report* (Carty and le Comte, 2018).

53. The four-stage framework developed by the OECD Research Collaborative provided a basis for developing and understanding the tracking and reporting of private finance mobilized through public interventions, taking into account issues such as accuracy, standardization, feasibility and incentives for specific types of support (OECD, 2015e).

54. The accounting framework for the *Climate Finance in 2013-14 and the USD 100 Billion Goal* (OECD, 2015d) report provides explanations of the funding sources it includes, its classification of developed and developing countries, its underlying definitions and the bases for measuring climate finance. The framework further outlines the

32) See, for example, Gaveau V. and Benn J. 2013.

steps that the report takes to avoid double counting and to account for the share of multilateral finance that is attributable to developed countries.

1.3 Reporting and reviewing climate finance under the Convention

1.3.1 Paris Agreement and provisions relating to the framework for transparency of support

55. The Paris Agreement and the accompanying decision (decision 1/CP.21) include provisions for providing transparent and consistent information on financial support in the context of Article 9 (finance) as part of the enhanced transparency framework established in Article 13 (transparency), which shall build on and enhance the existing arrangements under the Convention. Furthermore, Article 13 stipulates that the purpose of the framework for transparency of support is to provide clarity on support provided and received by relevant individual Parties and, to the extent possible, to provide a full overview of financial support provided, to inform the global stocktake. The elements relevant to the provision of financial information, technical expert review, facilitative multilateral consideration of progress and accounting of financial resources are set out in Articles 9 and 13 of the Paris Agreement.[33]

1.3.2 Reporting, reviewing and verifying of financial information by Annex I Parties

56. This section focuses on the methods for reporting on public and private climate finance flows. It briefly describes the current arrangements for reporting under the Convention. It then presents issues relating to the BR3 CTF tables of Annex II Parties, as well as, when reported, issues related to climate-related private finance. It then concludes with an update on the review process.

1.3.2.1 Reporting of financial information by Annex I Parties

57. Annex II Parties are required to provide information on the financial resources provided to non-Annex I Parties through their NCs, as well as their BRs and CTF tables 7, 7(a) and 7(b). Annex II Parties are also required to provide information on how the financial support is determined as being "new and additional". Features of the current system of MRV of support are described in the technical paper prepared by the secretariat on the modalities for the accounting of financial resources provided and mobilized through public interventions in accordance with Article 9, paragraph 7, of the Paris Agreement.[34]

58. Preliminary issues related to the provision of quantitative and qualitative information, including information on underlying methodologies, identified in the BR3 CTF tables are summarized below.

59. Annex II Parties provided additional qualitative information on definitions and underlying methodologies used via documentation boxes. The BR CTF tables submitted as at October 2018 suggest some increase in the provision of quantitative information, particularly information on public financial support via CTF table 7(b), as well as climate-related private finance via BRs.

60. Notwithstanding the improvements in methodologies for reporting climate finance via the BR3 CTF tables,[35] some reporting issues still complicate the aggregation, comparison and analysis of the data. These include the following:

(a) Qualitative information provided by Annex II Parties on how they define "core/general" and "climate-specific" for reporting on financial support through multilateral, bilateral and other channels, including the provision of information on the underlying methodologies used when drawing on Rio marker data for quantitative reporting under the Convention:

(i) **Core/general:** Of the 41 BR CTF tables submitted as at October 2018, 20 Parties provided information to varied degree of detail on how they determine funds as being core/general in the documentation box. Some Parties stated that they report the total contribution towards multilateral institutions, funds and DFIs that cannot be specified as climate-specific (e.g. when it is not possible to identify the climate-specific component of the contribution). Several Parties indicated that they provided only information on

33) Elements relevant to provisions on transparency of support under the Paris Agreement are available at https://unfccc.int/topics/climate-finance/workstreams/transparency-of-support-ex-post.

34) Features of the current system of MRV of support are available at https://unfccc.int/sites/default/files/resource/docs/2017/tp/01.pdf.

35) See document FCCC/SBI/2014/INF.20/Add.1, paragraphs 269–271.

imputed climate-related shares of multilateral contributions. Other Parties either categorized multilateral contributions as bilateral with multiple recipients or did not provide information on how they determine funds as being core/general at all. With regard to the provision of information on climate finance outflows from multilateral channels, Parties largely indicated that they were not able to capture outflows from multilateral channels in their BR3s;

(ii) **Climate-specific:** Of the 41 BR CTF tables submitted as at October 2018, 24 Parties provided information to varied degree of detail on how they determine funds as being climate-specific in the documentation box. Parties that provided information on being climate-specific in the context of contributions through bilateral and other regional channels mostly referred to using the OECD Rio markers. Many Parties also provided qualitative information to varying degrees of detail on the definition and methodology used to identify contributions as being climate-specific in relation to multilateral contributions.[36]

(b) Qualitative information provided by Annex II Parties on "sector" and how "new and additional" is determined:

(i) **Sector:** Of the 41 BR CTF tables submitted as at October 2018, 21 Parties provided information on the categorization of sectors to varying degrees in the documentation box. Most Parties referred to the use of the OECD-DAC sector/subsector classification. In some cases, Parties did not provide any information, while in other cases Parties marked data entry as attributable to more than one sector. In many cases, the portions between sectors indicated in such a manner were not reproducible, and the data were therefore captured under the new category "multisectoral". One Party provided information on the percentage of the contribution allocated to specific sectors. The current reporting of sectoral information in the BR CTF tables does not allow precise sectoral statistics to be derived. One of the main limitations is the absence of a common sector classification or sector coding for Parties to report. A preliminary comparison of sectoral distribution is contained in Annex J;

(ii) **New and additional:** Of the 41 BR CTF tables submitted as at October 2018, 21 Parties provided information to varied degree of detail in the documentation box. A number of Annex II Parties referred to the lack of internationally agreed definition of what counts as new and additional financial resources. Most Parties indicated that the resources provided are new and additional compared to financial resources reported over the years 2011–2014 in the previous NCs or BRs. A few Parties stated that the financial resources provided were new and additional pursuant to Article 4, paragraph 3, of the Convention. Many Annex II Parties indicated that the climate finance provided can be considered as new and additional, as it was not diverted from other development priorities. A number of Parties made reference to the Copenhagen Accord and fast-start finance pledges made therein using climate finance prior to 2009 as a baseline. Several Parties did not provide any criteria regarding how they made their considerations of what counts as new and additional;

(iii) **Funding source:** Of the 41 BR CTF tables submitted as at October 2018, 18 Parties provided information on the funding source to a varied degree in the documentation box. Most Parties referred to the use of the OECD-DAC classification of the ODA and OOF, or another definition compatible with the OECD-DAC. 21 Parties did not provide any information on the funding source in their documentation boxes, while other Parties provided also quantitative information on funding sources. When some Parties reported the funding source as being both ODA and OOF, information on distribution was not available, although one Party provided information on the percentage of the contribution allocated to ODA and OOF;

(iv) **Type of support:** Regarding type of support, the main issue was reporting core contributions to multilateral funds. Only one reporting line could be entered in the CTF table per organization, which implied only one type of support per organization.

36) OECD-DAC reporting on climate-related development finance (see section 1.2.1.2, para. 30, above).

However, many organizations are active in both mitigation and adaptation finance. Therefore, many providers had to report their core contributions under cross-cutting, when they may have been able to distribute most of this finance between adaptation and mitigation. This entailed an overrepresentation of cross-cutting among core multilateral funds. In addition to existing categories (mitigation, adaptation, cross-cutting, other), one Party introduced the new category "REDD-plus/biodiversity".[37] A few Parties also specified "other" as REDD-plus/forestry;

(c) Provision of disaggregated information on recipient country, region, project, programme and activity: Although the BR CTF tables include reporting parameters on recipient country, region, project, programme and activity, the reporting guidelines do not require further specific details on recipients. As such, information on the recipients of climate finance is relatively limited in the BR data. Thirty-four Annex I Parties provided information on this parameter to varied degree of detail in BR3 CTF tables. Provision of data on recipients of climate finance remains an area for further improvements in terms of addressing data gaps and level of detail, which could contribute to an enhanced understanding of where and what is targeted by the support provided;

(d) Provision of information on climate-related private finance:
   (i) In accordance with the "UNFCCC biennial reporting guidelines for developed country Parties", Annex II Parties should report, to the extent possible, on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties, and should report on policies and measures that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties. 13 Annex II Parties provided information on private climate finance to varied degree of detail in their BR3s, it represents a significant increase compared to BR2s. Many of these Annex II Parties highlighted its important and still-growing role in scaling up climate finance to put countries on the pathway towards low GHG emissions and climate-resilient economies while underlining the continued importance of public climate finance;
   (ii) Some Annex II Parties provided more extensive qualitative information on the methodologies and definitions used in the mobilization and tracking of private climate finance, such as definition of public and private finance, direct and indirect mobilization, type of public intervention or instrument, point of measurement, attribution and causality;
   (iii) In addition, with regard to methodologies for reporting on climate related private finance, some Parties acknowledged a number of challenges and issues, such as:
      - difficulties in distinguishing the origin of private finance;
      - causality of the mobilization of private finance;
      - confidentiality clauses related to some private sector data;
      - the lack of data-collection systems;
      - no possibility in the CTF tables for providing quantitative estimate of the impact of core funding on multilateral organizations; and
      - complexity in attributing mobilized private finance among relevant public contributors.

61. Differences in data from one source to another also arise due to limitations and divergence in guidelines under different reporting systems (see box 1.1 in the 2016 BA).

62. To improve clarity, consistency and transparency, efforts to further improve reporting guidelines and formats could aim to address the issues noted above.

1.3.2.2 Process to review reporting on climate finance provided by Annex II Parties

63. The UNFCCC guidelines for technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the

37) With regard to REDD-plus, in decision 1/CP.16, paragraph 70, the COP 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.

Convention mandate expert review teams (ERTs) to assess the completeness of BRs in accordance with the reporting requirements contained in decisions 2/CP.17 and 19/CP.18; undertake a detailed technical review of the information provided in the individual sections of BRs; and identify issues relating to completeness, transparency, timeliness and adherence to the reporting guidelines.[38] In this regard, ERTs provide technical review reports (TRRs) for each Party's BR, taking into account the comments of the Annex I Party, within four weeks of receipt of the comments.

64. The technical review of BRs is the first step of a two-step international assessment and review (IAR) process. The overall objectives of the IAR process are to review the progress made by developed country Parties in achieving emission reductions and to review information on the provision of financial, technological and capacity-building support to developing country Parties. In addition, the IAR process aims at assessing the implementation of methodological and reporting requirements.

65. The BR3s are still under review. Thirty-one out of 41 submitted BR3s were reviewed as at October 2018, of which 21 were in-country and 10 were centralized reviews. The remaining 10 submitted BR3s will be reviewed in the period from November 2018 to September 2019. The BR3 of Belarus, Ukraine and United States have not yet been submitted. Seventeen technical review reports of BR3s were published on the UNFCCC web site so far. Brief initial analysis shows that Parties further improved completeness and transparency of information related to the provision of financial, technological and capacity-building support in comparison to BR2s, but final assessment will be available after all TRRs are published and analysed.

66. The analysis of the TRRs conducted for 42 BR2s shows that the information on the provision of financial, technological and capacity-building support to developing country Parties (i.e. 30 per cent for completeness and 26 per cent for transparency of the total number of recommendations) is the second-ranked section of the BR2s in terms of the total number of recommendations made by the ERTs.[39] When compared to the first cycle of the IAR process, the total number of recommendations made by the ERTs related to completeness of the financial, technological and capacity-building support sections in BR2s decreased from 56 to 33 in the second cycle of the IAR, which represents a significant improvement. Furthermore, recommendations related to transparency increased from 45 to 57, which indicates that this is the area where Parties could further improve their reporting.[40] However, it should be noted that the technical review of BR2s was more comprehensive than the technical review of BR1s.

67. Of the reporting parameters and guidelines that apply to financial, technological and capacity-building support sections in the BRs, the largest number of reporting issues in BR2s were identified in the following: how support is identified as new and additional; information on annual financial support with amounts, type, source, instrument and sectors; measures to support the development of endogenous capacities and technologies; and how support responds to capacity-building needs. When compared to the TRRs for BR1s, two reporting elements triggered most of the recommendations: information on the national approach for tracking financial, technological and capacity-building support and information on measures taken to promote, facilitate and finance the transfer of, access to, and deployment of climate-friendly technologies.[41]

1.3.3 Reporting and reviewing climate finance received by non-Annex I Parties

1.3.3.1 Reporting on climate finance received by non-Annex I Parties

68. In their BURs, non-Annex I Parties submit updated information on national GHG inventories, including a national inventory report and information on mitigation actions, needs and support received.

69. The first BURs were submitted in 2014. Forty-four non-Annex I Parties had submitted their BURs as at October 2018. The UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention state that non-Annex I Parties should also provide updated information on financial resources, technology transfer, capacity-building and technical support received from the GEF, Annex II Parties and other Parties that provide support, the Green Climate Fund (GCF) and multilateral institutions for activities relating to climate change,

38) Decision 13/CP.20.
39) Further insights on the quality of reporting, specifically for the financial, technological and capacity-building support sections of the BR2s (UNFCCC, 2017).
40) See (UNFCCC, 2017).
41) See (UNFCCC, 2017).

including for the preparation of BURs.[42] However, there is no common reporting format, and the guidelines do not require information on underlying assumptions, definitions and methodologies used in generating the information. Parties decide what to report as climate finance on an individual basis[43], and some Parties report only finance received by their national governments.

70. Information included in BURs on financial support received varies in degree of detail. Many Parties indicate that financial information provided is partial and represents best efforts to present accurate information while avoiding double counting. Reporting periods follow different approaches across BURs, ranging from annual or biennial time frames to totals over multiple years. In some cases, BURs include financial information associated with activity or project duration and/or years of commitment or disbursement. In several cases, Parties do not make a clear distinction between the type of support (thematic distribution) and sectors.

71. Thirty-three non-Annex I Parties provided summary information on climate finance support received during a certain period (see annex F).[44] Other non-Annex I Parties indicated financial support received for a select number of projects or activities, sectors or providers, or did not include quantitative financial information. Among the thirty-three non-Annex I Parties that provided summary information on climate finance received, fifteen Parties provided estimates of total finance received over a certain period, and twenty-three reported on finance received per project or activity in tabular format. Thirteen Parties reported by provider and thirteen Parties reported by type of support (i.e. mitigation, adaptation or cross-cutting) in tabular format. The remaining Parties only provided headline figures of finance received. Additionally, seven Parties included information on domestic finance flows, and five Parties provided information on co-financing. However, limited institutional capacity to track climate finance received, as well as a lack of data, can pose challenges in non-Annex I Parties.

72. With regard to needs, eleven non-Annex I Parties provided quantitative information on total needs of climate finance support, of which six Parties included tabular data at the activity level, with a few Parties also identifying preferred financial instruments and level of priority for each activity.

73. The information provided on overall climate finance received and needed varies, as noted in paragraph 70 above, and it is not possible to accurately tabulate the amount that non-Annex I Parties report as support needed or received.

1.3.3.2 Processes to review reporting on climate finance received by non-Annex I Parties

74. The COP, by decision 1/CP.16, decided to conduct international consultation and analysis (ICA) of BURs from non-Annex I Parties. While the primary objective of the ICA process is to enhance the transparency of mitigation actions, it is also expected to potentially contribute towards improvements in the quality of BURs over time. ICA includes two steps: a technical analysis of BURs by a team of technical experts and a facilitative sharing of views through workshops.

75. Thirty-five non-Annex I Parties had undergone at least one round of ICA as at October 2018. Summary reports on the technical analysis of BURs and the records of the facilitative sharing of views, including presentations and webcasts, are available on the UNFCCC website.[45] While ICA currently serves as a process to consider information included in BURs, including information on support received from Annex I Parties, there are no internationally agreed methods for reconciling financial support provided against support received.

1.3.4 Reporting on climate finance by the operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol

76. The operating entities (i.e. the GCF and the GEF) report annually to the COP. However, there are presently no standard methodologies or formats for quantitative reporting.

77. Quantitative reporting by the GCF is recent. In responding to the overall guidance by the COP, the GCF has also started to provide quantitative information on amounts for activities approved and disbursed, type of activity (mitigation, adaptation, cross-cutting), financial instrument and so forth. With respect to type of activity,

42) See annex III to decision 2/CP.17

43) See (UNFCCC, 2014d).

44) The Republic of Korea offers in its BUR detailed information on climate finance provided.

45) Available at https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/biennial-update-reports-and-international-consultation-and-analysis-non-annex-i-parties/international-consultation-and-analysis-process/international-consultation-and-analysis.

the GCF also reports on the amounts for readiness and preparatory support, support for forest-related actions and capacity-building support. Although the GCF, in its report to COP 23, reported the value of total projects alongside total GCF funding by project, the GCF does not currently have a methodology to track and report on the mobilization effect of the total GCF funding on the total project value.

78. GEF reports' also include information on co-financing and leverage ratios, in addition to quantitative information on amounts for projects approved per type of activity (mitigation by sector, adaptation), as well as support for enabling activities (NCs, BURs, TNAs, and NAPAs) and capacity-building.

1.4 Methods for tracking and estimating total private finance

79. There is currently no common understanding of what constitutes mobilized private finance.[46] This may be partly due to the difficulties identifying the country of origin of private finance and defining the boundaries of mobilized climate finance, the differences in attribution methodologies, and more broadly the differences in what constitutes public and private finance.

80. As noted in section 1.3.2, work on developing modalities for the accounting of financial resources provided and mobilized through public interventions is ongoing under SBSTA. Since 2013, work conducted under the OECD-led Research Collaborative on Tracking Private Climate Finance and OECD-DAC has enabled methodological development, improved data availability and improved awareness, in particular through country pilot studies and annual surveys of bilateral and multilateral development finance providers. MDBs have more recently developed approaches to measure co-finance and mobilization. The following subsections provide updated information on methodologies for estimating and tracking private climate finance through public interventions that may be relevant to national reporting and methodological approaches used for estimating and tracking the broader climate-related private finance flows that constitute total global climate flows covered in chapter II.

1.4.1 Methods for estimating private finance mobilized through public interventions at the country level

81. As noted in section 1.3 above, some countries have piloted methodologies for estimating and tracking mobilized private finance through public interventions. Furthermore, 13 Annex I Parties have included quantitative and qualitative information on climate-related private finance in their BR3 (see section 1.3.2.1 above). Some developing countries have also conducted country pilot

46) Efforts to improve the measurement and reporting of publicly mobilized private climate finance include the development of a common understanding by a group of 19 bilateral climate finance providers of the scope of mobilized private climate finance (Technical Working Group. 2015).

studies. However, information is very limited on mobilized private finance associated with public interventions of Annex I Parties in BRs (see section 1.3 above).

1.4.2 Methods for tracking private climate finance mobilized through bilateral channels and multilateral channels

1.4.2.1 Bilateral and other regional channels

82. In 2012, OECD-DAC was mandated to improve statistics on external development finance beyond ODA, and in 2014, this mandate was expanded to establish an international standard for measuring the volume of private investment mobilized by official interventions. OECD-DAC is doing so by developing methodologies that take into account specificities of individual development finance instruments. DAC methods are being developed in close collaboration with bilateral and multilateral development finance providers and address issues of accounting boundaries, causality and attribution. The aim is to find a balance between accuracy and practicality while making sure to avoid double counting when aggregating international-level estimates across development finance providers.

83. OECD-DAC has collected 2012–2016 activity-level data based on surveys and published resulting estimates on private finance mobilized by public interventions through bilateral and multilateral channels. Since 2017, amounts mobilized have been included in regular OECD-DAC data-collection processes. To date, methodologies to measure amounts mobilized have been developed for syndicated loans, developmental guarantees, shares in collective investment vehicles, direct investment in companies and credit lines. Reporting is being expanded to cover grants and loans in co-financing arrangements, as well as project finance schemes (OECD, 2018d; OECD, 2018e).

84. IDFC members[47] began tracking mobilized private sector finance in 2015. In 2016, nine institutions reported mobilized finance. In 2015, six institutions reported mobilized private flows. Aggregated information on amounts mobilized is available within the *IDFC Green Finance Mapping Report* (IDFC, 2017).

1.4.2.2 Multilateral channels

85. The MDB Task Force on Measuring Private Investment Catalyzation for tracking the private share of climate co-finance has developed a methodology for estimating and tracking private finance mobilized by individual MDBs on a project-by-project basis, both directly and indirectly (AfDB, ADB, EBRD, et al., 2018b). In the MDBs joint report, total climate finance also includes climate co-finance, which is the amount of financial resources that external entities contribute. The MDBs reported that they are following the definitions and recommendations of the MDB Task Force for tracking the private share of climate co-finance. The MDBs started to report on climate co-financing flows in 2015.

86. The aim of tracking climate co-finance is to estimate the volume of financial resources invested by public and private external parties alongside MDBs for climate mitigation and adaptation activities.[48] It is possible that more than one MDB jointly finances a project, which results in some overlap between the gross co-finance figures reported by the different MDBs. To avoid double counting among MDBs, the joint report also computes netted-out figures by considering only the proportion of co-financing for every project that features co-financing from another MDB.[49] Since 2016 MDBs have adopted a new distinction between private direct mobilization and private indirect mobilization:

(a) Private direct mobilization is composed of financing from a private entity on commercial terms due to the **active and direct involvement** of an MDB leading to commitment. Evidence of active and direct involvement includes mandate letters, fees linked to financial commitment or other valid or auditable evidence of an MDB's active and direct role leading to commitments by other private financiers.[50]

(b) Private indirect mobilization is 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.[51]

47) IDFC Members may also report on mobilization to the OECD-DAC.

48) Sources of co-financing include (1) other MDBs, (2) IDFC member institutions (both bilateral and multilateral), (3) other international public entities such as provider governments, (4) other domestic public entities such as recipient-country governments and (5) all private entities (i.e. entities with at least 50 per cent privately held shares).

49) However, there is still a risk of double counting with for example what DFIs can report to IDFC or to OECD-DAC.

50) Private direct mobilization does not include sponsor financing.

51) Private indirect mobilization includes sponsor financing if the sponsor qualifies as a private entity.

87. Concerning operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol, the GEF tracks information on co-financing (i.e. financing that is additional to GEF project financing and that supports the implementation of a GEF-financed project or programme and the achievement of its objectives).[52] The GEF co-financing policy requires that agencies, in collaboration with recipient countries and executing partners, identify, document, monitor and report on sources and types of co-financing for all GEF-financed projects and programmes for which co-financing is available.[53] The approach taken by the GCF to report amounts mobilized is described in Section 1.3.4 above.

88. The OECD-DAC collects, on a regular basis, climate finance mobilized through multilateral institutions. Information is collected from multilateral organizations through the standard CRS questionnaire,[54] and for 2016 flows, eight organizations reported private finance mobilized to the private sector. The OECD-DAC secretariat is currently working on integrating private climate finance mobilized with the OECD-DAC climate-related development finance database.[55]

89. The table in annex D summarizes information on the approaches used by some international institutions for estimating, tracking and reporting on these private finance flows (OECD-DAC, IDFC, MDBs). This includes information on definitions, financial instruments, coverage, attribution and measurement method, etc.

1.4.3 Methods for tracking broader climate-related private finance by source or sector

90. Private finance has been estimated to be the largest component of global total climate finance flows (see section 2.2 below). However, private finance flows represent the least accurate estimates due to difficulties in identifying climate-related finance within broader private investment data, restrictions based on confidentiality and numerous conceptual and accounting issues. Some of these issues remain difficult to resolve for climate finance, as they would be for any focus of finance, suggesting that full and accurate estimates of private finance may not be available in the near future.

91. BNEF collects and aggregates project-level data on renewable energy investments. BNEF is the most comprehensive database on primary finance flows into the renewable energy sector. The remaining available data come from various other sector and industry databases. It should be noted, however, that reporting on private finance is still underdeveloped. Main features of the methodologies used by some of these entities to collect and aggregate partial data or to estimate private climate finance flows of relevance to global total climate finance presented in section 2.2 below are described below, and further information is contained in annex C.

92. Data on investment in renewables come primarily from BNEF, which is a commercial database that has data gaps and issues related to methodological transparency and coherence in terms of tracking the origin of the funds. BNEF is a commonly used source of data on private finance[56]:

(a) It covers projects developed in a broad range of countries, but mostly in G20 countries. It gathers information on project-level financial flows from mostly asset (project) finance, as well as, to a lesser extent, venture capital, private equity, mergers and acquisitions, and equity market transactions;
(b) It tracks public, private and hybrid investment deals in clean energy and smart energy technologies. To a lesser extent, it tracks energy efficiency, including advanced transport such as electric vehicles and batteries, biofuels and clean fuel infrastructure;
(c) For renewable energy finance, it counts all projects above a certain size and estimates smaller distributed technologies. Where deal values are not disclosed, it assigns an estimated value or debt-to-equity ratios based on comparable transactions, technology assumptions or country-level assumptions;
(d) In energy efficiency, it captures a small proportion of investment where the cash flows are identifiable, although this is likely to exclude a large share of efficiency investments that are funded internally by companies and households;
(e) It relies on its clients and independent companies to review and cross-check data. It provides an annual report and synthesis of its data on a quarterly basis, in which it includes its coverage and definitions of asset classes and sectors (BNEF, 2018). More granular data are available through a subscription.

52) GEF also tracks investments mobilized, which are co-financing that excludes recurrent expenditures.
53) Detailed information can be found within the *Guidelines on Co-Financing* (GEF document Policy/FI/GN/01.).
54) Dedicated surveys on mobilization are also regularly conducted.
55) The publication on 2017 flows should be available in early 2019.
56) Available at https://about.bnef.com/new-energy-outlook/#toc-download.

93. BNEF renewable energy finance data are used as a basis in reports by the Frankfurt School–UNEP Centre on global trends in renewable energy investment (Frankfurt School–UNEP Centre, 2017) and by CPI on the global landscape of climate finance (Buchner et al., 2017). The former does not include energy-smart technologies or large hydropower projects, although it does include secondary markets and R&D expenditures.

94. **Methodology for estimating energy efficiency investments developed by the International Energy Agency.** IEA has been slowly improving its methodologies for estimating investments in energy efficiency equipment. For calendar year 2012, the method used by IEA was to quantify all the MDB and bilateral development financing going to energy efficiency and then multiply that by a leverage ratio obtained from UNCTAD (IEA, 2013). For the 2013 data used in the 2016 BA, IEA estimated investments in energy efficiency based on changes in energy intensity in major economies and the weighted average price for world energy. To obtain an estimate of global investments in energy efficiency, IEA multiplies the change in energy intensity by the average price to obtain a very rough estimate (IEA, 2014).

95. In the *Energy Efficiency Market Report 2017*, IEA estimates incremental investment in energy efficiency using a bottom-up approach for three sectors: industry, transport and buildings (IEA, 2017a). The methodology varies by sector and subsector, but aims to ensure that the estimate is based on money spent for additional energy efficiency over a baseline case. Minimum standards are taken as the baseline in buildings, and current sector averages are taken as the baseline for industry and transport, to calculate the incremental investment costs for energy efficiency technologies (see section 2.2.2 below).

96. **Methodology for estimating electric vehicle investments developed by the International Energy Agency.** IEA recently began to estimate investments for battery electric vehicles and partial hybrid electric vehicles, which cover approximately 95 per cent of the global market.[57] Data were collected on the sales, prices and technical specifications of all electric vehicle models by country, along with the incentive structure for electric vehicle adoption. These incentives were either in the form of direct rebates to retailers, manufacturers and consumers or in the form of tax exemptions or differentiated taxes as compared to diesel and petrol vehicles. The data were then used to impute the total investments in the electric vehicle 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) (see section 2.2.3 below).

97. **Methods for climate-related foreign direct investment flows.** The main sources for estimating private sector climate finance data have traditionally been FDI and investments in renewables. FDI data cover only cross-border investments that qualify[58] and official statistics classified by standard economy and industry sector classifications that cannot be directly related to climate change projects and activities.

98. Thematic, sector-specific or other voluntary data are collected and disclosed by several sources, such as the methodology developed by University College London with kMatrix and other partners for the study that track adaptation spending in 10 cities, including sectors such as agriculture and forestry, built environment, disaster preparedness, energy, health, information and communication technology, natural environment, professional services, transport and water (see section 2.2.5 below); REN21; and various industry associations.

1.5 Systems for tracking and reporting climate finance at the domestic level

1.5.1 Systems, tools and sources of information on domestic climate-related finance

99. Collecting information and data on climate finance flows at the domestic level is challenging due to a number of factors such as lack of methodologies, data gaps and insufficient capacity. Annex I Parties have gained some experience in tracking and reporting financial support provided under the Convention, whereas non-Annex I Parties have limited experience in reporting financial support received. More generally, many countries do not currently have in place institutional arrangements to systematically track public and private climate-related financial flows.

57) Countries covered include Canada, China, Denmark, France, Germany, India, Japan, Netherlands, Norway, Republic of Korea, Sweden, United Kingdom and United States.

58) FDI is defined as cross-border investment by a resident entity in one economy with the objective of obtaining a lasting interest in an enterprise resident in another economy.

Box 1.3

Pacific Climate Change Finance Assessment Framework

The Pacific Climate Change Finance Assessment Framework is a methodology developed in 2012 by the Pacific Islands Forum secretariat that builds on other international and regional methodologies (e.g. CPEIR, Public Expenditure and Financial Accountability assessment, Pacific Forum Compact Peer Reviews).

The assessment includes an analysis of financial data in which projects and expenditure items are classified by their climate change relevance by building on the CPEIR methodology. Projects are weighted by government officials as high (~80 per cent), medium (~50 per cent), low (~25 per cent) or marginal (optional; ~5 per cent).

The two most relevant sources under the assessment framework are the funding source analysis and the expenditure analysis:

- For funding sources, the information and data were obtained from approved project documents, national development budget reports, a project list from development partners, projects available on the Pacific Climate Change Portal, information on the Climate Funds Update website and project listings on the websites of respective climate funds.
- Information for the expenditure analysis was primarily extracted from national budgets.

Although the expenditure analysis only captures support that is on budget, the funding source analysis also captures support that is off budget (e.g. climate finance accessed directly by NGOs). Key information collected was total climate finance accessed over the past five to seven years,[a] top donors, multilateral and bilateral breakdown, adaptation and mitigation breakdown, sectoral breakdown and proportion of projects that are on budget versus off budget.

Ten of the 14 SIDS in the Pacific have already been assessed.

Note: [a] The Pacific Climate Change Finance Assessment Framework assessment analyses data from the past five years in totality and not disaggregated by year. Therefore, it is difficult to quantify how much climate finance is received per year, recognizing that most projects are multi-year and their budget expenditure is not always aligned to the original timeframe of the project.

Source: Submission by the Pacific Islands Forum Secretariat to the UNFCCC Standing Committee on Finance.

100. At the domestic level, some ministries have developed information systems aimed at tracking public expenditures, as well as support received from multilateral, bilateral and other channels. Disaggregation, coverage and transparency vary considerably among countries. The limited information from non-Annex I Parties is mainly due to a lack of capacity, a lack of funding and a lack of methodologies and guidelines. Most countries also lack a unified system at the different levels of government. Finally, in terms of international data, the absence of detailed information at country or activity level for certain sources also makes it difficult to track financial resources domestically (Guzmán, Guillén and Manda, 2018).

101. Information on domestic climate-related finance is available through six BURs. Additionally, information on domestic climate-related finance is available through some of the CPEIRs.[59] Climate expenditure data were collected from 10 countries in 2016 and 2017, of which two countries (China and Viet Nam) contain only provincial-level data. The data have been collected from Climate Public Expenditure Reports or from data automatically extracted from public financial management information systems (PFMIS) and generated by different stakeholders in each country. UNDP and WB have used the CPEIR methodology to estimate the share of the budget devoted to climate change for several non-Annex I Parties and for various years since 2007.[60] The CPEIR preparation processes have revealed a number of challenges that highlight the need for further capacity-building and support in tracking climate finance. Annex I details the challenges in collecting domestic climate finance identified during the preparation of CPEIR reports.

102. Other partial data on domestic climate finance are sourced from national climate funds and national development banks such as IDFC members. Most

59) The CPEIR process aims to help countries review how their national climate change policies are reflected in public expenditures. The CPEIR methodology is based on the WB public expenditures reviews. A key challenge is to identify climate-relevant expenditures within the national budget. In addition to a review of central government expenditures, the analysis examines local government spending and other sources of public expenditure, including international support that lies outside the national budget. Countries have some flexibility in identifying these components, which can create inconsistencies in the way they report their estimates.

60) UNDP has also developed a methodological handbook to guide the CPEIR process (UNDP, 2015b). Country case studies and lessons learned were also published in Budgeting for Climate Change (UNDP and Governance of Climate Change Finance Team, 2015).

other efforts to estimate domestic finance have been characterized either by one-off studies that are not conducted routinely or by country analyses conducted every two to four years. Examples include *Estimating Publicly-Mobilised Private Finance for Climate Action of South Africa* (McNicoll et al., 2017), *Budget Tracking Tool Expert for Pilot Program for Climate Resilience (Phase II) of Zambia* (Ernst & Young Advisory Services, 2016) and *Landscape of Public Climate Finance in Indonesia* (Ampri et al, 2014).

103. Climate finance flows are also being tracked at the domestic level by developed countries. Examples include *Financing Europe's Low Carbon, Climate Resilient Future* (EEA, 2017) and *Counting What Counts: Analysis of Norwegian Climate Finance and International Climate Finance Reporting* (Appelt J and Dejgaard H, 2017). The *Landscape of Climate Finance in France*[61] also provides a basis for discussion for public debate on the mobilization of climate finance.

1.5.2 Country case studies describing domestic tracking reporting systems

104. Many country case studies describing domestic systems have been developed, and several studies also provide estimates of the climate finance share of some countries' national budgets. Initiatives include GFLAC's tracking of international climate finance received by eight Latin American countries and the ODI climate finance national budget spending analyses for Ethiopia, Ghana, Tanzania and Uganda (Bird et al., 2016). The domestic tracking reporting systems in Cambodia, Colombia, Nepal, South Africa and Viet Nam have been summarized in annex G. Annex G also includes a more detailed review of the systems in place in Cambodia, Colombia, Philippines and Pakistan, with a comparison to the CPEIR methodology.

105. In line with the implementation of countries' NDCs, a 2017 ODI working paper examines current and planned levels of climate change-related expenditures in national budgets for Ethiopia, Ghana, Kenya and Uganda and for ministries considered strategic to the implementation of NDCs. For all four countries, such spending can be identified, although with low precision at present. One interesting finding from this review is that the number of government ministries involved in early NDC implementation is relatively small: "Therefore, efforts to strengthen budget planning and reporting on climate change-related actions could usefully focus on these ministries, with a lighter regime applied elsewhere across the government Administration" (Bird, 2017, p. 15).

106. Information on domestic climate-related finance is difficult to collect, access or compare because reporting is not available or is not conducted using consistent methodologies or approaches. Although there is a growing body of research on these issues, the different approaches to estimate climate finance limit the possibilities of comparison or aggregation.

1.6 Information on emerging methodologies for measuring mitigation and adaptation finance outcomes

107. Work on methodologies for measuring mitigation and adaptation finance outcomes is relatively nascent. Nevertheless, some multilateral institutions include information on mitigation and in some cases adaptation outcomes at the project level in official reports. The work done in some other institutional contexts may also be of interest in the development of approaches for tracking and reporting outcomes of climate finance, with some institutions having already developed methodologies or definitions around outcomes and impacts (e.g. OECD, MDBs and IDFC).

108. Section 3.3.5 below also 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 K.

1.6.1 Impact reporting by multilateral channels

109. Some international organizations already include information on mitigation and adaptation outcomes in their reports, particularly the operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol. Other multilateral financial institutions, such as MDBs and IDFC, are also currently undertaking work on methodologies for impact measuring.

1.6.1.1 Multilateral development banks and International Development Finance Club framework for climate resilience metrics

61) Available at https://www.i4ce.org/go_project/landscape-of-domestic-climate-finance/landscape-climate-finance-france/.

110. MDBs and IDFC do not currently include information on mitigation and adaptation outcomes in their joint reports. However, in line with the Paris Agreement and its call to align financial flows with low-carbon and climate-resilient development pathways, the MDB Working Group on Climate Finance Tracking aims to develop additional metrics that demonstrate how MDB financing supports a climate-resilient development pathway (i.e. the climate resilience impact of MDB financing and projects, including through the outputs or services provided) and the resultant outcomes for beneficiaries (e.g. communities, businesses, ecosystems or other systems or assets).

111. MDBs and IDFC are considering metrics that enable the identification and analysis of the financial and non-financial benefit. They have been working with a view to developing a framework for climate resilience metrics that would consist of a three-tier metric for climate resilience activities:[62]

(a) **Inputs**: capturing the climate resilience contribution of a project (both financial and non-financial);

(b) **Outputs**: capturing the broader financial resources, assets, goods and services being made more climate resilient within the project;

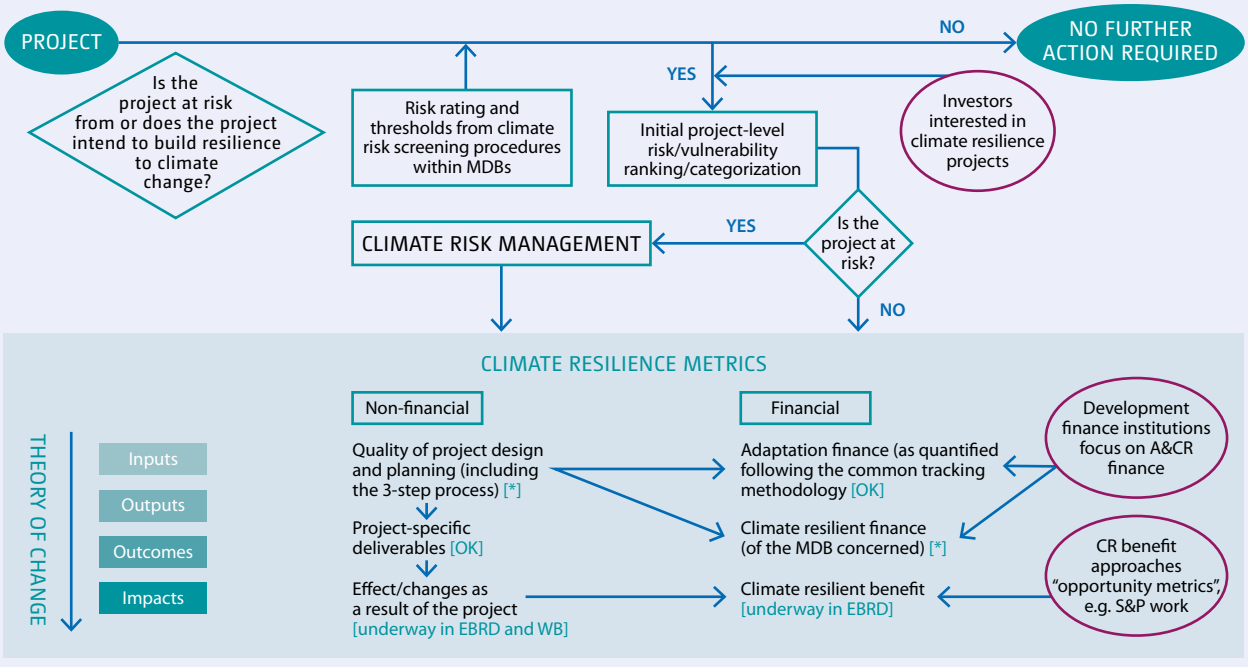
(c) **Outcomes**: capturing the physical, social and environmental outcomes which can go beyond the initial perimeter of the project and representing a larger financial volume than the initial investment.

112. If longer-term climate resilience is the ultimate objective of a project, the framework intentionally avoids attempting to define impact metrics. Considering the time scales involved renders this identification difficult.

113. In line with the common principles adopted by MDBs and IDFC, the framework should be also based on the following principles: context-specificity of the approach, robust monitoring and evaluation, and compatibility with international agreements and national programmes. This framework is currently being developed, and a public consultation process has been launched to gather feedback until COP 24 (AfDB, ADB, EBRD, et al., 2018a).

Figure 1.2

Multilateral development banks and International Development Finance Club framework for climate resilience metrics



Source: AfDB, 2018a.

62) The MDBs/IDFC framework uses monitoring and evaluation definitions that align with the OECD (see figure 1.3 below).

1.6.1.2 Operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol

114. There is currently no agreed standard to measure the impact of mitigation or adaptation finance. On mitigation, the quantification of GHG reduction is typically used as the main indicator in measuring and reporting impacts by the operating entities of the Financial Mechanism. No such metric exists for adaptation,[63] and the most common indicator for reporting on impact is estimating the number of beneficiaries, even if entities also regularly report on the number of programmes approved or the number of countries where programmes or projects have been implemented. Without agreed international definitions on what it means to be more resilient, and considering the various institutional settings (different programmes concentrating on different aspects of adaptation to climate change), it remains difficult to base comparisons on these reported indicators. Annex K summarizes the status of impact reporting under the operating entities for both ex post and ex ante indicators.

115. **Green Climate Fund.** The monitoring and accountability framework and the performance management frameworks of the GCF outline reporting requirements and set several performance indicators that measure results. Since 2014, the GCF Board and secretariat have worked to finalize the results management framework with performance measurement matrices against which the impact, effectiveness and efficiency of its funding will be assessed. At the 20th meeting of the GCF board, which took place in July 2018, an update on the indicators in the performance management frameworks was published, with a focus on harmonizing indicators across climate finance mechanisms through a complementarity and coherence approach.[64] The focus areas for mitigation include low-emission transport, low-emission energy access and power generation at all scales; reduced emissions from buildings, cities, industries and appliances; and sustainable land and forest management (including REDD-plus implementation) for mitigation. The core metric is GHG emission reductions in t CO_2 eq. Adaptation focus areas include increased resilience of health, food and water systems; infrastructure; ecosystems; and enhanced livelihoods of vulnerable people, communities and regions. The number of beneficiaries is the core indicator for adaptation in the current version of the performance management frameworks. The monitoring and accountability framework and accreditation master agreements with the accredited entities also require annual performance reports and mid-term and final evaluation reports on results and impacts, as well as implementation progress for project activities, objectives and outcomes on the basis of project milestones. An annual portfolio performance report is provided on the information received from these reports. The monitoring and accountability framework is also designed to ensure the compliance of accredited entities with their accreditation standards over time and the effective implementation of each of the GCF-funded projects and programmes of the accredited entities.

116. **Global Environment Facility.** The GEF, including the GEF Trust Fund, LDCF and SCCF, has two performance rating indicators for projects under implementation: (1) implementation progress performance ratings based on progress made and (2) development objective performance ratings based on the likelihood that a project will achieve its stated objectives by the end of implementation. In addition, there are a number of impact indicators. For climate change mitigation projects, the GHG emission reductions are reported upon, whereas for adaptation, indicators such as number of beneficiaries, number of hectares of land better managed to withstand the effects of climate change and number of people trained, as well as various other indicators, are measured and reported upon at the portfolio level.

117. **Climate Investment Funds.** CIF monitors the PPCR and the PPCR reports on both targets and achieved results. The results draw from two sources of information: (1) country results reports submitted by the pilot countries and regional programmes and (2) project-level reports submitted by the MDBs. The CIF tracks progress on the integration of climate change into national and sectoral planning, strengthened government capacity and coordination mechanisms, the development and uptake of climate-responsive tools and strategies, and the number of people supported to cope with the effects of climate change. Every year, State and non-State stakeholder groups in PPCR countries come together for a scoring workshop to assess progress on MDB-approved projects. Starting with the 2017 reporting cycle, project-level reporting templates were submitted by the MDBs in order to leverage the data already being reported in the results frameworks and implementation status reports of the MDBs and to improve the aggregation of project- and output-level indicators at the PPCR fund level.

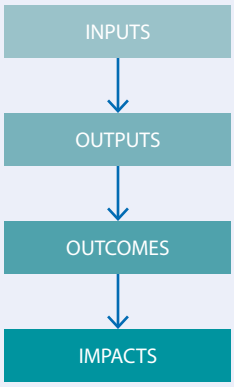
63) Discussion of possible metrics are ongoing. See, for example, (Christiansen, Martinez and Naswa, 2018).

64) GCF/B.20/Inf.01.

Figure 1.3

The results chain

The results chain has been used in development co-operation for decades, and aligns with DAC's evaluation guidelines.



118. CIF also monitors and reports on FIP's contributions to GHG reductions or its avoidance or enhancement of carbon stocks and livelihood co-benefits, such as access to finance, technical assistance and new jobs. Projects also report on other relevant co-benefits, including biodiversity and environmental services, governance, tenure and capacity-building. The results draw from two sources of information: (1) country results reports submitted by the pilot countries and regional programmes and (2) project-level reports submitted by the MDBs. Every year, State and non-State stakeholder groups in FIP countries come together for a national workshop to assess FIP progress on MDB-approved projects. Aggregating targets and results for the reporting theme GHG emission reductions, avoidance and enhancement of carbon stocks is challenging because each country uses different calculation methodologies. The FIP Monitoring and Reporting stocktaking review highlighted that forest-related GHG emission reductions need time to be effective and measured and that measurements of actual GHG emission reductions are usually done at midterm or at the end of the project. The FIP Monitoring and Reporting stocktaking review concluded that reporting progress on this theme will be done as FIP projects reach the midpoint and completion and is therefore not reported on an annual basis.

119. **Adaptation Fund.**[65] The AF has a template and review process for project performance reports. As part of the Fund's reporting requirements, implementing entities are required to submit a project performance report on an annual basis. The report requires information on a number of areas, including financial, procurement, risk, implementation progress, lessons learned, progress toward outputs and outcomes, and progress against the identified milestones. It also includes a results tracker that allows the Fund to track specific indicators across its portfolio. These indicators include outcome- and output-level indicators from the Fund's Strategic Results Framework, as well as its five core impact indicators. Disbursements of tranches of funding are tied to the clearance of the project performance reports. Accordingly, the review process of the reports provides a structure that allows the secretariat to flag irregular reporting. This may lead to further examination and trigger other review mechanisms the AF Board has at its disposal.

1.6.2 Information related to impact reporting in the context of reporting under the Convention

120. UNFCCC biennial reporting guidelines do not include provisions on impact reporting. However, some Annex II Parties recognize its importance and report on impacts of their support provided in BR3s. A few Annex II Parties provided information with various levels of granularity and on different timelines. A few other Parties provided information on the project-level impacts.

121. One Party provided information on the cumulative impacts for the period between 2011–2012 and 2016–2017, in terms of the various indicators, such as the number of people supported to cope with the effects of climate change, number of people provided with improved access to clean energy and number of reduced or avoided tonnes of GHG emissions.[66]

122. The other Party reported on the cumulative impacts for years 2015[67] and 2016.[68] The Party provided information on various outputs and indicators, such as the number of people provided with improved access to clean energy, number of hectares of land and forest

65) To allow the AF to aggregate quantitative indicators for a portfolio that is, by nature, diverse (including agriculture to water management, coastal management, rural development, food security, and disaster risk reduction), the AF Board had approved two impact-level results and five associated indicators to track under these impacts (AF, 2013, 2014). Progress against these indicators is tracked on an annual basis. In addition, project performance reports are being updated to monitor compliance of projects and programmes under implementation with the environmental and social policy and the gender policy of the Fund.

66) See the 2017 UK Climate Finance Results, available at https://www.gov.uk/government/publications/2017-uk-climate-finance-results.

67) See https://www.rijksoverheid.nl/documenten/rapporten/2016/09/08/department-igg-climate-2015.

68) See https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/kamerstukken/2016/09/15/kamerbrief-inzake-ontwikkelingsresulaten-in-beeld-editie-2016/RapportRappOntwikkelingssamenw2016.pdf.

under improved sustainable management, number of smallholder farmers who became more resilient to climate change and number of people who became more resilient to climate change due to improved water management.

123. There are no provisions on impact reporting in the BUR guidelines.

1.6.3 Work done on impact reporting in other institutional contexts

124. Discussions are being conducted on results in the context of development cooperation within the OECD-DAC Results Community, an informal network. The OECD-DAC Results Community is an informal network dedicated to results-based management for effective development cooperation, and it is composed of staff from DAC provider or observer agencies who work in results-based management. Staff from partner governments, think tanks, research bodies, civil society organizations and other stakeholders involved in the results agenda are also involved in the Results Community on an ad hoc basis. The purpose of the Results Community is to foster exchange and drive collective learning among development cooperation providers, their partners and other stakeholders. Together, members share good practices, discuss common challenges and shape the results agenda.

125. The 2° Investing Initiative, a think tank working on climate metrics in financial markets, is currently developing a project called Aiming for Impact to assess the likelihood of investor action translating into actual CO2 emission reductions. Based on the analysis of past and current investor actions, a conceptual impact assessment framework is being developed aimed at helping both investors and NGOs to identify pathways to and conditions for impact. The impact assessment framework is complemented by the development of a forward-looking quantitative tool that tracks the investment plans of companies in specific sectors to provide investors and NGOs with information to engage with company management on their climate strategies (2° Investing Initiative, 2018b). Another example is the report on measuring the contribution of green bonds to scaling-up investments in green projects (2° Investing Initiative, 2018a). There is also a number of GHG and co-benefit impact reporting methodologies in the voluntary carbon markets (e.g. Gold Standard or Verra).

1.7 Insights into emerging practices and metrics relevant for the tracking progress towards the goal outlined in Article 2.1(c) by different actors

126. Article 2.1(c) of the Paris Agreement identifies the consistency of finance flows with a pathway towards low GHG emissions and climate-resilient development as a means to strengthen the global response to the threat of climate change. This section includes information on emerging methods and metrics that may be relevant for tracking the consistency of lending, investment and insurance with Article 2.1(c), as well as the approaches that international financial institutions and public actors have adopted to ensure the consistency of finance flows with Paris objectives.

127. To date, methods and metrics tracking flows and stocks are available across various actors operating in the financial sector and private asset classes, including the following (see section 2.6 below):

- Bank lending;
- Bond markets;
- Listed equity;
- Private equity;
- Insurance and reinsurance;
- Assets under management
- Financial services.

128. Financial sector actors have developed various methods and metrics relevant for tracking the consistency of finance flows with Paris objectives. These methods and metrics include qualitative process indicators of action (e.g. investors conducting climate risk assessments, stock exchanges including green bond listing processes), as well as quantitative indicators of flows and stocks (e.g. value of green loans, value of green bond issuance, value of outstanding green bonds). Other approaches have focused on quantitative indicators of mitigation and adaptation outcomes (e.g. emissions impact, carbon intensity of investment). In addition, several methods and metrics have tracked the progress of public actors in shifting finance via fiscal policy, financial regulation and public finance (see section 3.4 below).

129. This section provides a survey of the methods and metrics for tracking consistency with climate objectives, including the long-term goals outlined in the Paris Agreement. Section 1.7.1 will first present an overview of the methods and metrics that private financial sector actors have undertaken to produce quantitative and qualitative information on capital stock and flows (see

section 2.6 below for corresponding data). Section 1.7.2 then provides insight on methods and practices for climate-related financial disclosures. Section 1.7.3 includes reference to ongoing work on methods and metrics for tracking the progress of public actors, including MDBs, bilateral assistance and DFIs; domestic finance institutions; and government agencies responsible for financial policy and regulation.

1.7.1 Methods for producing quantitative and qualitative information on capital stock and flows

1.7.1.1 Bank lending

130. In the green lending sector, the IFC produced a report in 2017 estimating the percentage of syndicated loans that could be considered green loans (IFC, 2017). IFC's analysis draws on Thomson Reuters data from 2014 on syndicated loans to first identify loans in sectors that can be considered green (adaptation, carbon capture and storage, energy and energy efficiency, environment protection, green buildings, green products and materials, renewable energy, sustainable land management, transport, waste management and water). Where needed, the IFC then applies estimates by sector and company to determine the percentage of the loan that can be considered green (e.g. share of electric vehicles in the auto-manufacturing sectors, share of renewables in the power or electricity sector).

1.7.1.2 Bond markets

131. Participants in bond markets have adopted various methods and metrics to track consistency of investments with a 2 °C pathway. The Climate Bonds Standard and Certification Scheme is a labelling scheme for investments across a range of sectors, including buildings, transport, renewable energy and water infrastructure. To receive certification, a prospective issuer must work with a third-party verifier to ensure that the bond meets environmental and financial management guidelines. Confirmation of certification is provided by the Climate Bonds Standards Board, which includes representatives from IFC, Standard & Poor's, KPMG, Calvert Funds Management, DNV GL and Environmental Capital Management.

1.7.1.3 Listed equity

132. For listed equity, the United Nations-led SSE Initiative tracks stock exchanges' commitments to sustainability globally. Partner exchanges, those that have made a public commitment to promote sustainability in their markets, gain access to the SSE Consultative Group, which is tasked with setting the Initiative's strategic direction. The data gathered by SSE (which are binary yes or no answers) include:

- Signature of commitment letter and communication to stakeholders;
- ESG reporting requirements, written guidance[69] and training offered by the stock exchange (meeting the criteria requires covering all three areas);
- Provision of sustainability-related indices;
- Existence of rules and regulations allowing green bonds to be listed.

133. SSE partner exchanges include the FTSE Russell, which was launched in 2008 and is focused on defining and accessing investment opportunities in the green economy. FTSE Russell comprises two sub-index series:

- FTSE Environmental Opportunities Index Series, which consists of companies that have significant involvement in environmental business activities (minimum 20 per cent of revenues) and meet environmental opportunities eligibility requirements;
- FTSE Environmental Technology Index Series, which consists of companies that work primarily in the development and deployment of environmental technologies (minimum 50 per cent of revenues).

134. The MSCI ESG Indexes, over 900 in total, are similarly designed to support ESG investing. The MSCI Global Environmental Indexes, designed to support various low carbon investment strategies, include the Low Carbon and Fossil Fuels Exclusion indexes.

135. Finally, the Developing Sustainable Energy Investment metrics, benchmarks and assessment tools for the financial sector project, funded by the European Commission and led by the 2° Investing Initiative, provides a free and open-source tool for listed equity portfolios to test for 2 °C alignment. The tool compares the exposure of a portfolio to current and planned capacity, production and investment plans to 2 °C scenarios.

69) Available at http://www.sseinitiative.org/esg-guidance/.

1.7.1.4 Insurance and re-insurance

136. For insurance markets, the California Department of Insurance administers the National Association of Insurance Commissioners' Climate Risk Disclosure Survey, which surveys insurance companies worldwide. Regulators in California, Connecticut, Minnesota, New Mexico, New York and Washington require firms writing more than USD 100 million in premiums to complete the survey, while others may do so on a voluntary basis. The survey data are available publicly on the Climate Risk Disclosure Survey website. The survey questions (binary yes or no answers) cover companies' emission reduction plans, risk assessment and management, and engagement with policymakers and stakeholders on climate-related risks. Also focusing on insurance markets, the Ceres Climate Risk Disclosure Survey summarizes and scores results across property and casualty, life and annuity, and health insurance. The report's annexes include detailed scorecards and a listing of insurers.

1.7.1.5 Assets under management

137. AODP rates and ranks the world's largest institutional investors and assesses their response to climate-related risks and opportunities. AODP's Global Climate 500 Index rates the world's 500 biggest asset owners – pension funds, insurers, sovereign wealth funds, foundations and endowments – on their success at managing climate risk within their portfolios (AODP, 2018). The ranking covers governance and strategy and portfolio carbon risk management by assessing asset owners across five categories (leaders, challengers, learners, bystanders and laggards) and assigning a bond-style A–D rating for each.

138. The PDC – co-founded by UNEP FI, Sweden's fourth national pension fund (AP4), Amundi and CDP – represents institutional investors committed to gradually decarbonizing their portfolios. Members commit to disclosing their carbon exposure while also reducing the carbon intensity of their portfolios.

139. Other initiatives are emerging to foster transparency and competition between actors and investments. The Transition Pathway Initiative toolkit[70] allows an assessment of companies' carbon management quality and carbon performance. MSCI, a private research institution that provides advice and tools for institutional investors, is providing ESG data research, ratings and analysis of companies, and HSBC has launched a Climate Risk Analysis Framework.[71]

140. A number of emerging methods and metrics apply across asset classes, including the PRI, which is a voluntary set of principles for incorporating ESG issues into investment considerations. As at 2018, the PRI Reporting Framework had collected data from approximately 1,300 investors on whether they invest in environmental-themed areas. Signatories who invest in themed areas can select the areas applicable to them (i.e. clean energy, green buildings, sustainable forestry, sustainable farming), the corresponding asset classes (e.g. fixed income, listed equity, infrastructure) and AUM for each theme area and asset class. As PRI AUM has a 75 per cent global market penetration, it is possible to also confidently deduct a minimum AUM that is not invested in environmental-themed areas, including climate action (2° Investing Initiative et al., 2015; 2° Investing initiative, 2015).

1.7.2 Methods for climate-related financial disclosures

141. Other initiatives, including TCFD, have focused on improving the disclosure of climate risk. TCFD was established by the Financial Stability Board in December 2015 with the remit of developing a set of recommendations for consistent disclosure to help financial market participants understand their climate-related risks. TCFD has 32 members, including banks, insurance companies, asset managers, pension funds, large non-financial companies, accounting and consulting firms, and credit rating agencies. In June 2017, TCFD released its final recommendations for disclosure of climate risks (TCFD, 2017). The report provides guidance on the four core elements of climate-related disclosures (governance, strategy, risk management, and metrics and targets), while also recommending the use of climate-related scenarios (including a 2 °C or lower scenario) to assess the resilience of an organization's strategy. TCFD held its first conference on scenario analysis in May 2018 on examining the role of climate-related scenario analysis in disclosure.

142. For corporations seeking to align investments with climate objectives, the We Mean Business coalition, a global non-profit that catalyses business leadership to

70) Available at http://www.lse.ac.uk/GranthamInstitute/tpi/the-toolkit/.

71) Available at https://www.environmental-finance.com/content/news/hsbc-launches-climate-risk-analysis-tool.html.

drive policy ambition towards a low-carbon economy, tracks companies that have committed to TCFD recommendations, those that are reporting on them and their support for various other climate-related initiatives. SBTi, a partnership between CDP, the United Nations Global Compact, World Resources Institute and the World Wide Fund for Nature, provides a methodological framework for corporations to adopt long-term emission reduction targets in line with a 2 °C scenario.

1.7.3 Methods for tracking international financial institutions and public actors

143. Public finance institutions – including multilateral, bilateral and national development banks as well as DFIs – have adopted several tools and criteria for making finance consistent with mitigation and adaptation objectives. These criteria include positive lists, which state clear investment priorities around low-emissions or climate-resilient technologies; negative lists, which state the technologies or sectors excluded from financing; and quantitative conditions, for example emissions intensity for investments in the power sector or the internalization of external costs through shadow carbon pricing (Höhne et al., 2015). Some institutions, notably MDBs, have also adopted policies and efforts to mainstream climate considerations into their broader portfolios (I4CE, 2017c). Other institutions, such as the AFD, have developed an approach to track the consistency of their operations with the long-term goals of the Paris Agreement (AFD, 2018).

144. Several emerging methods and metrics have also sought to track the consistency of public finance flows with climate objectives. For example, the green to brown energy finance ratio (also known as net public energy finance) provides an indication of both the volume of energy-related climate finance and the volume of fossil finance (Wright et al, 2018; Climate Transparency, 2017a, 2017b). Other indicators of consistency include current levels of climate finance (AfDB et al., 2018a) and pledges for future climate finance. These pledges can be measured in terms of absolute level or as a percentage of total lending and can be tracked over time with respect to current finance levels (Wright et al., 2018). Measures of public finance alignment also include more qualitative indicators, for example ratings and rankings of MDBs' fossil fuel policies (Wright et al., 2018).

145. In addition to public finance actors, government agencies are using fiscal policy to make public revenues and resources consistent with climate objectives. Indicators relating to the uptake and coverage of carbon pricing provide one measure of efforts to shift financial flows. Some metrics include the number of jurisdictions implementing carbon pricing, the total emissions covered by these initiatives and the total value of emissions trading schemes and carbon taxes (WB, Ecofys and Vivid Economics, 2017). Another emerging indicator relating to carbon pricing might include a net carbon price, which is an indicator that combines the effective carbon price with fossil fuel subsidies acting as a negative carbon price. This indicator could be expressed as a percentage of gross domestic product and, to improve comparability across jurisdictions, can also be expressed per tonne of carbon (Climate Transparency, 2017a, 2017b).

1.8 Other methodological issues

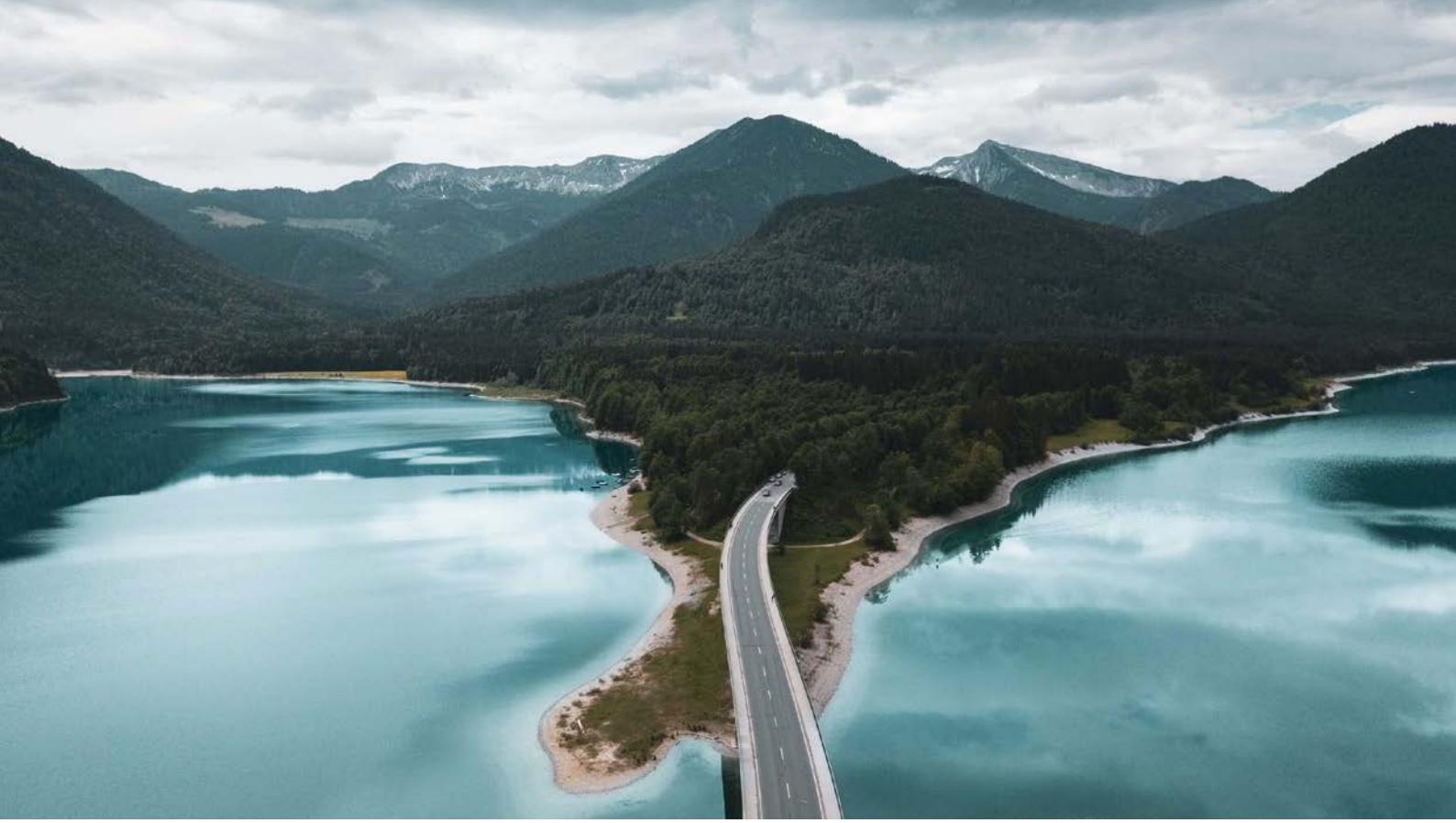
1.8.1 Tracking gender equality and women's empowerment in climate-related statistical systems

1.8.1.1 Tracking gender equality and women's empowerment in the statistical system of the Organisation for Economic Co-operation and Development – Development Assistance Committee

146. Data on DAC members' aid targeting gender equality and women's empowerment are compiled with the help of the gender equality marker in the OECD CRS. Most aid activities reported to the CRS should be screened and marked as either (1) targeting gender equality as a principal objective or a significant objective or (2) not targeting the objective.

147. The DAC gender equality policy marker is a key monitoring and accountability tool in the context of the 2030 Agenda. It is currently the only common tool available to DAC members to track bilateral aid in support of the implementation of the SDG commitments on gender equality and women's empowerment. It can contribute to identifying gaps between policy and financial commitments, and incentivize efforts to close them.

148. The data generated by the marker provide an estimate of DAC members' aid in support of gender equality rather than an exact quantification. As for Rio markers, the gender equality marker is a qualitative instrument rather than a quantitative tool. The data have been publicly available on the DAC website since 2007, and the OECD produces regular summary of aid to gender equality and women's rights by each DAC member (OECD, 2015f).



Box 1.4

Methodological approach on gender equality and women's empowerment within OECD-DAC statistics

In DAC statistics, an activity should be classified as gender-equality focused if it is "intended to advance gender equality and women's empowerment or reduce discrimination and inequalities based on sex".

An activity can target gender equality and women's empowerment as a principal objective or as a significant objective. The difference between principal and significant marking is similar to that for the Rio markers. Principal means gender equality was an explicit objective of the activity and fundamental in its design. Significant means gender equality was an important but secondary objective of the activity. Not targeted means that the activity was screened for promoting gender equality, but was found to not be targeted to it.[a]

For an activity to be eligible, gender equality should be explicitly promoted in the activity documentation through specific measures which:

- Reduce social, economic or political power inequalities between women and men or between girls and boys, ensure that women benefit equally with men from the activity, or compensate for past discrimination;
- Develop or strengthen gender equality or anti-discrimination policies, legislation or institutions.

This approach requires analysing gender inequalities either separately or as an integral part of agencies' standard procedures. A handbook (OECD, 2016a) has been developed by the OECD-DAC Network on Gender Equality to promote a better understanding of the gender marker and to support DAC member agencies in applying this tool by providing recommendations for its effective application.

Note: [a] Note also that "support to women's equality organisations and institutions" (CRS sector code 15170) and "ending violence against women and girls" (CRS sector code 15180) score, by definition, as principal objectives.

149. The data are used to track changes over time and to inform decisions on funding allocations. Activities can be marked as targeting both climate and gender-equality objectives. Over 2015–2016, around 25 per cent (on average USD 14 billion per year) of climate-related development finance was simultaneously targeting a gender objective, with a large majority (81 per cent) being reported by DAC members as significant. While nearly all DAC members[72] now report against the gender-equality policy marker, only a few multilateral organizations apply the marker. Among the multilateral providers reporting to DAC, only ADB, EBRD, GCF, IADB, Nordic Development Fund and WB

72) Having only recently become a DAC member, Hungary has not yet reported any climate or gender-related projects. Slovakia reported on the gender marker but did not report any climate-related development finance as also being gender related over the 2015–2016 period.

have been marking climate-related projects as also gender related over 2015–2016. More statistics based on DAC members' reporting on the gender-equality policy marker can be found in recent OECD documents (OECD, 2018f and OECD DAC Network on Gender Equality, 2015).

1.8.1.2 Tracking gender integration across Climate Investment Funds

150. Programming on gender activities in CIF in the areas of policy, technical support, learning and knowledge management is outlined in the CIF Gender Action Plan, first established in 2014 and now in its second phase,[73] running through 2020, with a gender transformative goal of women's improved asset, voice and livelihood status through access to benefits from CIF-funded investments.

151. Formal tracking of gender integration in CIF takes the form of assessing the gender aspect of CIF country investment plans and individual projects approved during each half-yearly operational reporting period. For this, plans and projects are assessed in a binary fashion against three scorecard indicators on whether their design included (1) sector-specific gender analysis, (2) women-targeted activities or modes of implementation and (3) sex-disaggregated indicators, with the aim of shifting the portfolio upwards in terms of the share of plans and projects scoring positively on these indicators. The CIF Gender Action Plan also has a set of results indicators, reported in annual Gender Action Plan progress reports to the Joint Meeting of the Clean Technology Fund and Strategic Climate Fund Trust Fund Committees. The results indicators cover impact, outcome and output areas, including sex-disaggregated beneficiary numbers, tallies of new employment for women created in the renewable energy sector through CIF investments, the presence of country-level gender focal points under investment plans and CIF internal figures on technical staff composition (by sex) and of Trust Fund Committee member rolls (by sex). The overall monitoring and reporting efforts of CIF for the funds as a whole are based on monitoring toolkits in place since 2012 for each of the four main investment programs of CIF. These track core and co-benefit indicators annually during project implementation. Several gender dimensions are tracked under these processes, including sex-disaggregated beneficiary numbers, gender mainstreaming in the climate change planning processes and gender impact indicators to measure the transformational change for women that is expected from CIF interventions.

1.8.2 Tracking climate-related development finance targeting LDCs and SIDS within the OECD-DAC statistical system

152. The OECD-DAC activity-level database allows for tracking development finance at the recipient-country level. It is therefore possible to analyse flows targeting specific group of countries such as LDCs or SIDS. Currently, 35 SIDS are on the list of ODA-eligible countries.[74] OECD-DAC regularly publishes analyses on SIDS, and two OECD analyses tracking climate-related development finance to SIDS were recently published on climate and disaster resilience financing (OECD and WB, et al, 2016) and on making development cooperation work for small island developing states (OECD, 2018c).

1.8.3 Reporting on South–South cooperation

153. Within the OECD-DAC statistical system, development finance flows are also collected from a number of non-DAC members. Among these non-DAC members, three (Lithuania, Romania and the United Arab Emirates) marked their bilateral climate-related development finance in 2016 using the Rio marker system. For 11 other non-DAC members, it is also possible to impute climate-related development finance because they report core contributions to multilateral organizations active in the climate field.

1.8.4 Methodologies for tracking and reporting on technology development and transfer and on capacity-building support

154. Over the years, various terms have been used in relation to the concept of capacity building, including "institutional strengthening," "capacity development," "enabling activities," and "resource development." There is, however, no consensus on either the meaning or the breadth of these terms.

73) Available at https://www.climateinvestmentfunds.org/sites/cif_enc/files/knowledge-documents/ctf_scf_decision_by_mail_cif_gender_action_plan_phase_2_final_revised_1.pdf.

74) Antigua and Barbuda, Belize, Cabo Verde, Comoros, Cook Islands, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia, Montserrat, Nauru, Niue, Palau, Papua New Guinea, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Solomon Islands, Suriname, Timor-Leste, Tonga, Tuvalu, and Vanuatu.

1.8.4.1 Reporting on technology development and transfer and on capacity-building support provided under the Convention

155. Decision 2/CP.7 on capacity-building was adopted as part of its Marrakech Accords. This decision established an objective, principles and a framework for capacity-building under the UNFCCC and identified fifteen priority areas for capacity-building in developing countries.[75]

156. Some Parties have reported on capacity-building support in their NCs. However, standardized reporting on support for capacity-building began at COP 17. The UNFCCC biennial reporting guidelines for developed country Parties lay out provisions for reporting on technology development and transfer and on capacity building support.[76] In 2012, Parties provided further guidance on CTF tables and noted that finance (para. 17 and 18 of Annex I), technology development and transfer (para. 22) and capacity-building (para. 23) should be included.[77] At COP 18, Parties agreed that the CTF tables would include three tables (Tables 7, 8 and 9) on the provision of public financial support, provision of technology development and transfer support, and provision of capacity-building support.[78]

157. The reporting guidelines corresponding to CTF table 7, which is intended to capture support for finance, require each Annex II Party to provide information on the financial support it has provided, committed and/or pledged for the purpose of assisting non-Annex I Parties to mitigate GHG emissions and adapt to the adverse effects of climate change and any economic and social consequences of response measures, and for capacity-building and technology transfer in the areas of mitigation and adaptation, where appropriate.[79] CTF table 8, which pertains to technology transfer, requires Annex II Parties to provide information on measures taken to promote, facilitate and finance the transfer of, access to and the deployment of climate-friendly technologies for the benefit of non-Annex I Parties, and for the support of the development and enhancement of endogenous capacities and technologies of non-Annex I Parties.[80] Finally, CTF table 9 requires Annex II Parties to provide information, to the extent possible, on how it has provided capacity-building support that responds to the existing and emerging capacity building needs identified by non-Annex I Parties in the areas of mitigation, adaptation, and technology development and transfer.[81]

158. These overlaps may have contributed to inconsistencies with how capacity-building is reported across all three tables, and in some cases may have given rise to the duplication of information across CTF tables 7, 8 and 9, and potentially become the reason for the omission of financial data in table 7 that are included in tables 8 and 9.

159. The Paris Agreement emphasizes the importance of transparency and reporting of support for capacity-building. Article 11, paragraph 4, of the Paris Agreement states that "all Parties enhancing the capacity of developing country Parties to implement this Agreement, including through regional, bilateral and multilateral approaches, shall regularly communicate on these actions or measures on capacity-building. Developing country Parties should regularly communicate progress made on implementing capacity-building plans, policies, actions or measures to implement this Agreement."

160. In summary, support for capacity-building in particular is inconsistently reported across Tables 7, 8 and 9 of the BRs, making it difficult to assess the total volume of finance for capacity building activities and how support for capacity building relates to the overall volumes of climate finance provided. The development of the modalities for the accounting of financial resources provided and mobilized through public interventions under the SBSTA and the development of the transparency of support provided and mobilized portions of modalities, procedures and guidelines of the enhanced transparency framework under the Ad Hoc Working Group on the Paris Agreement represent an opportunity to address inconsistencies and overlaps in quantitative reporting of technology development and transfer and capacity-building support provided and mobilized.

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75) Institutional capacity-building, including the strengthening or establishment, as appropriate, of national climate change secretariats or national focal points; enhancement and/or creation of an enabling environment; NCs; national climate change programmes; GHG inventories, emission database management and systems for collecting, managing and utilizing activity data and emission factors; vulnerability and adaptation assessment; capacity-building for implementation of adaptation measures; assessment for implementation of mitigation options; research and systematic observation, including meteorological, hydrological and climatological services; development and transfer of technology; improved decision-making, including assistance for participation in international negotiations; clean development mechanism; needs arising out of the implementation of Article 4, paragraphs 8 and 9, of the Convention; education, training, and public awareness; and information and networking, including the establishment of databases.

76) Annex I to decision 2/CP.17.

77) Parties could also provide information specified in decision 2/CP.17, paragraph 19, related to private finance and paragraph 24, related to domestic finance, although these were not required.

78) Decision 19/CP.18 in FCCC/CP/2012/8/Add.3.

79) Decision 2/CP.17, paragraph 17.

80) Decision 2/CP.17, paragraph 21.

81) Decision 2/CP.17, paragraph 23.

1.8.4.2 Other capacity-building tracking and reporting systems

161. While there is no single, comprehensive capacity-building framework specifically on climate change outside the UNFCCC, several institutions that support capacity-building activities have defined some type of framework for their specialized areas. These include REDD-plus funds, development organizations, and research on capacity-building by academia and civil society organizations. Examples include:

(a) FCPF and the UN-REDD Programme, which use a readiness assessment framework to determine if countries have the necessary capacity to engage in the implementation of forest mitigation activities;
(b) The system of capacity development for which the UNDP has developed a capacity assessment framework that assesses capacity across three dimensions: points of entry, core issues, and technical and functional capacities;
(c) The OECD-DAC CRS database, which although it does not include specific codes that refer to capacity- building, it does have several codes, which relate to varying degrees to capacity-building (e.g. code 15110 on public sector policy and administrative management, which covers institution-building assistance to strengthen core public sector management systems and capacities, including a range of sub-activities). In addition, the CRS uses three environment specific codes (41010, 41081 and 41082) to track environmental policy and administrative management, environmental education/training and environmental research, respectively. Under the definition of the OECD climate change markers, activities that contribute to institution building, capacity development, strengthening the regulatory and policy framework, or research can be considered as a significant or principal objective.

162. The joint MDB reports include capacity-building for mitigation finance in education, training, capacity-building and awareness-raising on climate change mitigation/sustainable energy/sustainable transport; mitigation research as a subcomponent of policy and regulation under cross-sector activities. For adaptation finance, MDBs capture capacity-building differently. In 2012, the adaptation methodology introduced “other” activities, which included both institutional capacity (professional services, information and communication technology) and human capacity (education and health). In 2013, institutional capacity moved from a subsector under “cross sectors & other” to the main sector column alongside traditional sectors such as energy, transport, and other built environment and infrastructure. This was apparently due to the dominance of finance for institutional capacity under this previous category. In 2014 the same categories were maintained for adaptation finance, but in 2015 institutional capacity was renamed to institutional capacity support or technical assistance, although the reason for this change is unclear, as is whether it signified a broader inclusion of activities or merely a more descriptive title. It should be noted, however, that because of the differences in how adaptation versus mitigation reporting is treated methodologically, there is no single figure under the joint MDB reports for capacity-building finance.

Chapter II

OVERVIEW OF CURRENT CLIMATE FINANCE

Key messages

163. On a comparable basis, climate finance flows increased by 17 per cent in 2015–2016 since 2013–2014. High-bound climate finance estimates increased from USD 584 billion in 2014 to USD 680 billion in 2015 and USD 681 billion in 2016. The growth seen in 2015 was largely driven by high levels of new private investment in renewable energy, the largest segment of the global total. Despite decreasing technology costs (particularly in photovoltaic and wind power generation), which means that every dollar invested finances more renewable energy than previously, a significant number of new projects were financed in 2015. In 2016, a continued drop in renewable technology costs was complemented by the lower power generation capacity of new projects financed. However, the fall in renewable energy investment in 2016 was offset by an 8 per cent increase in investment in energy efficiency technologies across the building, industry and transport sectors.

164. Climate-specific finance reported in BRs submitted by Annex II Parties has increased in terms of both volume and the rate of growth since the 2016 BA. Whereas the total finance reported increased by just 5 per cent from 2013 to 2014, it rose by 24 per cent in 2015 to USD 33 billion and, subsequently, by 14 per cent in 2016 to USD 38 billion. Out of these total amounts, USD 30 billion in 2015 and USD 34 billion in 2016 were reported as climate-specific finance channelled through bilateral, regional and other channels; the remainder flowed through multilateral channels. Both mitigation and adaptation finance grew in more or less equal proportion from 2014 to 2016, namely by 41 and 45 per cent, respectively.

165. Total amounts of, respectively, USD 1.5 billion and USD 2.4 billion were channelled through UNFCCC funds and multilateral climate funds in 2015 and 2016, which represents a decrease of approximately 13 per cent compared with the 2013–2014 biennium and can be accounted for by a reduction in the commitments made by CIF. The significant increase from 2015 to 2016 was a result of the GCF ramping up operations in order to close the gap. MDBs provided USD 23.4 billion in 2015 and USD 25.5 billion in 2016 from their own resources to developing countries by way of climate finance. On average, this represents a 3.4 per cent increase from the 2013–2014 period. In addition, the AIIB, a new multilateral institution created in 2016, made climate finance commitments amounting to USD 362 million in that same year. Of climate finance from MDBs' own resources, it is estimated that between USD 15.7–17.4 billion in 2015 and USD 17.3–19.7 billion in 2016 may be attributed to developed countries.

166. Data gaps in terms of the sectors covered and the sources of climate finance remain significant, particularly with regard to private investment. Although estimates of incremental investments in energy efficiency have improved, there is still an inadequate understanding of the public and private sources of finance and the financial instruments behind those investments. The lack of high-quality data on private investments in sustainable agriculture and land use, adaptation and resilience at the global level is particularly notable, as is the lack of data to support more accurate estimates of private climate finance flows from developed to developing countries.

2.1 Introduction

167. This chapter provides an updated overview of climate finance flows in 2015 and 2016, complementing the findings for the period 2011–2014 presented in the two preceding BA reports. Data have been compiled from multiple sources to arrive at aggregate estimates for global climate finance flows, including flows from developed to developing countries and flows channelled through South–South cooperation.[82]

168. 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 1.2. above). Projects that seek to mitigate, or facilitate adaptation to, climate change may, however, go through multiple stages of development before they can effectively reduce emissions or climate-related vulnerabilities.[83] In compiling these estimates, efforts have been made to avoid the double counting of financial flows that may support various stages of development of such projects by focusing on primary finance – the finance for a new physical item or activity.

82) 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 including for example: OECD members/non-OECD members; OECD DAC members/OECD-DAC ODA eligible countries; Annex II/Annex I/non-Annex I countries; and other relevant classifications. For South-south, this refers to non-Annex I, non-OECD DAC members and other similar classifications. Please refer to Annex A for a definition of different country classifications used in the report.

83) For example, in order to deploy a renewable energy project, financing is required for the R&D work on, and the manufacturing of, the technology to be used; after that, money has to be invested in the development of the project itself. Only once the project is up and running will emissions be directly reduced.

169. 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 including for example: OECD members/non-OECD members; OECD DAC members/ OECD-DAC ODA eligible countries; Annex II/Annex I/ non-Annex I countries; and other relevant classifications. For South-south, this refers to non-Annex I, non-OECD DAC members and other similar classifications. Please refer to Annex A for a definition of different country classifications used in the report.

170. Section 2.2 focuses on estimates of global climate finance flows. Section 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.

171. As already noted in chapter I, the Paris Agreement, in Article 2.1(c), establishes a long-term goal of making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. Section 2.6 reviews available data sets on finance flows that may support discussions in supporting the achievement of this goal.

2.2 Estimates of global total climate finance

172. This section gives an overview of global public and private climate finance flows based on the best available data and broken down by sectors where possible. Domestic government expenditure and South–South cooperation on climate finance are discussed. Public and private flows from developed to developing countries are covered in greater detail in section 2.5 below.

173. On a comparable basis, climate finance flows in 2015–2016 increased by 17 per cent since 2013–2014, reaching totals of USD 680 billion in 2015 and USD 681 billion in 2016. Figure 2.1 provides an overview of global climate finance flow estimates broken down by sectors and by public and private sources.

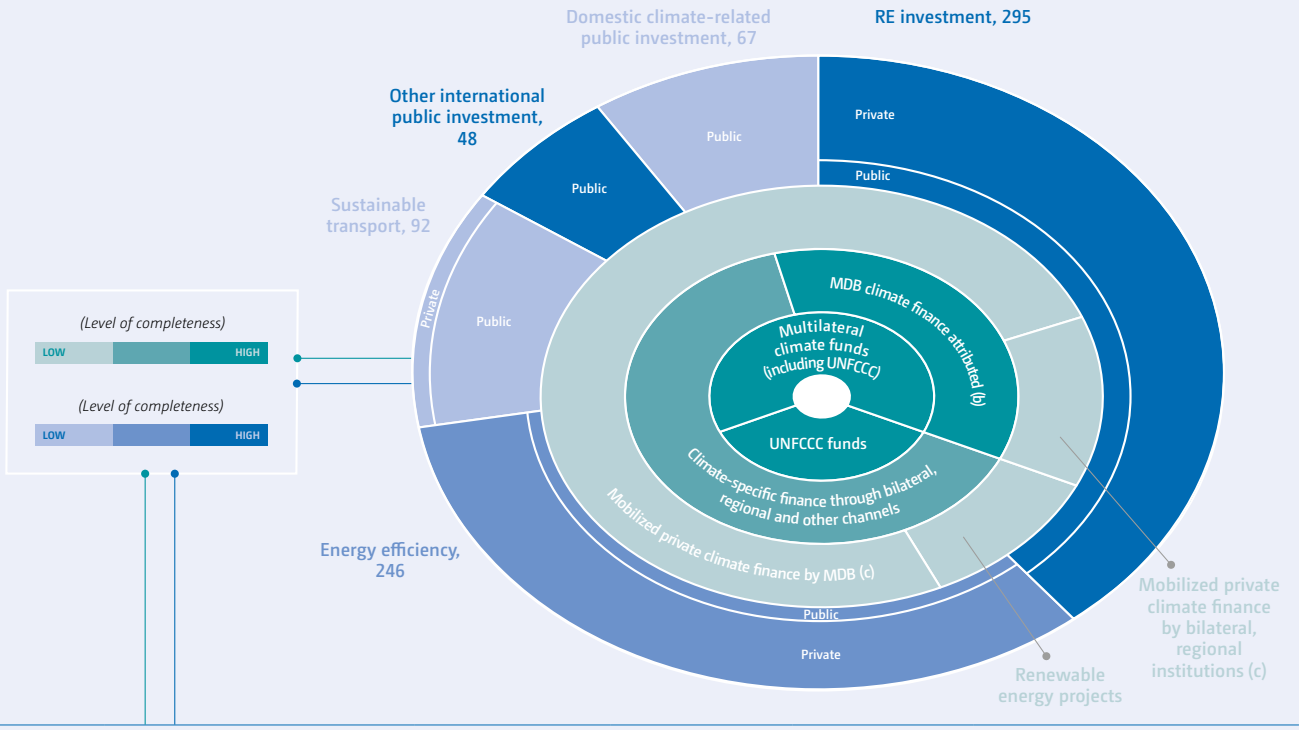
174. Since the 2016 BA, the methodology for estimating finance flows has been improved, resulting in changes to the baselines used for comparison. In particular, the 2014 estimates for energy efficiency have been revised down following the adoption of a more accurate bottom-up assessment model, resulting in a revised high-bound estimate of global total climate finance for 2014 of USD 584 billion (down from USD 741 billion).

175. The estimates for climate finance flows for 2015 and 2016 in table 2.1 above have been collated from numerous sources. Please see annex B for more information on the definitions of climate finance used. In order to obtain accurate and comparable global climate finance estimates, data sources referenced below have been assessed against the following markers and detailed in Annex Q:

- **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

Figure 2.1

Climate finance flows in the period 2015–2016 (Billions of United States dollars, annualized)



		2015 (USD billion face value)	2016 (USD billion face value)	Sources of data and relevant chapter
Global total flows	Renewable energy investments	320.9	269.5	Chapter 2.2.1
	Public investment	61.7	52.3	CPI based on multiple sources
	Private investment	259.2	217.1	
	Energy efficiency investments	233.9	257.8	Chapter 2.2.2
	Public investment	25.7	32.9	IEA Energy Efficiency Market Reports/CPI
	Private investment (a)	208.2	224.9	
	Sustainable transport	78.0	105.8	Chapter 2.2.3
	Public investment	69.7	92.5	IEA World Energy Investment Report/CPI
	Private investment	8.3	13.3	
	Other sectors public investment	47.3	47.5	Chapter 2.2.2 – 2.2.5
				CPI based on multiple sources
	Domestic climate-related public investment	67.0	67.0	Chapter 2.3
				BURs, CPEIRs (UNDP), I4CE
Flows to non-Annex I Parties	UNFCCC funds	0.6	1.6	Chapter 2.5.2
				Fund financial reports, CFU
	Multilateral climate funds (including UNFCCC)	1.4	2.4	Chapter 2.5.2
				Fund financial reports, CFU
	Climate-specific finance through bilateral, regional and other channels	29.9	33.6	Chapter 2.5.1
				Annex II Party Biennial Reports
	MDB climate finance attributed (b)	17.4	19.7	Chapter 2.5.2
	Renewable energy projects	2.4	1.5	Chapter 2.5.4
				CPI based on multiple sources
	Mobilized private climate finance by MDB (c)	10.9	15.7	Chapter 2.5.4
				MDB Joint Reports
	Mobilized private climate finance by bilateral, regional institutions (c)	2.3		Chapter 2.5.4
				OECD

Abbreviations: BEV = battery electric vehicle, BUR = biennial update reports, CPEIR = climate public expenditure and institutional reviews, CPI = Climate Policy Initiative, IEA = International Energy Agency, I4CE = Institute for Climate Economics, MDB = multilateral development bank, OECD = Organisation for Economic Co-operation and Development, UNDP = United Nations Development Programme.

Notes: [a] Value discounts transport energy efficiency estimates by 8.5 per cent to account for overlap with electric vehicle estimates. [b] From members of the OECD Development Assistance Committee (DAC), minus the Republic of Korea, to OECD-DAC recipients eligible for official development assistance. Refer to chapter 2.5.2 of the 2018 Biennial Assessment and Overview of Climate Finance Flows technical report for further explanation. [c] Estimates include private co-financing with MDB finance.

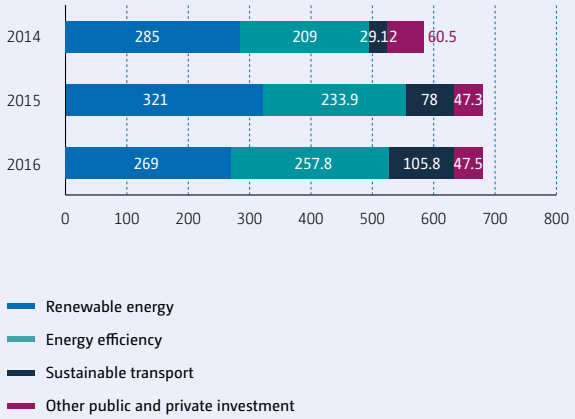
Figure 2.2

Insights from estimates on global climate finance flows

On a comparable basis, global climate finance flows **increased by 17%** from 2014 to 2015 and 2016.

Renewable energy investments **increased to a record USD 321 billion in 2015** before a combination of lower technology costs and fewer projects led to a **16% reduction in 2016**.

Incremental energy efficiency investments grew by **14% in 2015** and **8% in 2016** to make up the difference.



Incremental energy efficiency investments in building technologies were **32%** of the total investment in those technologies.

Annual growth in electric vehicle investments has averaged **70%** per year since 2011.

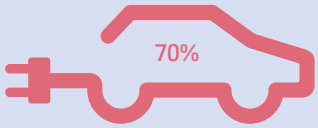


Table 2.1

Estimates of global climate finance flows, 2011–2016 (billions of USD)

Estimates	2011/2012	2013	2014	2015	2016
BA-published low bound	340	339	392	472	456
BA-published high bound	650	687	741		
Revised high bound based on methodological changes			584	680	681

quality is important to ensure that the finance flows counted result in projects that are consistent with a low GHG emissions and climate-resilient pathway;

- **Completeness of the data**: denoting the estimated level of coverage of all climate-related flows in a given sector.

176. There still remain some significant gaps in the coverage of data on sectors and sources of climate finance, particularly with regard to private investment. The coverage of data on private finance in the renewable energy sector, however, is extensive. Estimates of total energy efficiency investments are made against a baseline

Table 2.2

Estimates of global investment in renewable energy technologies, 2011–2016 (billions of USD)

	2011	2012	2013	2014	2015	2016
CPI – Total		265	239	289	322	271
Public			35	47	62	53
Private			204	242	260	218
GTREI	281	255	234	278	312	242
BNEF (excluding corporate and government R&D)	292	259	237	291	328	290
BNEF (including corporate and government R&D)	324	291	267	321	360	324

Source: Buchner et al., 2017; Oliver et al., 2018; Frankfurt School–UNEP Centre, 2017; BNEF, 2018.

rather than including total investment costs in the most energy efficient projects. There is also still an insufficient understanding of the financial sources and instruments used in such investments. In the sustainable transport sector, efforts have been made to improve public and private investment in electric vehicles. However, data on financial sources and instruments for investment in public mass transit across countries is lacking. High-quality data on private investments in sustainable agriculture and land use, adaptation and resilience are particularly lacking.

177. Sources of data on global climate finance flows typically report in USD-denominated figures and at face value in the given reporting year. This introduces significant uncertainties in year-on-year comparative analyses given significant fluctuations in foreign exchange rates as well as inflation effects.

178. Estimates of climate finance flows by sector are discussed further in the following sections, which also take into account the quality and completeness of the data.

2.2.1 Estimates of investment in renewable energy

179. Investment in new renewable energy projects has risen by 12 per cent since 2013–2014. The growth in this sector in 2015 was largely driven by significant new private investments, and it has taken place despite the downward pressure on investment estimates caused by decreasing technology costs, which means that every dollar of investment finances more renewable energy. Photovoltaic costs, in particular, have fallen at average annual rates of 16 per cent since 2010. In 2016, the continued decrease in technology costs was accompanied by a decrease in the number of new projects financed, which led to a 16 per cent drop in investment (Buchner et al., 2018).

180. In the 2017 GTREI report, the Frankfurt School–UNEP Centre and BNEF estimate renewable energy investments at USD 312 billion and USD 242 billion in 2015 and 2016, respectively. Both CPI and GTREI use the BNEF database on renewable energy investments to estimate finance flows. CPI estimates focus solely on new project investments and are on average 5 per cent higher over the period 2012–2016 than GTREI figures because they include investment in solar water heaters, which is not covered by GTREI, as well as international technical assistance and capacity-building activities focused on renewable energy. On the other hand, GTREI estimates include corporate and government R&D investments, venture capital/private equity investments for technology development and early-stage companies, and finance raised on public markets through initial public offerings. These investments range from USD 30 billion to USD 34 billion over the period 2011–2016.

181. The BNEF database also includes investment data for energy-smart technologies and for services designed to promote low GHG emissions, which are not covered by the GTREI data. Investments in energy-smart technologies increased from an average of USD 31 billion in 2011–2015

to USD 45.6 billion in 2016, while investments in services designed to promote low GHG emissions varied from USD 4 billion to USD 6 billion over the period 2011–2016.

2.2.2 Estimates of investment in energy efficiency

182. Estimating global investment in energy efficiency is challenging for two main reasons. First, energy efficiency financing relies on estimating baselines for a business-as-usual investment in a specific energy-using product or project and how much a more energy-efficient substitute would improve on the baseline. Typically, only the incremental cost of the energy-efficient substitute is counted in the estimates. These baselines may change, which means that what the financing represents may change over time also. A baseline may be defined by taking the average existing energy efficiency of products on the market or by looking at minimum regulatory standards, which are subject to change.[84] Second, such investments are often part of a larger project in which the energy efficiency element supports ways of enhancing productivity. Except for finance flows from MDBs and DFIs that are explicitly designated as loans to improve energy efficiency, isolating the specific component in the overall expenditure that increases energy efficiency is difficult because the component is often financed in the same way as the overall project or through corporate balance sheet financing.

183. The 2016 BA included energy efficiency estimates from sources (e.g. HSBC, 2014) that identified specific energy efficiency components and technologies across the building, industry and transport sectors. Private finance estimates were derived by subtracting CPI public finance estimates from these totals. In the 2014 BA, modelled and extrapolated estimate ranges were given on the basis of interviews and assumed public–private finance leverage ratios from IEA and GEA studies.

184. In order to estimate energy efficiency investments in 2015 and 2016, the IEA adopted a new methodology, taking minimum standards as the baseline for building and current sector averages as the baseline for industry and transport, to calculate the incremental investment costs for energy efficiency technologies. The new IEA methodology has resulted in lower estimates of investment in energy efficiency than in previous reports, with USD 209 billion, USD 213 billion and USD 231 billion for the years 2014, 2015 and 2016, respectively.

185. CPI estimated public investments in energy efficiency, based on international development finance data and reporting by DFIs, at USD 25.7 billion in 2015 and USD 32.9 billion in 2016, but it is unclear to what degree these data overlap with the IEA data.

186. There are also challenges in understanding the relevance of the investments to overall climate finance goals and needs. Although the energy savings implicit in greater investment in energy-efficient products and services may lead to a reduction in GHG emissions, it is unclear whether such improvements are sufficient to bring the building, industry plant or mode of transport to the level of emission intensity necessary to limit global temperature increase to below 1.5 or 2 °C. The resulting energy efficiency improvement is not sufficient on its own to align with a low-GHG emissions pathway. On the other hand, investments that comply with minimum energy efficiency standards in some countries, which are not included in the IEA estimates quoted above, may be aligned with the necessary emissions intensity pathways.

187. Investments in NZEBs increased to between 8 and 25 per cent of new-build construction projects in some European countries as a result of new policy frameworks (UN Environment and IEA, 2017). Total investment in NZEBs in 2015 was estimated at USD 15 billion (IEA, 2016).

2.2.3 Estimates of investment in sustainable transport

188. Supportive government policies along with rapidly declining battery cost have been the key factors driving electric vehicle adoption globally. Thus, the global stock of electric cars has tripled from 1 million in 2015 to 3 million in 2017 (IEA, 2018a).

189. IEA has estimated investments in battery electric vehicles and partial hybrid electric vehicles for approximately 95 per cent of the global market of electric vehicles.[85] This has made it possible to include private investment data for the sustainable transport sector in

84) For example, the baseline may be set to reflect the existing average energy performance of building stock at 100 kWh m^{-2}: any investments that resulted in buildings performing below that baseline would then be considered to be investments in energy efficiency. Alternatively, a minimum energy performance standard of 75 kWh m^{-2} may apply to all new building stock: any investments in buildings that performed better than this standard would then be regarded as investments in energy efficiency.

85) The countries covered by the IEA estimates include Canada, China, Denmark, France, Germany, India, Japan, the Netherlands, Norway, the Republic of Korea, Sweden, the United Kingdom and the United States of America.

Table 2.3

Estimates of global public and private investment in energy efficiency technologies, 2011–2016 (billions of USD)

	2011	2012	2013	2014	2015	2016	Data sources
Estimates from earlier BA reports based on previous methodology	110–300		365 (334)	365 (337)			IEA, HSBC, GEA, CPI (private estimate)
Estimates based on new methodology					213[a]	231	IEA
Adjusted for comparison				*209*	*213*	*231*	IEA
Buildings							
Incremental investment in energy efficiency technologies				108	118	133	IEA
Total investment in energy efficiency technologies				-	*388*	*406*	IEA
Total investment in NZEBs		<1			15		IEA, HSBC (2012 estimate)
Industry							
Incremental investment in energy efficiency technologies				37.5	39	37	IEA
Transport							
Incremental investment in energy efficiency technologies				62	56	60	IEA

Note: [a] The total incremental investment estimate for 2015 across the three sectors of USD 221 billion was revised down by IEA in 2017 to USD 213 billion to take into account methodology improvement for estimating investments in freight transport. Transport efficiency estimates include incremental costs of electric vehicles which have been discounted from the total global climate finance estimates in Figure 2.1.

Source: UNFCCC, 2016; IEA, 2016, 2017a; UN Environment and IEA, 2017.

the BA for the first time, which is important in order to understand and respond more effectively to the needs of this rapidly growing sector

190. Data were collected on the sales, prices and technical specifications of all the electric vehicle models available in different countries, together with the incentive structure for electric vehicle adoption followed by those countries. These incentives were either in the form of direct rebates for retailers, manufacturers and consumers, tax exemptions or differentiated taxes for electric vehicles compared with diesel and petrol vehicles. The data were then used to impute the total investments in the electric vehicle 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).

191. The estimates show that investment in electric vehicles increased by 80 per cent from 2014 to 2015 and by a further 37 per cent from 2015 to 2016. Partial hybrid electric vehicles were responsible for most of the growth in 2015, with battery electric vehicles taking over in 2016. Private investment represents on average 79 per cent of total investment between 2012 and 2016. The share of private investment in the battery electric vehicle category is slightly lower at 73 per cent in 2015 and 74 per cent in 2016 because of the prevalence of more public support schemes for such models.

2.2.4 Estimates of investment in sustainable agriculture, forestry and other land uses

192. Given that agriculture, forestry and other land uses account for almost one quarter of net global GHG emissions, investing in these sectors is essential in order to achieve the objectives of the Convention and the long-term goals of the Paris Agreement. However, because of the lack of comprehensive global data sets, tracking investment in adaptation and mitigation measures related to agriculture, forestry and other land uses is difficult.

193. According to CPI (Oliver et al., 2018), average annual public investment in mitigation or measures with both a mitigation and adaptation benefit related to agriculture, forestry and other land uses, as well as to natural resource management, stood at USD 6.5 billion and USD 5.6 billion for 2015 and 2016, respectively.

194. Other estimates do not offer annual breakdowns of finance flows to those sectors or clarify how the flows are consistent with a pathway towards low GHG emissions and climate-resilient development. A survey carried out on behalf of Forest Trends (Hamrick, 2016) estimates private capital committed to conservation measures at around USD 2 billion in 2015 (compared with USD 1.1 billion in 2014). In that survey, 'conservation investments' are defined as "investments intended to return principal or generate profit while also resulting in a positive impact on natural resources and ecosystems". Moreover, "conservation impacts must be the intended motivation for making the investment; they cannot be simply a by-product of an investment made solely for financial return" (Hamrick, 2016).

195. Conservation investments in the Forest Trends-sponsored survey include investments in sustainable food and fibre production (USD 1,599 million), habitat conservation (USD 370 million), and water quality and quantity conservation (USD 52 million). The estimates given are based on the responses received from a total of 128 organizations, including private sector organizations, for-profit enterprises (fund managers, corporations, fund-of-funds managers), not-for-profit organizations (NGOs, foundations), family offices and high-net worth individuals. The relation of these investments to climate mitigation and adaptation, however, is not described.

196. Climate Focus (Haupt et al., 2017) estimates that a total of USD 20 billion from international and domestic public and private sources, including sustainable commodities, was channelled from 2010 to 2015 into efforts to reduce forest emissions. Of this total, USD 2.7 billion is estimated to have come from the private sector, with 30 per cent going to low-emission agriculture. By contrast, FAO estimates that total investments in the agriculture, forestry and fishery sectors were USD 764 billion in 2015 alone (FAO, 2018).

2.2.5 Estimates of investment in climate change adaptation and resilience

197. Defining and identifying adaptation finance can be a challenge (see section 1.2 in chapter I, as well as annexes A and B, which discuss the operational definition of adaptation finance and how it is tracked and reported). Estimates of adaptation investments have to be compiled project by project, and it is often necessary to rely on

Table 2.4

Estimates of global investment in electric vehicles, 2011–2016 (billions of USD)

	2011	2012	2013	2014	2015	2016	2017
Battery electric vehicles	1.66	2.53	5.24	7.12	11.42	17.87	26.24
Public (subsidies)	0.22	0.35	0.78	1.85	3.14	4.57	7.48
Private (consumer spending)	1.45	2.18	4.46	5.27	8.28	13.30	18.75
Partial hybrid electric vehicles	0.41	2.45	4.32	5.16	10.64	12.35	16.51
Public (subsidies)	0.10	0.45	0.97	0.94	1.66	1.86	2.61
Private (consumer spending)	0.31	2.01	3.35	4.22	8.98	10.50	13.90
Total electric vehicles	2.08	4.98	9.56	12.28	22.06	30.23	42.75
Public (subsidies)	0.32	0.79	1.75	2.79	4.80	6.43	10.10
Private (consumer spending)	1.76	4.19	7.82	9.49	17.26	23.80	32.65

Source: IEA, 2018b; Oliver et al., 2018.

expert judgment using criteria and guidelines adopted by each institution that reports on adaptation spending. Estimates relate to components of projects or incremental costs rather than full investment costs as reported under most mitigation projects

198. Georgeson et al (2016) estimate that over USD 6 billion was spent by the cities of London, Paris, New York, Mexico City, Sao Paulo, Beijing, Mumbai, Jakarta, Lagos and Addis Ababa on adaptation measures in 2014–2015. The study was based on a data set developed by kMatrix in partnership with numerous stakeholders. Investments in specific activities related to adaptation and improving resilience to climate change were considered for ten economic sectors: agriculture and forestry, built environment, disaster preparedness, energy, health, information and communication technology, natural environment, professional services, transport infrastructure, and water. The same methodology was applied globally, resulting in an estimate of USD 343 billion of global spending on climate change adaptation and resilience in 2014–2015, however without detail on the underlying investments that constitute the estimate. The need for better-quality data on private investment in adaptation is well recognized. There remains no comprehensive assessment of the financial resources spent globally by the private sector on climate change adaptation and resilience.

199. The MDBs collectively attracted USD 3.7 billion in adaptation investment from public and private institutions. Although details of the specific providers are not available, private sector co-financing of MDB adaptation projects is estimated to be negligible. With the introduction of policies promoting climate risk awareness across vulnerable sectors, increasing private sector investment in adaptation is expected to become a more widespread trend at least in the developed countries.

2.3 Domestic public climate finance

200. Domestic expenditures by national and subnational governments are a potentially growing source of climate finance particularly as, in some cases, NDC submissions are translated into specific investment plans. However, findings from a recent review of domestic data sources for climate finance flows (Guzmán, Guillén and Manda, 2018) indicate that comprehensive data on domestic climate expenditures are not readily available, nor are such data collected regularly or using a consistent methodology across time within a given country or across countries (see section 1.5).

201. Some countries report data on expenditure through their BURs, whereas others use the CPEIR framework. Of the 30 countries that reported data included in the 2016 BA, nineteen countries have provided data on expenditure in 2015 and/or 2016 (see annex P for more details). Four developing countries reported, through their BURs, a combined total domestic expenditure of USD 0.335 billion, and seven countries published CPEIRs indicating they had spent a total of USD 16.5 billion on climate finance.[86] Updated data for two developed countries are available, which indicate that they spent a total of USD 49 billion on climate finance during this period.

202. In total, these estimates on domestic public expenditures on climate change in 2015–2016 amount to approximately USD 67 billion. However, if the last two years of available data for all 32 countries with published expenditures are taken into account (including estimates provided for years 2011-2014), a total estimate of USD 232 billion per year is obtained: USD 157 billion in developing countries and USD 75 billion in developed countries.

2.4 South–South cooperation on climate finance

203. Climate finance flows among non-Annex I Parties are not tracked systematically. Relevant data can be collated from countries, such as the Republic of Korea and the United Arab Emirates, which report development assistance to the OECD CRS. The estimates on climate finance flows from CPI (Oliver et al 2018) and IDFC (2017) apply to flows from OECD countries to non-OECD countries, respectively.

204. IDFC member institutions from non-OECD countries committed USD 7 billion and USD 5 billion to “green energy and mitigation of GHG emissions” in non-OECD countries in 2015 and 2016, respectively. Financial flows among non-Annex I Parties in support of climate change adaptation amounted to USD 1.2 billion in both 2015 and 2016.

86) This total includes the USD 6.1 billion spent on climate change action by Hebei Province, China, in 2015.

Table 2.5

Estimated South–South climate finance flows, 2015 and 2016 (billions of USD)

	2015	2016
Bilateral flows		
Republic of Korea and UAE (OECD data)	0.5	0.3
IDFC member institutions (non-OECD data)	8.2	5.8
Multilateral flows		
GCF-disbursed flows from non-Annex I Parties[a]		0.01
MDB financing by non-Annex II Parties[b]	3.1-4.7	3.5-5.9
NDB		0.51
Private flows (CPI) to renewable energy projects only (non-OECD)	0.74	1.23
Total	12.2-13.9	11.3-13.7

Note: [a] The contribution from the Republic of Korea has been excluded from the GCF-disbursed flows to avoid double counting with OECD data. [b] This includes financing by AfDB, ADB, AIIB, EBRD, EIB, IDBG and WBG attributed to non-OECD countries (higher bound) or non-OECD-DAC countries plus Republic of Korea (lower bound).

205. In addition, many developing countries are shareholders of MDBs. As discussed in section 2.5.2 below, between 15 per cent and 26 per cent of the climate finance provided by MDBs can be attributed to non-Annex II Parties, which amounts to USD 3.1-4.7 billion for 2015 and USD 3.5-5.9 billion for 2016.

206. New multilateral institutions led by developing countries include AIIB and NDB. Together, they provided USD 911 million for renewable energy projects in 2016. The share of equity held by developing countries in AIIB is calculated at 67 per cent, whereas NDB is fully comprised of developing countries.

207. The GCF has received pledges amounting to USD 112 million from developing countries, of which USD 59 million had been disbursed by the end of 2017. The Republic of Korea provides the greatest contribution, with USD 47 million disbursed to date. Other countries that made significant contributions are Indonesia, Colombia, Mongolia, Chile, Mexico and Panama, with USD 11 million disbursed in total in 2016.

2.5 Climate finance flows from developed to developing countries

208. This section reviews data on climate finance flows (both public and private) from developed to developing countries over the period 2015–2016. Data on the flows of public climate finance are of higher quality and consistency than data on private climate finance flows. International public climate finance is routinely reported through bilateral channels (government agencies and DFIs) or multilateral channels (multilateral climate funds or MDBs). Private finance flows are often confidential in nature, consisting of flows from either multinational banks or international investors. Such data are often reported in the form of FDI statistics, but these rarely have the level of granularity required to understand whether the financing is related to climate change mitigation or adaptation activities.

209. 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.

2.5.1 Bilateral provider flows from developed to developing countries

210. Total public financial support reported by Annex II Parties in their BRs submitted as at October 2018 amounts to USD 45.4 billion in 2015 and USD 49.4 billion in 2016. Between 73 and 76 per cent of the total finance reported is climate-specific finance, provided mostly through bilateral channels and amounting to USD 37.5 billion in 2016. “Core general” public financial support to multilateral institutions that Annex II parties are unable to confirm as climate-specific accounts for the remainder.

211. Climate-specific finance grew approximately by 24 per cent in 2015 and 14 per cent in 2016. In particular, mitigation and adaptation finance provided through bilateral sources increased by similar proportions between 2014 and 2016 by 41 and 45 per cent, respectively.

212. Many developed country Parties draw on climate-related development assistance data for quantitative reporting under the Convention (see section 1.2.1). To qualify as development assistance, finance must be provided as grants or concessional loans, meaning loans with a grant element of at least 25 per cent calculated

Table 2.6

Climate-specific finance and core general funding provided by Annex II Parties to developing countries, 2011–2016, as reported in their BRs (billions of USD)

	Bilateral, regional and other channels				Total climate-specific finance (bilateral. reg. & other)	Multilateral				Total climate-specific finance (multilateral)	Total climate-specific finance[a]	Core general[b]	Grand total
	Mitigation	*Adaptation*	*Cross-cutting*	*Other*		*Mitigation*	*Adaptation*	*Cross-cutting*	*Other*				
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	28.91
2013	15.17	4.25	3.02	0.71	23.15	0.58	0.43	1.2	0.06	2.27	25.42	15.11	40.53
2014	17.08	3.55	2.5	0.74	23.87	0.45	0.29	1.88	0.12	2.74	26.61	16.63	43.24
2015	19.98	4.16	2.44	3.34	29.92	0.38	0.19	1.84	0.19	3.06[a]	32.98	12.42	45.40
2016	24.06	5.15	3.27	1.08	33.56	0.21	0.41	1.78	0.19	3.96[a]	37.52	11.91	49.43

Note: Data accessed on 12 June 2018. [a] Sum of mitigation, adaptation, cross-cutting and other climate finance provided via bilateral, multilateral, regional and other channels. Information related to the United States is drawn from preliminary data provided. Of the USD 3.06 billion in 2015, USD 0.46 billion is from the data provided by the United States. Of the USD 3.96 billion in 2016, USD 1.37 billion is from the data provided by the United States. However, the total US climate-specific multilateral contributions are not shown in the table breakdowns. [b] Support provided to multilateral and bilateral institutions that Parties do not identify as climate-specific.

Source: Annex II Party BRs for 2015 and 2016 as compiled in annex L.

at a discount rate of 10 per cent (see annex H). When reporting on development assistance projects supported in a given year, countries apply the Rio Markers to projects that target climate change adaptation or mitigation. Countries "mark" projects that have climate change mitigation or adaptation as a "principal" or "significant" objective according to guidelines established by OECD-DAC). The total value of projects with climate change objectives is reported with no attempt to estimate the climate-related share.

213. Of the 30 members of OECD-DAC, 27 also reported data in their BRs submitted in 2015 and 2016. One DAC member is a non-Annex I Party (which explains the differences between BR data from 27 countries and OECD data).

214. Table 2.7 shows the bilateral assistance reported by OECD-DAC members for climate change mitigation and adaptation projects. Bilateral assistance provided by OECD-DAC members for projects with climate action as a principal objective decreased by 15 per cent from its peak of USD 13.0 billion in 2014 to USD 11.1 billion in 2015 and by a further 4 per cent to USD 10.6 billion in 2016. For projects with climate action as a significant objective, the opposite was the case, with increases of 86 per cent from 2014 to 2015 and of 13 per cent from 2015 to 2016, when the amount of bilateral assistance provided reached USD 20.6 billion.

215. Other climate-related bilateral flows tracked through OECD-DAC that are non-concessional development finance or flows not primarily aimed at development are termed OOF. Reporting on OOF is limited, since data are provided by only a few DAC members; however, coverage has improved in recent years. The volume of OOF was reported as USD 0.42 billion in 2015 and USD 0.96 billion in 2016.

216. IDFC is a network of 23 national, bilateral and regional development banks from both developed and developing countries. According to IDFC (2017), bilateral climate finance flows from OECD-based institutions to projects in non-OECD countries amounted to USD 16.5 billion in 2015 and USD 16.9 billion in 2016. There are no data on the share of concessional and non-concessional finance within these flows. In addition, OPIC (2016, 2015) reported finance flows of USD 1 billion and USD 500

Table 2.7

Bilateral assistance reported by OECD-DAC members for climate change mitigation and adaptation-related projects, 2011–2016 (billions of USD)

	Mitigation		Adaptation		Overlap		Total	
Year	Principal	Significant	Principal	Significant	Principal	Significant	Principal	Significant
2011	7.27	4.39	1.90	5.50	1.19	2.11	7.98	7.78
2012	9.07	4.67	2.54	6.65	1.72	2.16	9.90	9.16
2013	9.89	5.09	3.19	6.76	1.52	2.33	11.57	9.52
2014	11.42	5.26	3.43	7.46	1.81	2.93	13.04	9.78
2015	9.42	10.77	3.49	11.75	1.85	4.30	11.06	18.22
2016	8.83	13.94	4.33	10.40	2.52	3.75	10.64	20.59

Note: (1) Adaptation projects were not tracked before 2010; (2) Many activities target multiple climate objectives, the total adjusts for this overlap to ensure there is no double counting. (3) The breakdown principal/significant for the total is defined differently as in the OECD-DAC climate-related development finance database.

Source: OECD-DAC CRS statistics, accessed 30 June 2018.

million in the fiscal years 2015 and 2016, respectively, to support renewable energy and energy efficiency projects in developing countries.

2.5.2 Multilateral provider flows from developed to developing countries

217. Multilateral flows include flows reported by the dedicated climate funds administered by the operating entities of the Financial Mechanism of the Convention and the Kyoto Protocol, other multilateral climate funds and MDBs.

218. The GCF became fully operational in 2015, and as at the end of 2017 had raised USD 10.2 billion in official pledges from 43 governments. The GEF has been an operating entity of the Convention since 1996 and also manages the LDCF and SCCF. Together they have raised USD 3.9 billion in replenishments. The AF has managed to raise USD 633 million in capital. Together, the UNFCCC funds committed USD 0.6 billion in 2015 and USD 1.6 billion in 2016, with most of the increase accounted for by the higher level of funding from the GCF.

219. Other multilateral climate funds include those operating under the CIF, those with a focus on forest financing, such as FCPF and the UN-REDD Programme, and new funds launched since 2016, such as GCCA and PMR. The CIF were established by developed countries and the MDBs to support developing countries in shifting to low-carbon and climate-resilient development. The CIF, administered by the World Bank, are 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.

220. Table 2.8 provides an overview of the commitments approved by multilateral climate funds, which are categorized thematically as “adaptation funds”, “REDD-plus funds”, “mitigation funds” and “multiple-objective funds”; the last category refers to funds supporting both mitigation and adaptation. As a group, multilateral climate funds, including the UNFCCC funds, committed USD 1.4 billion in 2015 and USD 2.4 billion in 2016. These amounts are lower than the amounts committed in 2013 and 2014 by approximately 13 per cent on average. This drop has in large part to do with significant commitments made by the CIF in 2013 and 2014, which have since been reduced, particularly with regard to the adaptation funds. In 2016, the greater GCF commitments have begun to close the gap.

221. MDBs are significant actors in financing climate action in 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

Table 2.8

Overview of commitments approved during 2013–2016 by multilateral climate funds (millions of USD)

	Pledged through 2016 FY	Commitments during 2013 FY	Commitments during 2014 FY	Commitments during 2015 FY	Commitments during 2016 FY
Adaptation funds	**8 847.35**	**605.99**	**874.55**	**544.45**	**504.06**
Adaptation for Smallholder Agriculture Program	307.52	–	191	84	35
AF[a]	632.59	26.53	67.63	59.61	32.34
LDCF[a]	1 250.16	299.6	234.6	100.1	74.2
PPCR[b]	1 152.81	225.5	332.9	172.32	10.43
SCCF[a]	367.79	54.36	48.42	10.08	7.58
GCF – adaptation commitments	5 136.48	–	–	118.34	344.51
REDD-plus funds	**2 509.00**	**149.04**	**275.11**	**108.45**	**244.48**
FCPF – Readiness Fund	371.51	46.93	33.41	65.8	–
FCPF – Carbon Fund	747.19	2.12	2.06	–	–
FIP[b]	722.46	47.8	179.2	11	48.77
UN-REDD Programme	290.59	52.19	34.44	5.41	32.22
Biocarbon Fund	377.25	–	26	20	–
GCF[a] – REDD-plus commitments	–	–	–	6.24	163.49
Mitigation funds	**13 904.56**	**1 099.85**	**1 369.20**	**782.96**	**1561.60**
Clean Technology Fund[b]	5 370.08	686.4	1 063.50	451.66	498.5
GEF Trust Fund 5th Replenishment[a]	1 152.41	387.8	168.06	–	–
GEF Trust Fund 6th Replenishment[a]	1 117.16	–	42.17	212.75	191.12
Scaling Up Renewable Energy Program in Low Income Countries[b]	719.66	25.65	95.47	76.3	73.45
Partnership for Market Readiness	127.27	–	–	–	0.35
Green Climate Fund[a] – mitigation commitments	5 136.48			42.25	798.18
Multiple-objective funds	**905.6**	**–**	**–**	**11.75**	**59.86**
Global Climate Change Alliance	905.60	–	–	–	51.36
Green Climate Fund – readiness support	–	–	–	11.75	8.50
Total	**26 166.51**	**1 854.88**	**2 518.86**	**1 447.61**	**2 370.00**

Notes: Amounts may not sum to the total because of rounding. [a] Denotes a fund under the UNFCCC. [b] Denotes a fund that is part of the CIF. For the complete list of abbreviations and acronyms, please see page 168.

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

Source: CFU, 2018; GCF communication.

activities are reflected in table 2.6 above, which shows data on the finance flows from Annex II Parties managed by multilateral funds, as well as on their core general and non-climate-specific contributions to MDBs. Table 2.9 provides an overview of the climate finance provided by MDBs to developing countries from their own resources.

A group of six MDBs – AfDB, ADB, EBRD, EIB, IDBG and WBG (including IFC) – have been reporting jointly since 2011 on their financing that supports climate change mitigation and adaptation projects. According to their joint annual reports, the six MDBs provided a total of USD 23.4 billion of climate finance from their own resources to developing countries and emerging economies in 2015 and USD 25.5 billion in 2016. Mitigation finance accounted for USD 19.6 billion, or 77 per cent, of their total commitments in 2016, with the remainder (USD 5.9 billion) constituting adaptation finance. The shares of adaption and mitigation finance have averaged around 21 and 79 per cent, respectively, of their total commitments over the last five years. New MDBs such as AIIB and NDB have been established since the 2016 BA. These two institutions committed USD 874 million to climate mitigation projects in 2016.

222. To estimate the finance committed by Annex II Parties to non-Annex I Parties via MDBs, it is necessary to calculate the amounts committed by such institutions solely to non-Annex I Parties, and then to estimate the share of these commitments that can be attributed to Annex II Parties. As pointed out in the 2016 BA, there is no agreed formula for the attribution of MDB climate finance to the developed country shareholders.[87] A lower and a higher bound share were estimated using two different approaches. The first approach is based on the ownership shares held by developed countries and suggests between 74 and 77 per cent of the finance to developing countries in 2015 and 2016 can be attributed to OECD member countries.[88] Using this approach, USD 15.7 billion in 2015 and USD 17.3 billion in 2016 was delivered by developed countries.[89]

223. The second methodological approach was developed and published in OECD (2015d) that captures the mobilization effect through MDBs, and suggests that

Table 2.9

Climate finance commitments by MDBs from their own resources that are attributable to Annex II Parties, 2013–2016 (billions of USD)

	2013	2014	2015	2016
Adaptation	3.985	4.521	4.596	5.889
Mitigation	16.793	21.223	18.851	19.955
Total	**20.779**	**25.744**	**23.447**	**25.844**
Less commitments to Annex I Parties	–3.299[a]	–6.273[b]	–3.017[c]	–2.646[d]
Commitments to non-Annex I Parties	17.500	19.471	20.430	23.198
Share of non-Annex I commitments attributable to Annex II Parties	65–85%	65–85%	77–85%	74–85%
MDB own resources climate finance commitments to non Annex I Parties attributable to Annex II Parties	**11.9–15.5**	**12.7–16.6**	**15.7–17.4**	**17.3-19.7**

Note: [a] Commitments of MDB resources to EU 13 countries from table 2 of (AfDB et al., 2014). [b] Commitments of MDB resources to all Annex I Parties provided by ADB in response to a request from the UNFCCC secretariat. The commitments to EU-13 countries amounted to USD 3,375 million tables 6 and 10 of (AfDB et al., 2015a).[c] Commitments of MDB resources to EU-11 countries instead of EU-13 countries were reported in 2015. EU-11 is composed of the EU-13 countries less the Czech Republic and Malta. Figures 11 and 17 in AfDB et al. (2016) give the total adaptation and mitigation finance provided, from both their own and external resources, by MDBs to EU-11 countries (USD 3,217 million). In this BA, the percentage of own resources to total finance has been used to obtain the share of commitments to EU-11 countries made by MDBs from their own resources only. [d] Commitments of MDB resources to EU-12 countries instead of EU-13 countries were reported in 2016. EU-12 is composed of the EU-13 countries excluding the Czech Republic and Malta, and including Greece. Figures 8 and 13 in (AfDB et al., 2017b) give the total adaptation and mitigation finance provided, from both their own and external resources, by MDBs to EU-12 countries (USD 2,859 million). In this BA, the percentage of own resources to total finance has been used to obtain the share of commitments to EU-12 countries made by MDBs from their own resources only.

Source: AfDB et al., 2017b; AIIB communication.

87) See annex H of the 2016 BA for an overview of different formulas used for estimating attributions to Annex II Parties of climate finance from MDBs own resources.

88) Banks use different terms including shares, voting rights, and contributed capital. See (Buchner et al., 2013) (Box 2)

89) AIIB is included in attribution methodologies for 2016. No climate finance commitments were made in 2015 by AIIB.

about 85 per cent of finance to developing countries can be attributed to OECD-DAC members minus Republic of Korea.[90] On this basis, USD 17.4 billion in 2015 and USD 19.7 billion in 2016 can be attributed to them.

224. The two approaches were applied separately to obtain the estimates presented in table 2.9. The remainder of the climate finance committed to non-Annex I Parties by MDBs is treated as South–South climate finance in section 2.4 above.

2.5.3 Recipients of climate finance

225. It is important to consider the perspective of the recipients of international public climate finance when looking at the climate change mitigation and adaptation solutions being deployed in developing countries. 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.

226. Reporting on recipient entities across climate finance data sources is not consistent. The data provided by climate finance providers are incomplete. As noted in section 1.3, the reporting guidelines do not require specific details other than reporting parameters on "recipient country/region/project/programme". On the other hand, of the 39 BURs received at the time of the preparation of this BA, 5 included some information on total international climate finance received in the period 2015–2016. Although the provision of quantitative information in BURs on the climate finance received has improved in several cases, there are still significant data gaps in the national reports of non-Annex I Parties (see annex F).

227. However, the CRS of OECD-DAC does provide some insights into the primary channel of delivery of bilateral assistance, namely national and local governments, which may serve to understand better the various types of institutions that receive climate finance. National and local governments received, respectively, 51 and 61 per cent of bilateral climate-related assistance in 2015–2016, up from 43 and 42 per cent in 2013–2014. The remainder went to international organizations, NGOs and public and private sector organizations from the donor countries. With regard to OOF of a non-concessional nature, for 91–97 per cent of these flows in 2015–2016 no information is available on the channels of delivery.

228. MDBs provide high-level data on recipients at the public and private level, 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, 72 per cent was channelled to public sector recipients in 2015 and 74 per cent in 2016. Adaptation finance, in particular, went predominantly to public sector institutions: 90 per cent in 2015 and 97 per cent in 2016. MDB reporting on climate finance flows through the OECD-DAC provides greater detail on the types of recipients. MDBs channelled 66 per cent of their total climate finance to national and local governments in 2015 and 65 per cent in 2016.

2.5.4 Estimates of private climate finance flows from developed to developing countries

229. As discussed in previous BAs, a major source of uncertainty regarding flows from developed countries to developing countries relates to private finance for activities that address climate change. Since the 2016 BA, estimates published by bilateral and multilateral institutions on the private finance they have mobilized through public finance interventions have been a feature of climate finance reporting, as have estimates published by the OECD.

Private finance mobilized through public interventions and deployed via bilateral channels

230. According to Benn et al (2017), an estimated USD 21.7 billion in climate-related private finance was mobilized during 2012–2015 by bilateral and multilateral institutions, of which USD 14 billion came from multilateral providers and USD 7.7 billion from bilateral finance institutions. It is estimated that in 2015, USD 2.3 billion was mobilized through bilateral institutions.

231. IDFC members began tracking mobilized private climate finance in 2015, and for that year six institutions reported mobilized amounts totalling USD 5.5 billion. In 2016, nine institutions reported mobilized private finance flows of USD 4.5 billion. In 2016, 94 per cent of mobilized private investment went to "green energy" and mitigation projects, compared with 50 per cent in 2015. Far more private finance (50 per cent) was mobilized in 2015 to support projects with both mitigation and adaptation objectives than in 2016 (6 per cent). Adaptation-only projects accounted for less than 0.5 per cent of total

90) The methodology is based on the contribution of developed countries to the mobilization of bank resources, with developed countries defined as OECD-DAC members minus Republic of Korea. An update for 2015 and 2016 has not been completed at the time of publication but the coefficient is expected to vary marginally from 85 per cent used in previous study.

Table 2.10

Net flows of MDB climate co-financing by source, 2015–2016 (millions of USD)

	Description	2015	2016
MDB Private direct mobilization	This refers to financing from a private entity on commercial terms, where the active and direct involvement of an MDB leads to commitment of the private entity's finance.		3 615
MDB Private indirect mobilization	This refers to financing from a private entity provided 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.		12 037
Total MDB private mobilization		**10 941**	**15 652**
OECD	Mobilized finance attributed to bilateral providers	2 286	
	Mobilized finance attributed to multilateral providers	4 942	
Total private finance mobilized according to OECD methodology		**7 228**	

Source: AfDB et al., (2017a); Benn et al., (2017) calculated from data visualisation portal.

mobilized private investment in both 2015 and 2016. Because IDFC does not report on the source and destination of mobilized private finance, it is, however, not possible to separate the finance flows from developed to developing countries.

Private finance mobilized through public interventions and deployed via multilateral channels

232. Multilateral climate funds are instrumental in catalysing investments from various multilateral and bilateral institutions, as well as from the private sector, which is also the largest pool of capital available (Amerasinghe et al., 2017). However, the mandates and level of private sector engagement of such funds vary considerably. For instance, the Clean Technology Fund, the GEF and GEEREF have an explicit mandate to mobilize private investment; the GCF has a separate Private Sector Facility; whereas other funds envisage private engagement only as part of a broader objective. The lack of any harmonized methodology for estimating such finance flows and for systematic reporting means that there is very limited information on the private finance mobilized by these funds. Several funds report overall co-financing figures for projects without providing information on the type of co-financier, their targets for mobilizing private capital in subsequent years or cumulative figures on private finance mobilized since they began to operate. The Clean Technology Fund reported project-level private co-financing totalling USD 245 million in 2016, while cumulative figures were reported by funds such as SREP (USD 339 million), FIP (USD 69 million for 8 projects) and PPCR (USD 87 million).

233. MDBs are using the definitions and recommendations developed by the MDB Task Force on Measuring Private Investment Catalyzation (AfDB et al., 2017a) to track the private investment share of climate co-financing. In 2016, the MDBs started reporting on climate co-financing flows, thus making it possible to estimate the volume of financial resources invested in climate finance activities by private external parties (the methodology used by MDBs to track and report on public and private co-financing is described in section 1.4). The OECD-DAC methodology for reporting on the mobilization of private resources differs in scope of application and in the underlying formulas from the approach based on climate co-financing flows that the MDBs use. For instance, the OECD-DAC approach covers less instruments and attributes mobilization on a pro rata basis to all public sector institutions involved in a transaction, whereas the MDB approach attributes mobilization only to the MDBs. Under the MDB approach, the total private co-financing figures are broken down further into two key elements, namely private direct mobilization and private indirect mobilization. A comparison of both methodologies is presented in Table 2.10.[91]

91) The difference in total private finance mobilized between MDB and OECD methodologies is understood to be potentially due to incomplete data in survey responses for calculating the OECD estimate.

Table 2.11

Summary of estimated climate finance flows from developed to developing countries, 2015 and 2016 (billions of USD)

	2015 Total	2016 Total	Geographical split	
			Developed	Developing
UNFCCC funds	0.6	1.6	NA	Non-Annex I Parties
Bilateral				
BR (bilateral, regional and other channels flows only)	29.9	33.6	Annex II Parties	Non-Annex I Parties
OECD	11.1–29.3	10.6–31.2	OECD-DAC	OECD-DAC ODA eligible recipients
IDFC	16.5	16.9	OECD based institutions	Projects in non-OECD countries
OPIC[a]	1.0	0.5		
Multilateral				
BR (multilateral flows)	2.6	2.6	Annex II Parties	Non-Annex I Parties
Multilateral climate funds (including UNFCCC funds)	1.4	2.4	NA	Developing countries
MDB climate finance (own resources only)	23.4	25.5	NA	Developing countries and emerging economies
MDB climate finance attributed to OECD DAC minus Republic of Korea (own resources only)	17.4	19.7	OECD DAC minus Republic of Korea	OECD-DAC ODA eligible recipients
MDB climate finance attributed to OECD countries (own resources only)	15.7	17.3	OECD countries	Non-OECD countries
Private finance				
Mobilized finance				
Climate funds		0.2		
MDBs	10.9	15.7	NA	Developing countries and emerging economies
OECD – total estimate	7.2		OECD-DAC	OECD-DAC ODA eligible recipients
From bilateral providers	2.3		OECD-DAC	OECD-DAC ODA eligible
From multilateral providers	4.9		OECD-DAC	OECD-DAC ODA eligible recipients
FDI				
Renewable energy projects	2.4	1.5	OECD	Non-OECD

Abbreviation: NA = "not applicable".

Note: colours indicate data used for diagram.

234. UNCTAD estimates FDI flows of private finance in three business areas: renewable energy, recycling activities and low-carbon technology manufacturing. The total volume of such flows in 2016 is estimated at USD 82 billion (UNEP, 2017c). According to CPI estimates, private FDI flows to new renewable energy projects amounted to USD 2.4 billion in 2015 and USD 1.5 billion in 2016.

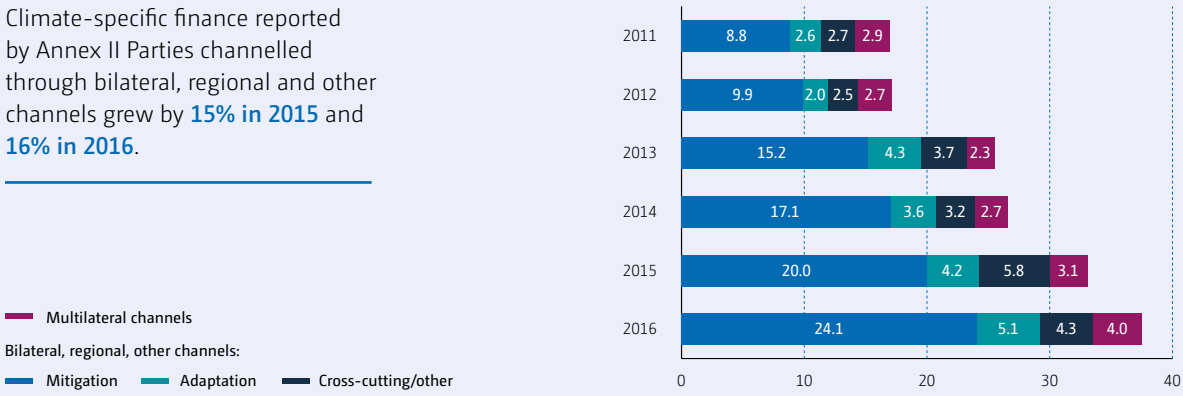
2.5.5 Summary of flows from developed to developing countries

235. Estimates of the climate finance flows from developed to developing countries discussed in this section are summarized in table 2.11 and figure 2.3.

Figure 2.3

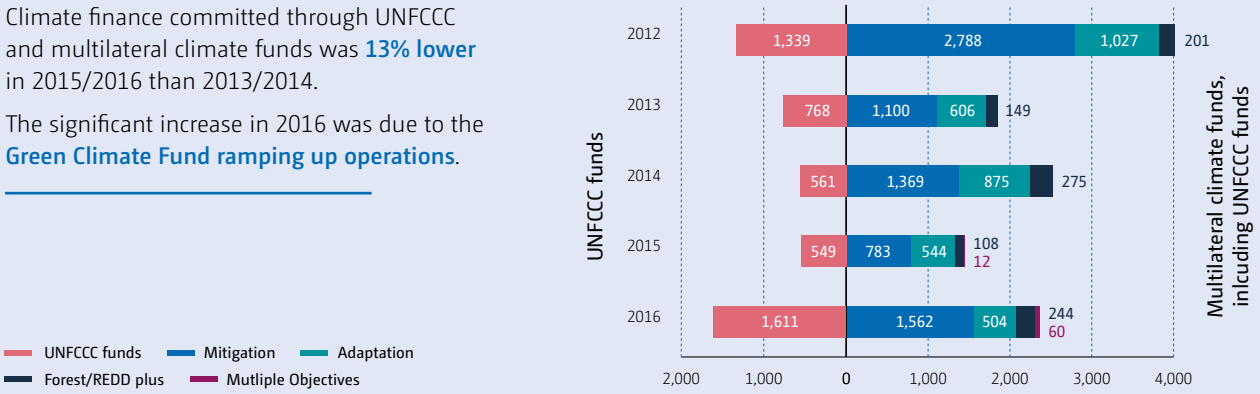
Insights from flows from developed to developing countries

Climate-specific finance reported by Annex II Parties channelled through bilateral, regional and other channels grew by **15% in 2015** and **16% in 2016**.



Climate finance committed through UNFCCC and multilateral climate funds was **13% lower** in 2015/2016 than 2013/2014.

The significant increase in 2016 was due to the **Green Climate Fund ramping up operations**.



2.6 Information relevant to Article 2.1(c) of the Paris Agreement: Datasets on flows, stocks and integration

236. The SCF has requested the UNFCCC secretariat to map available datasets that integrate climate change considerations into insurance, lending and investment decision-making processes and that include information relevant to tracking consistency with the long-term goal outlined in Article 2.1(c) of the Paris Agreement. As discussed in chapter I, numerous methodologies and approaches are being developed to help understand the contribution that public and private stakeholders can make towards achieving the long-term goal articulated in Article 2.1(c) of the Paris Agreement. As part of this chapter's focus on finance flows, in this section we make a distinction from the climate-related primary finance flows into new projects discussed in sections 2.2 to 2.5. This section takes a broader view of financial flows – encompassing such areas as bank lending, bond markets, listed equity, private equity, insurance and reinsurance, AUM and financial services – in order to enhance understanding of the available data related to all financial flows and investment decision-making processes that may inform consistency with Article 2.1(c). Chapter III considers available information on integrating financial flows inconsistent with Article 2.1(c).

237. Table 2.12 below provides an overview of the available data sets using different categories for the financial flows and decision-making processes that are considered in this report. A call for evidence was issued by the SCF in February 2018 with regard to mapping available datasets using the framework in Table 2.12. The data under the various categories are broken down into quantitative (flows and capital stocks) and qualitative (processes) data sets. Measuring new finance flows that may be consistent with pathways towards low GHG emissions and climate-resilient development helps determine the extent to which *new* activity in the financial sector is becoming consistent with Article 2.1(c) of the Paris Agreement over time. Similarly, measuring

Table 2.12

Overview of available data sets that can be used to track consistency with Article 2.1(c) of the Paris Agreement

	Quantitative data sets – FLOWS and STOCKS (in % of total or USD amounts)		Qualitative data sets – PROCESSES (i.e. level of integration of climate change considerations into processes)	
	Sources	**Datapoints**	**Sources**	**Datapoints**
Bank lending	• Bloomberg • IFC (2017) based on Thomson Reuters data	• *Annual flow:* USD 42 billion of "green loans" in 2015 and USD 70 billion in 2016 • *Annual flow:* USD 165 billion (or 15% of total new loans) in 2014 • *Total stock:* Not available	• Boston Common Asset Management	• 49% of banks applying climate risks assessments
Bond markets	• Bloomberg • CBI • BIS • SIFMA	• *Annual flow:* USD 49.9 billion in "green bonds" in 2015 and USD 98.3 billion in 2016 (0.28% and 0.47%, respectively, of total bonds issued in those years) • *Annual flow:* USD 137 billion in climate-aligned bonds in 2015 and USD 154 billion in 2016 (0.78% and 0.74%, respectively, of total bonds issued in those years) • *Total stock:* USD 221 billion to USD 895 billion of green (labelled) and climate-aligned (unlabelled) bonds outstanding by mid-2017(0.24% to 0.97% of total bonds outstanding)	• SSE initiative • We Mean Business	• 11 out of 82 stock exchanges have green bond listing processes (13.4%) by end of 2017
Listed equity	• BNEF • We Mean Business • We Mean Business	• *Annual flow:* USD 11.9 billion in clean energy initial public offerings in 2015 and USD 8.7 billion in 2016 • *Total stock:* 6% of market capitalization committed to adopt a "science-based target" in line with pathways to keep global temperature increase below 2 °C	• SSE initiative • We Mean Business	• Companies representing 68% of market capitalization listed on a sustainable stock exchange • Companies representing 11% of market capitalization listed on a sustainable stock exchange with ESG listing rules • Companies representing 81% of market capitalization listed on a sustainable stock exchange with sustainability indices available • Companies representing 4% of market capitalization support recommendations by TCFD and commit to implement them.
Private equity	• BNEF • EMPEA	• *Annual flow:* USD 10 billion in venture capital/private equity flows to clean energy sector in 2015 and USD 13.6 billion in 2016 • *Total stock:* USD 13.9 billion out of USD 505 billion raised from 2008 to 2018 (2.8%) for climate-dedicated funds; USD 18.5 billion out of USD 343 billion (5.4%) in investments into climate-related projects and portfolio companies		
Insurance and reinsurance	• Swiss Re Institute	• *Annual flow:* Not available • *Total stock:* Not available	• CDI (global survey) • Ceres "Climate Risk Disclosure Survey" report and scorecard	• 48% of insurers (sample size: 1,174) had a climate change policy with respect to risk management and investment management in 2016. • 16% of insurers (sample size: 148) obtained a "high quality" rating (i.e. in their responses they showed a comprehensive understanding of climate change, and they had undertaken substantive action to manage their climate risks, including board and senior executive involvement and accountability).

Table 2.12 (continued)

Overview of available data sets that can be used to track consistency with Article 2.1(c) of the Paris Agreement

	Quantitative data sets – FLOWS and STOCKS (in % of total or USD amounts)		Qualitative data sets – PROCESSES (i.e. level of integration of climate change considerations into processes)	
	Sources	Datapoints	Sources	Datapoints
Assets under management	• Investor Agenda (Forthcoming) • PRI–Novethic assessment • AODP	• *Annual flow:* USD 203 billion of disclosed low-carbon investments in 2016 (sample size: 500)	• PwC (global AUM) • PRI • Ceres • UNEP FI • AODP	• Owners/managers of 82% of global AUM (USD 70 trillion) are PRI signatories. • Owners/managers of 35% of global AUM (USD 30 trillion) have signed the Climate Action 100+ initiative on tackling climate risks. • Owners/managers of 26% of global AUM (USD 22 trillion) have signed a letter to the G20 calling for implementation of the Paris Agreement. • Owners/managers of 4% of global AUM are members of PDC. • 3.6% of asset owners are ranked as 'Leaders' on the AODP (sample size: 500). • 17% of asset owners (sample size: 223) and 19% of asset managers (sample size: 587) incorporate climate change considerations into asset allocation decisions.
Financial services			• PRI • Standard & Poor's	• 2 out of 3 major credit rating agencies are reported to have made visible progress in complementing rating analysis with additional research on ESG criteria to refine and improve rating methodologies. • 717 out of 900 cases where environmental and climate concerns were relevant to credit rating; 106 cases where such concerns resulted in a change to the outlook or rating

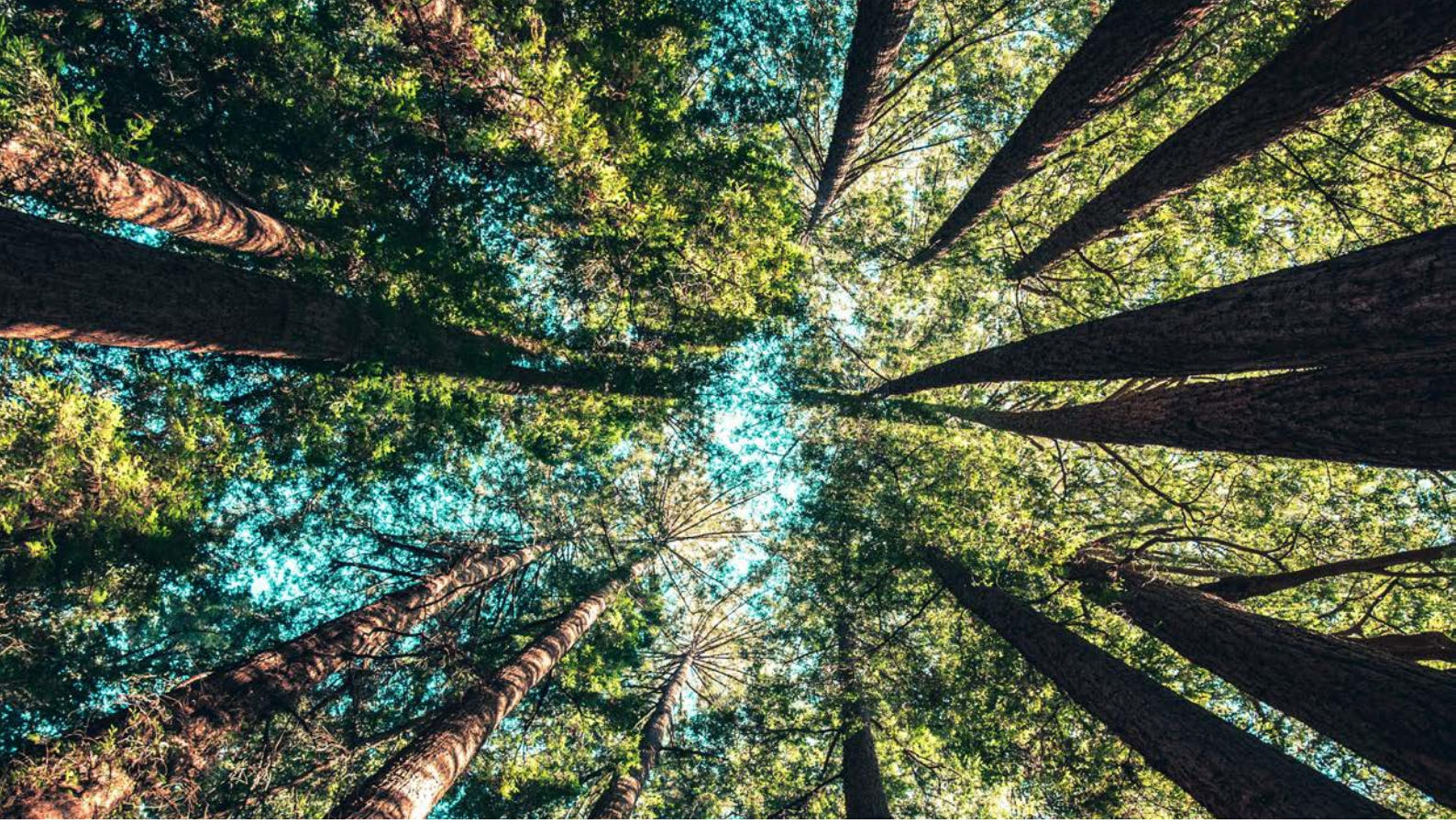
the proportion of total stocks that may be consistent with such pathways gives an indication of the extent to which the financial sector as a whole is consistent with Article 2.1(c) of the Paris Agreement at a given point in time.

238. No judgment is made about whether or not the datasets tally with different interpretations or definitions of a pathway towards low GHG emissions and climate-resilient development. Datasets that reflect financial flows to green, sustainable or ESG-related financial flows are included in the table below with a view that such datasets may over time, inform consistency of financial flows with Article 2.1(c) of the Paris Agreement. The categories are not exclusive; rather, they are meant to represent the main activities of different financial institutions, their investments and financial services that effect decision-making processes and the allocation of capital. For example, data captured in the value of green bonds issued may overlap with data on assets under management allocated to low carbon investments. The overall purpose is to establish a baseline for the currently available datasets.

2.6.1 Available datasets on integration of climate change considerations into bank lending

239. The datasets in the "bank lending" category provide information on how bank lending may be regarded as consistent with Article 2.1(c) of the Paris Agreement. Bloomberg estimates volumes of green loans of USD 42 billion in 2015 and USD 70 billion in 2016 (Bloomberg, 2018). In IFC (2017), drawing on data provided by Thomson Reuters, it is estimated that 15 per cent of new syndicated loans in 2014 were for green projects (USD 165 billion out of a total of USD 1.1 trillion). The IFC approach assumed green/non-green activity splits by sector. For example, 17 per cent of all real estate loans were estimated to be green on the basis of the fact that an average of 24 per cent of new construction projects were reported to be "green buildings" and that 9.7 per cent of all homes completed in the United States of America in 2015 received Energy Star certification.

240. With regard to bank lending processes, a survey of 47 of the world's largest banks reported that 49 per cent



were applying climate risk assessments and “below 2 °C” climate change scenarios in their risk assessment processes for loan approval (Boston Common Asset Management, 2018). Moreover, 71 per cent had gone further by adopting public exclusion policies linked to carbon-intensive practices in fossil fuels and deforestation, although the extent of exclusion varies (e.g. one bank excludes companies involved in mountain-top removal companies; another bank has committed to finance only the most efficient coal-fired power plants). New data sets may become available as “green tagging” by banks of existing loans is adopted more widely. However, it has taken an average of three years to integrate green attributes into the systems used by banks (Sweatman and Robins, 2017).

2.6.2 Available datasets on integration of climate change considerations into bond markets

241. The data sets in the “bond markets” category provide information on how debt securities (both bonds and securitizations) are consistent with Article 2.1(c) of the Paris Agreement. Table 2.12 reports under this category new issuances of bonds labelled as “green” by year (a measure of flow) and by total amounts outstanding against the total market (a measure of capital stock). Bond market participants issued USD 49.9 billion in green bonds in 2015 and USD 98.3 billion in 2016 (Bloomberg, 2018). These amounts correspond to 0.28 per cent and 0.47 per cent, respectively, of total new issuance in debt capital markets in the same years (SIFMA, 2018 based on BIS, 2018). New issuances of both bonds that are labelled green and bonds that are not labelled as such but nevertheless deemed to be climate-aligned are estimated at USD 137 billion in 2015 and USD 154 billion in 2016 (CBI, 2017a).

242. By mid-2017 a total of USD 221 billion in green bonds and an additional USD 674 billion in unlabelled bonds that are nevertheless deemed to be climate-aligned were estimated to be outstanding. These amounts represent 0.24 and 0.97 per cent, respectively, of total debt securities outstanding at the end of 2016 (SIFMA, 2018 based on BIS, 2018). Eleven out of 84, or 13.4 per cent of the world’s stock exchanges have rules and procedures in place for the listing of green bonds according to data from We Mean Business.

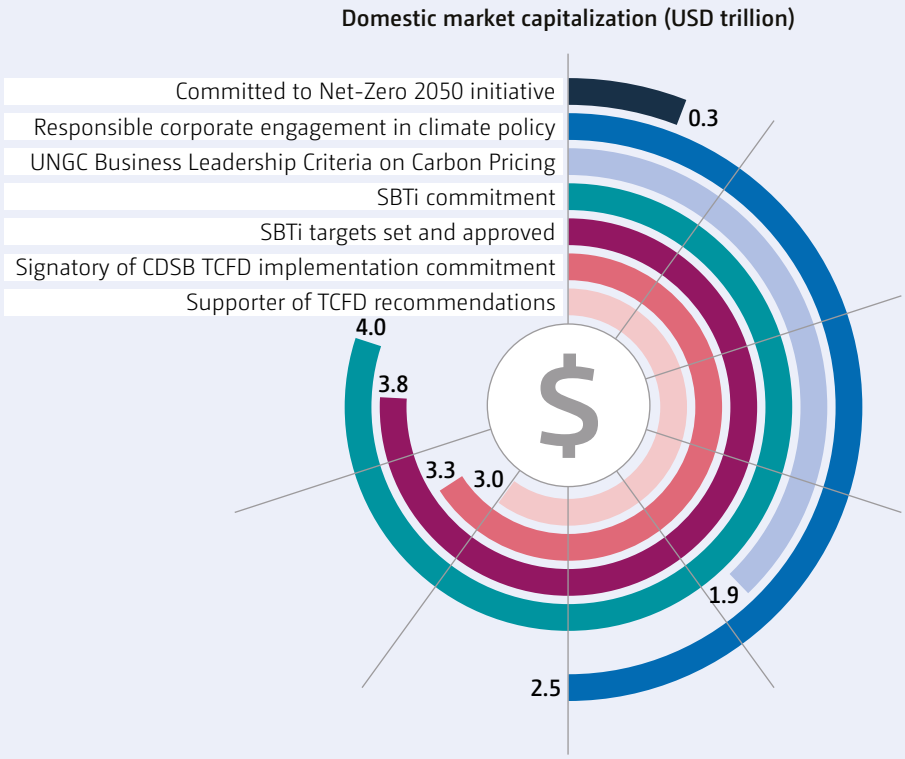
2.6.3 Available datasets on integration of climate change considerations into stock markets

243. The “listed equity” category includes all financial flows related to stock market activity. Data have been gathered on the integration of climate change considerations by listed companies and on their market capitalization. As at January 2018, 68 out of 84 stock exchanges globally had been designated as "Partner Exchanges” under the United Nations-led SSE initiative, which means that they had made a public commitment to promote sustainability in their respective markets. By August 2016, 58 stock exchanges had become SSE partners, representing over 70 per cent of listed equity in terms of market capitalization.

244. The TCFD issued its findings and recommendations in June 2017. As at January 2018, 248 companies and 37 public and professional associations had announced their commitment to implementing those recommendations,

Figure 2.4

Corporate climate commitments measured by total market capitalization



Source: We Mean Business, 2018a; 2018b.

although it is unclear what action they intend to take and by when (TCFD, 2018). The We Mean Business coalition tracks companies that have committed to implementing the TCFD recommendations, and it also monitors their support for various other climate-related initiatives. These data have been combined with data on the stock exchanges on which the companies are listed and on their market capitalization, and cross-referenced with TCFD and SSE data, to prepare figure 2.1 below.[92] Companies have made a range of commitments to disclosing climate risks and/or aligning finance flows with climate objectives. These commitments include supporting the TCFD, implementing TCFD recommendations and signing a statement issued by the Climate Disclosure Standards Board to confirm that they will implement those recommendations. In addition, the Science Based Targets Initiative provides a methodological framework for companies to adopt long-term emission reduction targets in line with a 2 °C scenario. Other relevant examples include commitments on carbon pricing within the framework of the United Nations Global Compact and the WB.

2.6.4 Available datasets on integration of climate change considerations into private equity funds

245. The "private equity" category includes all unlisted private equity and venture capital flows associated with climate-related investments. As reported by BNEF, venture capital and private equity flows to clean technology projects amounted to USD 10 billion in 2015 and USD 13.3 billion in 2016. EMPEA collects data on funds raised and disbursed in emerging markets. From 2008 to early 2018, USD 13.9 billion out of a total volume of private equity investments of USD 505 billion (2.8 per cent) was raised in emerging market funds dedicated to climate-related investments. USD 18.5 billion out of a total of USD 343 billion in deployed capital went to climate-related projects and portfolio companies over the same period.

92) In the case of large corporate conglomerates with multiple subsidiaries, it is assumed that any commitments made at the group level apply both to the parent company and its subsidiaries.

2.6.5 Available data on integration of climate change considerations into the provision of insurance

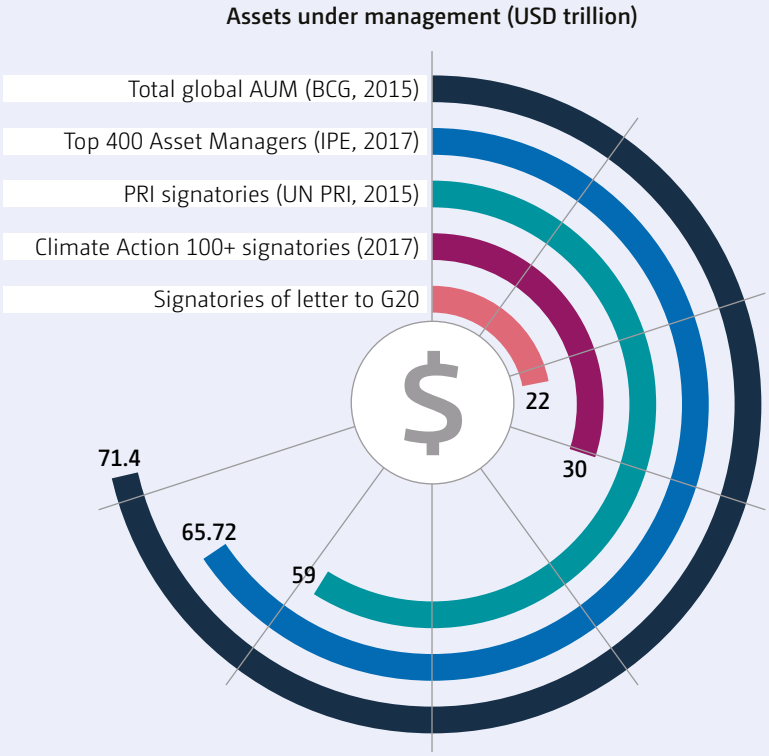
246. The "insurance" category includes data on insurance policies specifically written to cover climate risks or that take climate risks otherwise into account, on the value of premium flows associated with these policies, and on the level of integration of climate considerations into insurance modelling and risk assessment. Global direct insurance premiums totalled USD 4.6 trillion in 2015 and USD 4.7 trillion in 2016 (Swiss Re Institute, 2017). Of these totals, life insurance premiums accounted for USD 2.5 trillion and USD 2.6 trillion. The premiums for non-life insurance, including casualty and property insurance, amounted to USD 2.1 trillion in both years. There are no data on the degree of integration of climate change considerations into these premiums.

247. As part of a survey conducted in 2016 by the California Department of Insurance (CDI, 2017), 1,174 insurance firms providing crop, earthquake, health, life, property, casualty and title insurance answered questions on their emission reduction plans, risk assessment and management, and engagement with policymakers and stakeholders on climate-related risks. A total of 48 per cent of respondents indicated that they had a climate change policy with respect to risk management and investment management.

248. Ceres (2016) analyses the responses by 148 insurance companies to the Climate Risk Disclosure Survey conducted in 2014.[93] There is clear evidence of improvements in climate risk disclosure, most markedly among property and casualty insurers and life and annuity insurers. Overall, however, most of the companies in the sample showed a lack of focus in addressing climate risks and opportunities, with only 16 per cent earning a "High Quality" rating (22 companies – more than twice as many as in 2014), and 64 per cent earning a "Low Quality" or "Minimal" rating. The largest insurers (direct premiums

Figure 2.5

Climate change integration by asset owners and managers measured in terms of assets under management



Source: BCG, 2015; IPE, 2017; PRI, 2015; Climate Action 100+, 2018; AIGCC et al., 2017.

93) The survey was directed at property and casualty insurers, life and annuity insurers and health insurers. The 148 firms whose responses are analysed in Ceres (2016) are a subset of the 375 reporting firms in these sectors and were selected according to the following criteria: property and casualty/health insurers writing at least USD 1 billion in direct premiums annually, and life and annuity insurers writing at least USD 750 million in direct premiums annually.

over USD 5 billion) showed the greatest improvement, particularly on governance practices. Property and casualty insurers accounted for 16 of the 22 firms given a "High Quality" rating. Over half of the respondents disclosed action on climate change modelling and analytics, and roughly half are taking at least moderate action to address climate risk. Among the life and annuity insurers, only 12 per cent disclosed action to reduce climate risk, while 18 per cent attained a "High Quality" rating for investment management, up from 4 per cent in 2014. Health insurers continued to demonstrate a lack of understanding of climate risks, despite mounting evidence of the links between climate change and increased morbidity/mortality. Of the health insurers surveyed, 91 per cent received the two lowest ratings for climate risk management, and none earned a "High Quality" rating.

249. IAIS (2017) provides an overview of the responses by insurance supervisors worldwide to climate-change related risks and briefly reviews relevant policy initiatives, including the G20 Green Finance Study Group and Climate Finance Study Group, TCFD, and regulatory efforts by France and the United States.

2.6.6 Available datasets on integration of climate change considerations into investment decision-making, including asset allocation and fund management

250. The "assets under management" category captures any action taken by asset owners and managers to integrate climate change considerations into their investment decision-making, specifically with regard to the allocation of assets. The volume of AUM is used as a metric against which support for climate action among the investment community may be measured.

251. In July 2017, a group of 390 global long-term institutional investors, representing more than USD 22 trillion in assets, submitted a letter to the G20 calling for the implementation of the Paris Agreement, in particular by phasing out fossil fuel subsidies, introducing carbon pricing and implementing the TCFD recommendations.[94]

252. The Global Climate Index, published annually by the AODP, ranks the world's largest 500 asset owners (including insurance companies, pension funds, sovereign wealth funds, foundations and endowments) on climate risk management. In the Global Climate Index 2017, the assessment covered 307 pension funds, 137 insurers, 50 asset managers and 32 sovereign wealth funds, as well as 21 other investors (AODP, 2017). A majority of asset owners (60 per cent) were found to be taking some degree of action on climate change, with an 18 per cent drop in the number of investors in the "Laggard" category. Eighteen asset owners (3.6 per cent) received "Leader" ratings, up from 12 in the previous year. The number of investors in the "Challenger" group rose by 36 per cent to 34, while "Learners" increased by 16 per cent. The "Bystanders" group comprised 187 investors, a 19 per cent rise since 2016 in the number of investors taking the first steps towards climate action. Almost one in five asset owners had dedicated staff working on the integration of climate risk into their investments, and 42 per cent incorporated climate change into their policy framework. Portfolio carbon emissions were calculated by 13 per cent of asset owners, though only 6 per cent assessed the risk of "stranded" assets. Disclosed low carbon investment across all asset owners totalled USD 203 billion, a 68 per cent rise since 2016 but still representing only 0.5 per cent of AUM.

253. The third annual report of the PDC provides qualitative analysis and case studies of motivations, targets, metrics and strategies used by the 28 PDC signatories, which together represent USD 3 trillion in AUM (4 per cent of the global total), to decarbonize their asset holdings (PDC, 2017). The report highlights the portfolio decarbonization targets set by a number of signatories. However, it also cautions that there is limited information on how the portfolio decarbonization efforts of PDC signatories are affecting the real economy, as measured, for example, by the share prices of high-emitting or high-impact companies. This is attributed to the relatively small number of investors making decarbonization commitments, a lack of reporting on shareholder engagement, lack of clarity about the specific role of climate change in decision-making and insufficient emphasis on "additionality" in setting decarbonization targets. The report recommends that investors focus shareholder engagement on outcomes; make large-scale investments; explain how they are factoring climate change into their decision-making; work together in meeting commitments; and explain how their actions are additional to business-as-usual.

254. PRI and Novethic (2017) provide survey data on climate action taken by PRI signatories. Among the positive findings from this analysis of responses by asset owners to the PRI Reporting Framework is that 74 per cent of signatories stated that they were acting on climate change and saw it as one of the most important long-term trends

94) The letter is available at https://www.ceres.org/sites/default/files/Global-Investor-Letter-to-G20-Governments.pdf.

for investments (an increase of 8 per cent since 2016). Moreover, 59 per cent of asset owners taking action on climate change were engaging with companies on the topic. With regard to areas for further improvement, the review found that, although 54 per cent of asset owners encouraged portfolio managers to monitor emissions, only 8 per cent had aligned manager contracts with climate change factors. Moreover, only 17 per cent of asset owners incorporated climate change within asset allocation decisions. On the basis of this review, PRI observed that its Reporting Framework could be enhanced further to promote investor good practice in climate change, in particular by aligning the PRI indicators for governance, investment strategy and products, and risk management with the TCFD recommendations. Additionally, the PRI indicators could be modified in time to encourage investors to consider the impact of their activities on the transition to a low-carbon economy.

2.6.7 Available datasets on integration of climate change considerations into the provision of financial services

255. The "financial services" category focuses on investment consultants and credit rating agencies as key service providers in the investment industry in view of their considerable impact on investment decision-making. A review of investment consultants' integration of ESG factors found only two examples of incorporation of climate change assumptions into valuations (PRI, 2018a). As for credit rating agencies, these provide ratings over a two- to five-year horizon, which reduces the impact that climate risks may have on potential ratings. Many of the large agencies have stated that they integrate climate risks into ratings and have published cases from corporate and infrastructure rating exercises in which environmental and climate risks played a key role in driving a rating or outlook change (PRI, 2018b).

256. In an analysis of corporate and infrastructure credit rating reviews conducted between 2015 and 2017, Standard & Poor's (2017) found that in 717 out of 9,000 cases environmental and climate risks were an important factor in the rating action (compared with 299 in the period 2013–2015). Of these, 106 involved a change in the outlook or rating that was driven by environmental and climate risks (compared with 56 in the period 2013–2015). The fact that 44 per cent of the rating reviews resulted in upgrades for the entity concerned illustrates the potential opportunities, as well as risks, arising from the climate transition.

Chapter III

ASSESSMENT OF CLIMATE FINANCE FLOWS

Key messages

257. An assessment of the data underlying the overview of climate finance flows presented in the preceding chapter offers insights into crucial questions of interest in the context of the Convention's objectives and of the goals outlined in the Paris Agreement. Development banks, DFIs and multilateral climate funds play a vital role in helping countries to deliver on their NDCs. The key features of a sub set of these different channels of public climate finance for developing countries are summarized in table 3.1, including the areas of support (adaptation, mitigation or cross-cutting) and the instruments used to deliver climate finance.

258. Trends in climate finance point to increasing flows towards developing countries. Bilateral climate finance flows and those channelled through the MDBs have increased since the 2016 BA, whereas flows from the multilateral climate funds have fluctuated, having decreased in 2015 before rebounding in 2016 (although the average remains lower than the 2013–2014 period), which reflects changes in the climate finance landscape.

259. When considering these flows on aggregate, support for mitigation remains greater than support for adaptation, though across all sources (noting however, measurement differences outlined below). Bilateral finance flows from OECD-DAC providers had the greatest proportion intended for adaptation (29 per cent) in 2015–2016, followed by multilateral climate funds (25 per cent) and MDBs (21 per cent). However, the 2018 BA finds an increase in public climate finance flows that contribute towards **both** adaptation and mitigation from both bilateral contributors and the multilateral climate funds. This makes it more difficult to track the progress made in ramping up adaptation finance (when considering flows based on other groupings, there are variations in the composition of the type of support).

260. Grants continue to be a key instrument for the provision of adaptation finance. In 2015–2016 grants accounted for 62 and 94 per cent, respectively, of the face value of bilateral adaptation finance reported to the OECD and of adaptation finance from the multilateral climate funds. During the same period, 9 per cent of adaptation finance flowing through the MDBs was grant-based. Mitigation finance remains less concessional in nature, with 25 per cent of bilateral flows, 31 per cent of multilateral climate fund approvals and 4 per cent of MDB investments taking the form of grants. These figures, however, may not fully capture the added value brought by combining different types of financial instruments, or technical assistance with capital flows, which can often lead to greater innovation or more sustainable implementation.

Table 3.1

Characteristics of international public climate finance flows in the period 2015–2016

	Annual average USD billion	Area of support				Financial instrument		
		Adaptation	Mitigation	REDD-plus[a]	Cross-cutting	Grants	Concessional loans	Other
Multilateral climate funds[b]	1.9	25%	53%	5%	17%	51%	44%	5%
Bilateral climate finance[c]	31.7	29%	50%	–	21%	47%	52%	<1%
MDB climate finance[d]	24.4	21%	79%	–	–	9%	74%	17%

Note: All values based on approvals and commitments.

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 biennial reports from Parties included in Annex II to the Convention (that further include regional and other channels) for the annual average. Information related to the United States of America is drawn from preliminary data provided by the United States. The thematic split and the financial instrument data are taken from data 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. Section C of the summary and recommendations and chapter III of the technical report uses 'bilateral finance' to refer only to concessional flows of climate-related development assistance reported by OECD-DAC members.

[d] The annual average and thematic split of MDBs includes their own resources only, while the financial instrument data include data from MDBs and from external resources, due to the lack of data disaggregation.

261. With regard to geographic distribution, Asia as a whole remains the principal beneficiary region of public climate finance flows. In 2015-2016, the region received 31 per cent of funding from multilateral climate funds, 42 per cent of bilateral finance reported to OECD and 41 per cent of MDB flows (including the Pacific). The Latin America and Caribbean region and sub-Saharan Africa each secured 22 per cent of approvals from the multilateral climate funds in the same period. Latin America and the Caribbean received 17 per cent of MDB financing and 10 per cent of bilateral finance reported to OECD, whereas sub-Saharan Africa received just 9 per cent of MDB financing but 30 per cent of bilateral finance reported to OECD.

262. With regards to flows to LDCs and small island developing States (SIDS), in 2015–2016, funding directed at the LDCs represented 24 per cent of bilateral flows, whereas that directed at SIDS accounted for 2 per cent of such flows. Of the bilateral finance provided to the LDCs and SIDS, around half was earmarked for adaptation. Similarly, 21 per cent of finance approved by multilateral climate funds went to the LDCs and 13 per cent to SIDS, and over half of this was focused on adaptation. The MDBs channelled 15 per cent of their climate finance to the LDCs and SIDS. The percentage of adaptation spending to these countries (41 per cent) are twice that within the MDBs climate finance spending overall.

263. The management of climate finance, as well as the development and implementation of projects that it supports, necessarily entails costs. Often recovered through mechanisms such as administrative budgets and implementing agency fees, the degree of such costs varies across institutions. Among the major funds, fees account for between 1 and 9 per cent of total fund value, ranging from USD 65,000 to USD 1.2 million per project. Although these costs tend to decrease over time as management and disbursement mechanisms become more streamlined, there is evidence to suggest that the alignment of administrative functions between funds (e.g. the GEF administration of the LDCF and SCCF) offers the best opportunity to keep administrative costs down. This is essential in order to retain the trust that contributors and beneficiaries place in the funds.

264. There continues to be a push to diversify modalities of access to climate finance. Institutions in developing countries are increasingly able to meet fiduciary and environmental and social safeguard requirements for accessing funds. There has been a notable increase in the number of regional and national implementing entities of the multilateral climate funds, despite large amounts remaining programmed through multilateral entities.

265. Ownership remains a critical factor in the delivery of effective climate finance. A broad concept, it encompasses the consistency of climate finance with national priorities, the degree to which national systems are used for both spending and tracking, and the engagement of a wide range of stakeholders. There have been a number of efforts to build capacity to access and make strategic choices about how to use finance and oversee implementation. With regard to the role of governments, there has been greater commitment by ministries of finance and planning, though climate finance is often not fully integrated into national budgetary planning. National-level institutions in beneficiary countries are playing a greater role in managing climate finance, particularly through domestic tracking systems. NDCs, for which further financial resources need to be found, are emerging as a platform that governments can use to stimulate engagement and strengthen national ownership of climate finance.

266. Mechanisms for monitoring the impact of climate finance have improved, albeit not uniformly. Thus, although the reporting of results (in terms of outputs) has increased, it is difficult to assess properly the quality of the impacts (i.e. outcomes) achieved. These impacts are, moreover, presented in a multitude of formats. The reduction of GHG emissions remains the primary impact metric for climate change mitigation. Core mitigation-related multilateral funds are expected to reduce GHG emissions by over 11 billion t CO_2 eq, with reported reductions already approaching 37 million tCO_2eq. GHG reduction results are complemented by other quantitative data, such as the number of beneficiaries and renewable energy capacity installed. The metrics, benchmarks and frameworks for monitoring the impact of mitigation projects continue to evolve, thereby helping to inform investment decisions.

267. Discussion of the impact of adaptation impact measurement projects continues to be focused on the number and type of people that benefit from them, although the nature and extent of their beneficial effect are still difficult to quantify, both directly and indirectly. Adaptation finance channelled through core multilateral climate funds has so far reached over 20 million direct beneficiaries. The target for the combined number of direct and indirect beneficiaries is 290 million. Further work is necessary to come up with adaptation and resilience metrics that can capture the whole spectrum of sectors receiving support, as well as the many different approaches used, while allowing for aggregation of data and comparability between projects and funds.

268. The extent of co-financing remains important for the mobilization of private finance, but is challenged regarding the availability of data, definitions and methods. Multilateral climate funds can perform on a par with DFIs with regard to private co-financing ratios. The degree to which such finance can be mobilized, however, is heavily influenced by the investment conditions in a country, which are in their turn created by the policy and regulatory frameworks.

269. Climate finance continues to account for just a small proportion of overall finance flows; the level of climate finance is considerably below what one would expect in view of the investment opportunities and needs that have been identified. However, although climate finance flows must obviously be scaled up, it is also important to ensure the consistency of finance flows as a whole (and of capital stock) with the long-term goals of the Paris Agreement, specifically with those enunciated in Article 2.1(c) of the Paris Agreement. This does not mean that all finance flows have to achieve explicitly beneficial climate outcomes, but it does mean that they must reduce the likelihood of negative climate outcomes. Although commitments are being made to ensure that finance flows from DFIs are climate-consistent, more can be done to understand and ensure that all public finance flows are consistent with country's climate change objectives.

270. Awareness of climate risk in the financial sector has also increased over the past few years. Positive developments are being seen there, particularly with regard to the investment and lending policy of both public and private sector actors, and also with regard to regulatory and fiscal policy and the information resources that guide decision-making.

3.1 Introduction

271. This chapter deals with the implications of the climate finance flows presented in chapter II. It considers emerging trends in climate finance and assesses their relevance to international efforts to address climate change. Drawing on best available data and research, the chapter focuses on the BRs and the BURs submitted by countries to the Convention. The discussion is complemented by data from OECD-DAC, by project-level data supplied by a number of multilateral climate funds and made available on the CFU Data Dashboard, and by overall climate finance reporting by the MDBs. Where available, data from national development banks, predominantly from the IDFC, are also included.

272. The chapter first considers the key features of public climate finance flows from developed to developing countries, including:

- Thematic focus of climate finance, particularly its support for adaptation and mitigation;
- Financial instruments used in climate finance programming;
- Geographic distribution of climate finance.

273. Subsequently, new insights into the effectiveness of climate finance flows to developing countries are presented, with an emphasis on such aspects as access to and ownership of climate finance, as well as the alignment of climate finance with developing country needs and priorities related to climate change. The information reported on the impact of public climate finance flows is then discussed.

274. The chapter concludes with a reflection on the overall amount of climate finance. An attempt is made to place the identified climate finance flows in the context of other relevant finance flows, and to outline considerations to meet consistency with the goal set out in Article 2.1(c) of the Paris Agreement.

3.2 Thematic objectives and geographic distribution of climate finance flows to developing countries

275. This section considers the nature of the public climate finance flows that developed countries have made available to developing countries. BR data are used where possible, supplemented by detailed reporting on the activities of multilateral climate funds, as well as by data reported to OECD-DAC by members on concessional flows of committed climate-related development assistance reported by OECD-DAC members (henceforth referred to as 'bilateral finance'). Such complementary sources of data are often more complete and granular, which makes it possible to gain more profound insights into key trends in public climate finance than if only BR data were to be used. The different classification systems used in these data sets, however, make comparisons quite difficult. For example, the OECD list of developing countries does not fully correspond to that of the non-Annex II Parties, and the OECD and MDB data sets use different regional groupings. No attempt is made to reconcile the data sets, however (see annex A for details of which countries are included under the various classification systems).

276. The sources of data are overlapping and each data source is therefore reviewed separately. The annual average of bilateral, multilateral and core/general funding as reported in the CTF tables of BRs was USD 44.4 billion in 2015–2016. During the same period, climate-related bilateral finance flows reported to OECD were USD 30.3 billion per year; USD 1.9 billion per year was channelled through multilateral climate funds, including the five UNFCCC funds; and MDB finance flows were estimated at USD 26.3 billion per year[95].

3.2.1 Thematic distribution of climate finance

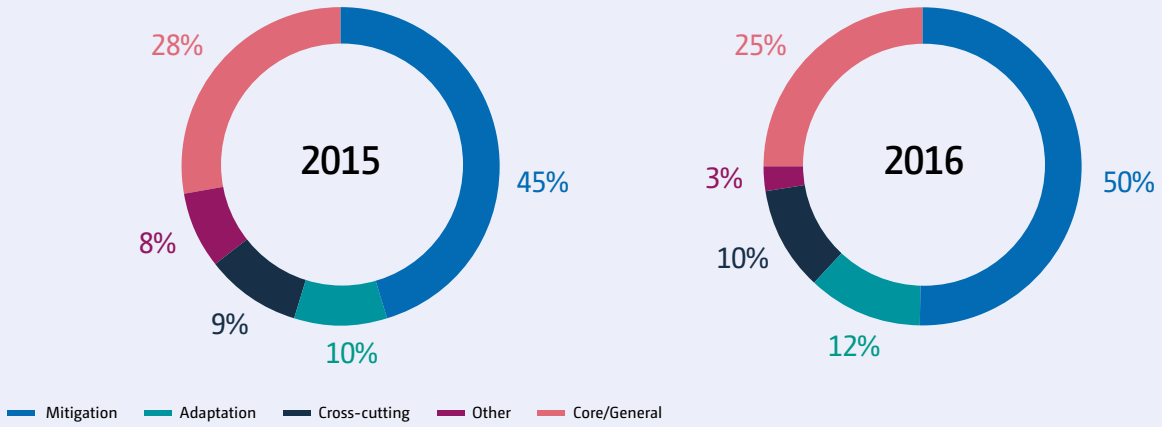
277. Developing countries remain highly vulnerable to the impacts of climate change, particularly the LDCs and SIDS. The decisions taken by the COP in Copenhagen (2009), Cancun (2010) and Durban (2011) have sought to achieve a balance between adaptation and mitigation finance, as has the governing instrument of the GCF. 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". The emphasis on balance in the above-mentioned COP decisions and in the Paris Agreement has partly to do with the fact that climate finance flows have traditionally been skewed towards mitigation action rather than adaptation action. This section considers the thematic distribution of climate finance to developing countries, drawing on the available reported data. It is worth recalling, though, that adaptation and mitigation finance are measured using different approaches. Mitigation finance is reported on an activity basis (total cost), whereas adaptation activities are reported on an incremental cost basis (i.e. the proportion of the project or investment that covers climate change adaptation activities). When making comparisons, it is therefore necessary to keep this fundamental difference in mind.

278. The distribution by "type of support" is specified in BRs submitted by developed countries for 73 per cent of the funding that they provided to developing countries in 2015–2016 (see figure 3.1). The remainder (i.e. finance flows not thematically specified in CTF tables) continues to be made up of "core" contributions to the operating budgets or portfolios of multilateral organizations, including United Nations system agencies and MDBs, which then channel this funding towards climate projects. In some cases, thematic objectives may be specified at a later stage. Of the financing reported in BRs, 14 per cent had adaptation as a specified objective in 2015, which increased slightly to 15 per cent in 2016. Of the total finance in the 2015 BRs, 67 per cent had a specified mitigation objective, which increased to 72 per cent in 2016.

279. Bilateral finance with climate change objectives reported to OECD-DAC amounted to USD 30.3 billion in 2015–2016, which is an increase of USD 8 billion since

Figure 3.1

Thematic objectives of finance in developed country biennial reports in 2015 and 2016



95) The last estimate above, as well as related estimates given in the remainder of this section, is based on total MDB climate finance (i.e. including the banks' own and external resources, and also including EU recipients), unless stated otherwise. This is necessary because of the lack of disaggregated data by region, theme and financial instrument.

2013–2014. Of the total bilateral climate finance provided in 2015–2016, 29 per cent was earmarked for adaptation projects and activities – a slight increase since 2013–2014. The proportion earmarked for mitigation has remained around 50 per cent, whereas climate finance with both mitigation and adaptation objectives makes up around 20 per cent of bilateral flows. Over the period 2015–2016, bilateral contributors programmed less funding for mitigation (in terms of the proportion of total spending) compared with other sources of climate finance.

280. Of the funding channelled through dedicated multilateral climate funds, an average of 25 per cent supported adaptation in 2015–2016. The recent increase in climate finance with cross-cutting objectives, however, makes it harder to assess whether the balance is shifting towards adaptation finance (see figure 3.2 below). Notably, in 2016, the share of cross-cutting finance, supporting both adaptation and mitigation objectives, increased to nearly a quarter of all approved finance from the multilateral climate funds.

281. In 2015, the MDBs announced that they were determined to redress the mitigation bias in their climate finance portfolios. Nevertheless, mitigation has continued to account for around 80 per cent of their portfolios: a proportion that has hardly changed since 2012. Thus, in 2015–2016, the MDBs earmarked an average of 21 per cent of climate finance from their own resources for adaptation projects and activities. Although this represents just a small increase since 2013–2014, it is worth noting that, in 2016, 23 per cent of climate finance provided by MDBs from their own resources went towards adaptation (see figure 3.2). Mitigation projects have historically been more viable and cost-effective than adaptation projects, and they are also easier to implement at sufficient scale. This explains why mitigation has tended to be the focus of climate finance provided by MDBs. There is, however, a growing understanding among MDBs of the opportunities that climate change adaptation entails – an area with more complex impact pathways, diverse activities and, in some instances, challenges of scale and aggregation.

282. In view of what was noted above about the imbalance between adaptation and mitigation finance, it is worth discussing further the nature of the adaptation finance that flowed to developing countries in 2015–2016. No less than 62 per cent of bilateral climate finance for adaptation took the form of grants, whereas just 25 per cent of mitigation finance was grant-based. The remainder was provided mainly via loans; very small amounts were provided through equity; and no use was made of guarantees at all. Of the adaptation finance provided by the multilateral climate funds, 94 per cent took the form of grants, with the remainder flowing as concessional loans.[96] The MDBs – again, considering both their own and external resources – provided just 9 per cent of their adaptation finance in the form of grants in 2015–2016; investment loans[97] were their instrument of choice, accounting for 74 per cent of the adaptation finance they provided. Of the total adaptation finance reported by MDBs, 63 per cent was provided by WB, which has one of the highest ratios of adaptation to mitigation finance – a ratio equalled only by AfDB (AfDB et al., 2018c). For the period 2015–2016, IDFC reported a fall in climate finance programmed for adaptation, at 4 per cent, although note the application of a highly conservative method and challenges in application for its members (given the nature of the IDFC, these flows include both OECD and non-OECD countries) (IDFC, 2017).

283. Finance supporting forestry often contributes to both mitigation and adaptation objectives. The SCF in 2015 identified the lack of data on forest related climate finance as well as complexities in its tracking given the many drivers of land use.[98] When reporting on bilateral climate finance, OECD-DAC does not use an additional layer for forest finance, but it is possible to identify broader ODA provided to the forestry sector. In some BRs, finance for forests is included in the "other" category under "type of support", but not always. Moreover, the MDBs do not single out forest-specific finance when reporting on their climate finance. The forest-related spending of the multilateral climate funds is more readily identified thanks to the emphasis on REDD-plus activities in the UN-REDD Programme, the FCPF and the FIP. Finance flows from the multilateral climate funds in 2015–2016 to support REDD-plus activities were on average just 5 per cent of the total spending, and they were directed predominantly at projects designed to improve REDD-plus readiness (i.e. they were not GHG results-based finance as such). The launch, in 2017, of the GCF pilot programme for REDD-plus results-based payments could increase finance flows

96) By contrast, in 2015–2016, only 31% of mitigation finance from the multilateral climate funds took the form of grants, with 63% provided as concessional loans, 5% as equity and the remainder as guarantees.

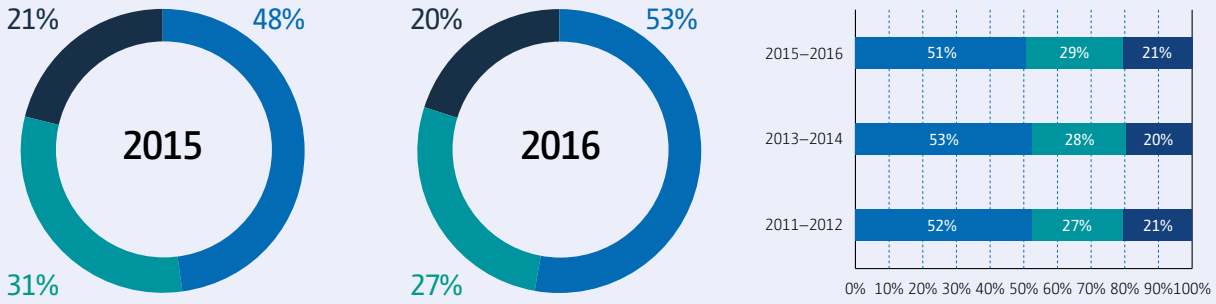
97) In the case of countries receiving financial assistance from the International Development Association (part of WB) and the Asian Development Fund (part of ADB), these investment loans are equivalent to concessional loans.

98) 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.

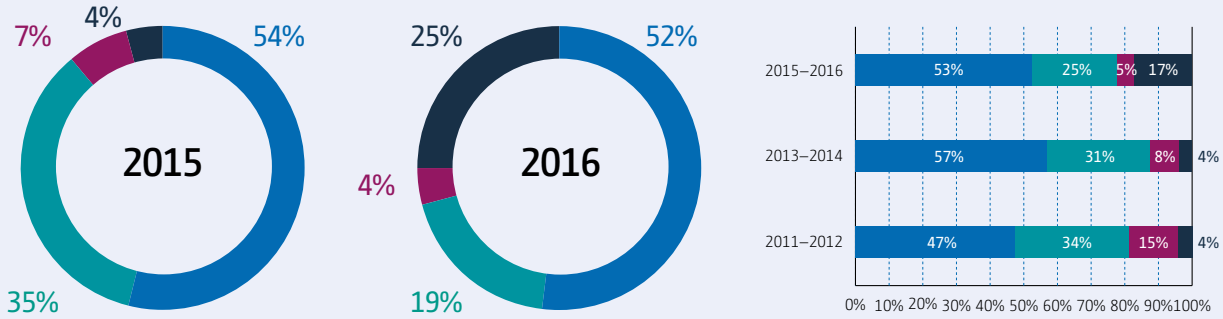
Figure 3.2a-c

Thematic objectives of reported climate finance to developing countries

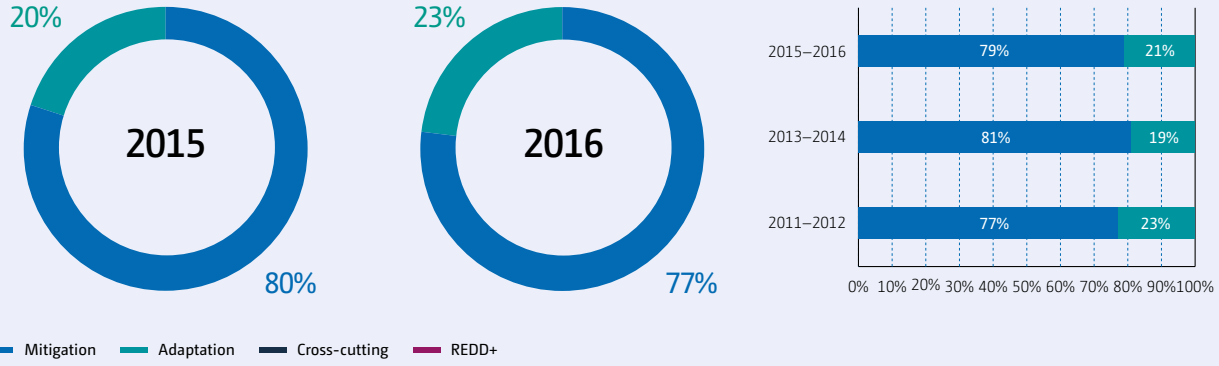
3.2a: Thematic objectives of bilateral climate finance



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



Source: OECD-DAC statistics available at OECD-DAC climate-related development finance website. CFU Data Dashboard, 2017. AfDB et al., 2012a; 2012b; 2013; 2014; 2015a; 2016 and 2017b.

directed at REDD-plus activities. REDD-plus finance, however, does not make up all forest-related climate finance. The GCF, for example, has projects with a forestry component that are categorized as cross-cutting in terms of thematic objective. A great deal of action is also taking place outside of the climate finance area, following initiatives such as the Bonn Challenge (2011) and the New York Declaration on Forests (2014), both of which pursue goals beyond climate change mitigation (and adaptation).[99]

99) See http://www.bonnchallenge.org/content/challenge and https://nydfglobalplatform.org.

284. Efforts to increase the scope of insurance to support adaptation and build resilience to climate change are not represented in the financial flows assessed in this report. Insurance can share and spread the financial consequences of climate risks, thus making it possible to lend a helping hand during the recovery from climate-related hazard events. The insurance industry as a whole can support adaptation by sharing its expertise in risk management, incentivizing risk reduction and developing new insurance products.[100] Relevant initiatives by the insurance industry have sought to enhance coverage against losses from extreme weather events, as well as to strengthen the provision of crop, livestock and flood insurance for individuals and households. The Munich Climate Insurance Initiative, for example, seeks to foster public–private partnerships in the creation of insurance mechanisms that can protect the most vulnerable communities against weather-related disasters.[101] Another example is SITF, which was proposed in 2017 by a group of finance ministers from the most vulnerable countries as an international mechanism for the financing of insurance solutions. The objectives of SITF are to increase insurance coverage for populations, livelihoods and economic assets against climate and disaster risks, and to provide enhanced de-risking mechanisms for investments in resilient infrastructure and low-carbon technologies.[102] Insurance cannot, however, replace efforts to reduce climate risks. Insurance instruments also need to be carefully designed to incentivize further adaptation[103] 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). Insurance can therefore only be a complementary tool for addressing the impacts of climate change. It is 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 mechanisms.

285. Financing arrangements to address loss and damage, particularly in those developing countries that are most vulnerable to the impacts of climate change, has become an increasing focus of discussions under the Convention. Such financing arrangements are not represented in the financial flows assessed in this report. It is noted, however, that the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts was established at COP 19 in Warsaw in late 2013 to "address loss and damage associated with the impacts of climate change in developing countries that are particularly vulnerable to the adverse effects of climate change".[104] One of the functions of the Warsaw International Mechanism is to enhance relevant action and support, including finance, technology and capacity-building. The 2016 SCF forum came to the conclusion that, although there was a range of approaches for addressing the risks of loss and damage, more work was needed to develop suitable financial instruments.[105] In 2016, Parties tasked the UNFCCC secretariat with the preparation of a technical paper on the sources of financial support for addressing loss and damage provided both by the Financial Mechanism itself and outside of it.[106]

3.2.2 Geographic distribution of public climate finance

286. Figure 3.3 analyses the geographic distribution of different sources of climate finance. Historically, public climate finance in support of mitigation has predominantly been directed at countries and regions in which emission levels are high and rising rapidly (e.g. large emerging economies). Similarly, public adaptation finance has, by and large, been channelled to highly climate vulnerable countries, particularly in the case of climate finance from the multilateral climate funds (Nakhooda et al., 2014). Some of the most vulnerable countries, however, have their access to climate finance hindered by institutional capacity barriers, weak policy and fiscal frameworks and/or fragility.

100) See, for example, the "Global insurance industry statement on: Adapting to climate change in developing countries", which is available at http://www.unepfi.org/fileadmin/documents/insurance_climat-echange_statement.pdf.

101) See http://www.climate-insurance.org/about/. There are many other examples. Between 2008 and 2017, the multilateral climate funds approved a total of USD 136 million in grants and concessional loans to projects that had an insurance component (CFU Data Dashboard, 2018). These projects have: generated and provided risk information to support the establishment of new insurance schemes; helped to scale up existing initiatives; and contributed to an enabling regulatory environment. A number of multi-country risk pools are now functioning that provide "parametric" insurance policies, where pay-outs are triggered by climate-related events rather than by the reporting of losses (which may not necessarily be due to climate-related events). CCRIF, the world's first multi-country risk pool, made pay-outs in 2016 amounting to USD 31 million across six countries, and in 2015 it made a single pay-out of over USD 2 million. By September 2017, total payments made by CCRIF since 2007 had passed the USD 100 million mark (CCRIF, 2017). The ADB Pacific Disaster Resilience Program combines concessional loan and grant financing to enable contingent financing for urgent and timely disaster response and reconstruction efforts. The programme reinforces existing disaster risk financing instruments available to Pacific countries such as Tonga, Tuvalu and Samoa (see https://www.adb.org/projects/50028-001/main#project-pds). Other initiatives focus on extending individual access to insurance. The G7 InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions, for example, aims to extend cover-age to an additional 400 million poor and vulnerable people by 2020 using a mixture of indirect and direct approaches (see http://www.insuresilience.org/accessible-map/).

102) See http://icsc.ngo/v20-insurance.

103) A moral hazard can arise if incentives to manage a particular risk are reduced as a result of access to insurance. Associated policies and careful design of the insurance on offer, by such means as risk-based premiums and deductibles, can help to deal with such issues. Well-designed programmes may also incentivize risk management (Nakhooda and Watson, 2016).

104) Decision 2/CP.19.

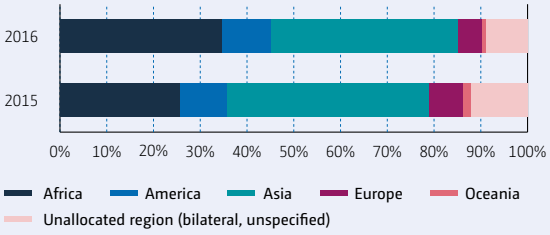
105) See the web page of the 2016 SCF forum at https://unfccc.int/event/2016-forum-standing-committee-finance.

106) Decision 4/CP.22, paragraph 2(f).

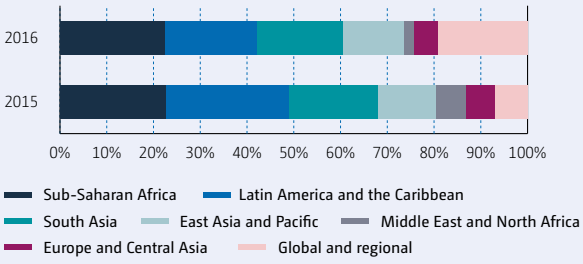
Figure 3.3a-c

Geographic distribution of public climate finance

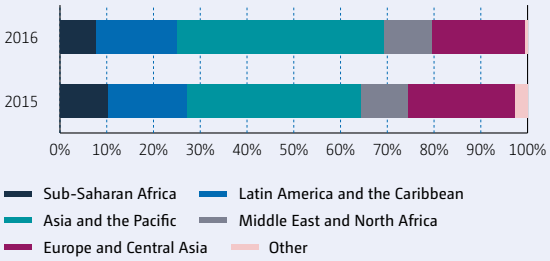
3.3a: Geographic distribution of bilateral public climate finance



3.3b: Geographical distribution of public climate finance from multilateral climate funds



3.3c: Geographical distribution of public climate finance from multilateral development banks



Source: OECD-DAC statistics available at OECD-DAC climate-related development finance website. CFU Data Dashboard, 2017. AfDB et al. (2012a), (2012b), (2013), (2014), (2015a), (2016) and (2017b).

287. The Asia and the Pacific region remains the dominant beneficiary region of climate finance. Asia received 42 per cent of bilateral climate finance flows reported to OECD-DAC in 2015–2016. Over two thirds of this funding was made available as loan finance; a quarter of flows went towards adaptation. As for finance flows from the multilateral climate funds in the same period, 31 per cent was used to support projects in Asia and the Pacific. As much as 47 per cent was made available as concessional loans, with grant finance accounting for the rest. There are already a significant number of large projects in Asia supported by the Clean Technology Fund, and in 2015 and 2016 various relatively large-scale adaptation projects were approved for funding by both GCF and PPCR. In the Pacific, climate finance from the multilateral climate funds remains focused on adaptation and more specifically on disaster risk reduction in the context of climate-related hazards. Asia and the Pacific was also the dominant beneficiary region of climate finance from the MDBs, accounting for 41 per cent of the finance that they provided both from their own and from external resources. Almost 75 per cent of this funding went to support mitigation. Adaptation finance from the MDBs covers such sectors as energy, financial services and coastal and riverine infrastructure, whereas mitigation finance is focused on renewable energy, transport and efficient generation and use of energy.

288. Africa, which has many climate-vulnerable nation States, was the beneficiary of 30 per cent of bilateral climate finance flows reported to OECD-DAC in 2015–2016, with two thirds of the total provided as grants. Adaptation and mitigation each accounted for close to 40 per cent of bilateral flows. As for finance flows from the multilateral climate funds in the same period, 23 per cent supported projects in sub-Saharan Africa. As much as 67 per cent of the funding provided to sub-Saharan Africa took the form of grants; 16 per cent was provided as concessional loans; and 18 per cent as equity. Whereas in 2011–2012 and 2013–2014 adaptation projects were supported by, respectively, 78 per cent and 59 per cent of the finance flows from the multilateral climate funds to sub-Saharan Africa, in 2015–2016 the share of funding earmarked for adaptation fell to 37 per cent, with 40 per cent going towards mitigation, 7 per cent supporting REDD-plus activities and 15 per cent having cross-cutting objectives. This was in part due to the approval of several large GCF projects with mitigation and cross-cutting objectives in 2015–2016 (involving significant amounts of equity). Thus, although a greater number of adaptation projects were approved, the absolute value of mitigation projects was higher in this period. Sub-Saharan Africa accounted for 9 per cent of the climate finance provided by MDBs both from their own and from external resources, with 37 per cent going towards adaptation – the greatest share among all the regions in 2015–2016. MDB adaptation finance for Africa was provided mainly in support of crop and food production, as well as of water and wastewater systems, whereas mitigation finance was directed mainly towards renewable energy projects.

289. Latin America and the Caribbean secured 22 per cent of the climate finance provided by the multilateral climate funds in 2015–2016. Over two thirds went to

support mitigation projects (76 per cent), with only 14 per cent directed at adaptation. Of the total finance provided by the multilateral climate funds, 51 per cent took the form of concessional loans, whereas 47 per cent was delivered as grant finance. A much smaller amount (barely 2 per cent) took the form of guarantees. Funding approvals in 2015–2016 were concentrated in Argentina, Chile, Brazil and Colombia, where large-scale mitigation projects supported by GCF and the Clean Technology Fund were launched. The Plurinational State of Bolivia benefited from a large PPCR project focused on adaptation. In the Caribbean, finance flows from the multilateral climate funds supported a number of renewable energy generation projects, as well as disaster risk reduction and adaptation projects in the water and agriculture sectors. Latin America and the Caribbean was the beneficiary of 17 per cent of the finance provided by MDBs in 2015–2016 both from their own and from external resources. Close to three quarters of that funding went to support mitigation. Adaptation finance in the region supported crop and food production, water and wastewater infrastructure as well as coastal and riverine infrastructure, whereas mitigation finance supported renewables, as well as transport and energy efficiency. America received 10 per cent of bilateral climate finance flows in the same period, with over half going towards mitigation. Of the bilateral finance for mitigation in the region, a full 77 per cent was provided as concessional loans.

290. In the Middle East and North Africa region,[107] the share of finance from the multilateral climate funds was found to grow from 3 per cent to 16 per cent between 2013 and 2014. This trend has not continued, however, with the share falling to 6 per cent in 2015 and to 2 per cent in 2016. Concentrated in a small number of large projects, around half of the finance from the multilateral climate funds was delivered as concessional loans and half as grants. Mitigation was the target of just over half of the climate finance in the region provided by the multilateral climate funds. The finance provided by MDBs both from their own and from external resources accounts for 10 per cent of total climate finance flows in the region, with 78 per cent of this spending directed at mitigation projects. The MDB adaptation finance in the Middle East and North Africa region supports mainly crop and food production, whereas mitigation finance is focused on renewable energy.

291. Multilateral climate funds also support countries in Central, Eastern and South-Eastern Europe, the South Caucasus and Central Asia. Eleven funds have approved a total of USD 1.8 billion between 2003–2017 to support 196 projects in this region, which is more commonly referred to in reports as “non-EU Europe and Central Asia”. Support in this region is concentrated through the Clean Technology Fund, which facilitates renewable energy and energy efficiency projects, but GCF, ASAP and SCCF have also been active there recently. Mitigation is the target of 71 per cent of approved finance flows, with 20 per cent going to adaptation activities. Of the funding provided, 40 per cent is in the form of concessional loans, with the rest delivered as grants. Of the climate finance provided by the MDBs both from their own and from external resources, 21 per cent is channelled to non-EU Europe and Central Asia. A full 92 per cent of MDB finance supports mitigation – the highest mitigation-to-adaptation ratio among all the regions. Adaptation finance from the MDBs in the region supported mostly energy, transport and the construction of environment infrastructure in the 2015–2016 period, whereas mitigation finance supported renewable energy, the efficient generation and use of energy, and energy transparency. Europe received 6 per cent of the bilateral flows reported by OECD-DAC contributors, 41 per cent of which went towards mitigation. Of this mitigation finance, 53 per cent took the form of concessional loans.

292. As already mentioned, Article 9 of the Paris Agreement emphasizes 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. In 2015–2016, 24 per cent of bilateral finance flows went towards the LDCs (of which 50 per cent was earmarked for adaptation activities) and 2 per cent to SIDS (of which 45 per cent was earmarked for adaptation).[108] Two thirds or more of the bilateral finance provided to SIDS and the LDCs took the form of grants. Over the same period, 21 per cent of the climate finance provided by the multilateral climate funds went to the LDCs and 13 per cent to SIDS. Close to two thirds (63 per cent) of finance flows from the multilateral climate funds to the LDCs had a focus on adaptation, compared with 53 per cent for SIDS. Across SIDS and the LDCs, over three quarters of the finance provided by the

107) It is worth noting that OECD DAC does not use the same regional groupings as the MDBs: thus, it does not have a grouping for the Middle East and North Africa and has a separate Oceania grouping as well as no Latin America and the Caribbean grouping using instead ‘America’.

108) It is important to note that SIDS can also be LDCs: thus, the data sets are overlapping and should not be aggregated.

multilateral climate funds took the form of grants. As for the SIDS regions, the Pacific received 51 per cent of the finance from multilateral climate funds, followed by the Caribbean SIDS at 32 per cent. The MDBs channelled 15 per cent of their climate finance to SIDS and the LDCs in 2015–2016. The ratio of adaptation to mitigation spending by the MDBs in these countries was twice that of their climate finance spending as a whole (using both their own and external resources), with 41 per cent of the total going to adaptation.

3.2.3 Additionality of climate finance flows to developing countries

293. In accordance with Article 4, paragraph 3, of the Convention, the financial resources provided to support climate action are meant to be "new and additional". Although such language was reiterated at COP 16,[109] the Paris Agreement does not make use of that specific phrase. Article 9.3 of the Paris Agreement does, however, state 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". Nevertheless, understanding of what is "new" and "additional" varies widely across stakeholders.

294. The guidelines for NCs and BRs require developed countries to provide information on how they have determined that the resources provided to developing countries are "new and additional". The 2014 BA and the 2016 BA both point out that, in previous BR submissions, several countries had failed to provide details on the criteria on which they had considered their contribution to be "new and additional". As noted in chapter I, just over half of developed countries provided such information in their 2018 BRs, using similar criteria as in previous BRs, such as whether funds were in excess of previous estimates of climate finance, whether they were not diverted from other development priorities, or whether funds went beyond a certain baseline (as in the case of the fast-start finance pledges) (see section 1.3.2.1 in chapter I).

3.3 Understanding the effectiveness of climate finance

295. It is not just the volume of finance that is important but also how well that finance achieves its objectives. The importance of ensuring that climate finance is effective is emphasized in various Articles of the Paris Agreement covering a number of interrelated aspects. These aspects are explored in the sections below, which also take into account the goals related to development finance set in 2011 at the Busan High Level Forum on Aid Effectiveness, and which are informed by various 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). Effectiveness in this respect depends on how successful institutions are in deploying climate finance, on the ability of developing countries to access such finance, on national ownership of the funding provided (to ensure its alignment with country needs), and on the ultimate results and impacts of the climate change mitigation and adaptation projects supported.

3.3.1 The pace and cost of climate finance flowing through the multilateral climate funds

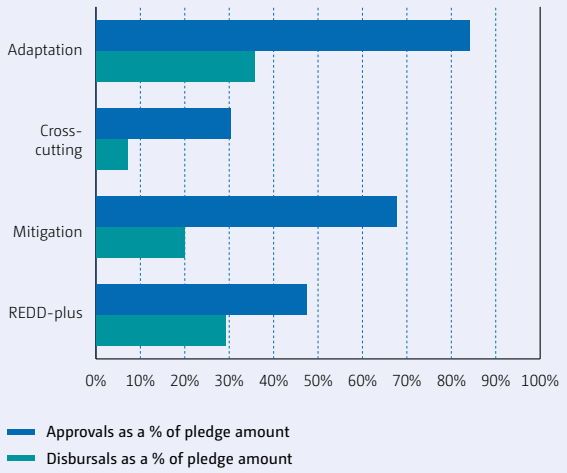
296. Data from the multilateral climate funds can be used to shed light on the pace at which climate finance flows to developing countries: this can be one indicator of the efficiency of the climate finance system and its institutions. Reporting on the "life cycle" of climate finance varies significantly across the multilateral climate funds, however, and assessing the degree of approval and disbursement is therefore challenging. There is often less transparency on the disbursement of climate finance provided by the multilateral climate funds than there is for approvals. In addition to variability in data, funds may not use the term "disbursement" consistently. Thus, if "no disbursement" is reported, this could mean either that the funds have not been released or that no data are available on whether the funds have been released.

297. Of the financial pledges made to multilateral climate funds, 56 per cent has now been approved for specific projects (a lower rate than at the time of publication of the 2016 BA). For adaptation, mitigation and REDD-plus projects, however, there has been an increase in approvals as a proportion of pledges since the 2016 BA, which now stand at 84 per cent, 68 per cent and 48 per cent, respectively. It is the cross-cutting funds (including the GCF) that have much lower rates of approval relative to the amount pledged (see figure 3.4).

109) Decision 1/CP.16, paragraph 95.

Figure 3.4

Status of approvals and deposits of dedicated multilateral climate funds by theme



Source: CFU Data Dashboard, 2017.

298. These results need to be understood in the light of the different approaches to finance delivery followed by the multilateral climate funds. For example, all funding available to PPCR or the Clean Technology Fund has already been "allocated" to a set of approved investment plans for a number of countries, so the remaining funding is essentially committed, even though constituent projects and programmes have yet to be approved (or have changed because of changes in anticipated needs). In contrast, other funds have a pipeline of projects awaiting support; including the LDCF and AF.

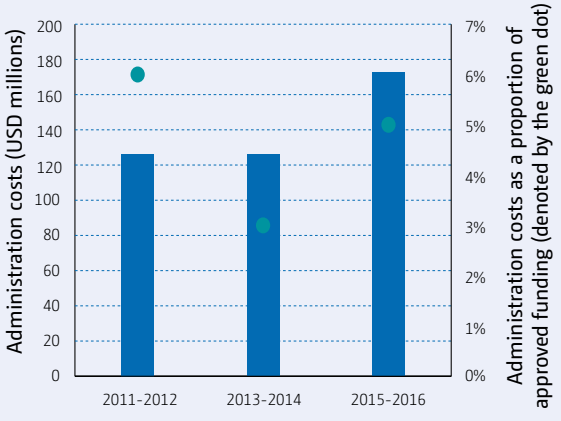
299. Relatively poor degree of project approvals relative to pledge amounts reflect a number of considerations such as the complexities of structuring projects so that they meet requirements. In a study covering several multilateral climate funds, Amerasinghe et al. (2017) noted that accreditation of 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.

300. It remains in the interest of both contributors and beneficiaries to maximize the efficiency of the multilateral climate funds. Administrative costs – that is, the costs of managing the fund as a whole including board meetings, stakeholder engagement efforts, project screening and evaluations – should be scrutinized to keep these processes competitive. In 2015–2016, the major multilateral climate funds collectively spent USD 172 million on administrative costs, which is equivalent to 5 per cent of the total value of the projects approved (see figure 3.5). The administrative costs incurred by the funds vary significantly, however, since the funds follow different approaches to project administration and operate via different models. The administrative costs of the LDCF and SCCF, for example, are relatively low because they largely make use of the GEF wider management systems. The costs associated with the AF are relatively high because it accredits a wide range of national and regional implementing entities, and has its own legal personality. The GCF too has relatively high administration costs because of the large number of accredited entities that it has to deal with. A substantial share of the administrative costs of a project may be incurred upfront, and the proportion of spending on administration relative to overall spending is expected to reduce over time as project funds are released (Nakhooda et al., 2014). It is not possible to tell from the currently available data, however, whether such "front-loading" is always to be expected.

301. Implementing agency fees cover the costs of intermediary organizations in managing approved projects and programmes. Funds have adopted different approaches to setting these fees. As a result, the level of implementing agency fees measured as a proportion of approved funding varies significantly, with the lowest being around 1 per cent and the highest

Figure 3.5

Administrative costs for major multilateral climate funds



Source: Based on a review of the financial reports of the relevant multilateral climate funds.

reaching nearly 28 per cent. Year after year, these fees are reduced, especially in funds with fewer, more frequently used implementing partners (i.e. MDBs). The two funds with the lowest administrative costs (relative to funds approved) are the LDCF and SCCF, since they are able to make use of the wider GEF infrastructure. However, these three funds collectively have an average proportional implementing fee of 17 per cent, which is considerably higher than the other funds (see also Amerasinghe et al., 2017).

3.3.2 Access to climate finance

302. Fair and equitable access to climate finance continues to be an important priority. It depends not only on the ability of a developing country or institution to attract climate finance, but also on the modality through which that finance flows. The available literature on climate finance highlights a broad range of possible issues that may cause problems in accessing climate finance. For a start, developing country institutions face many challenges in gaining accreditation as implementing entities for international climate funds. Some of these challenges have to do with domestic capacity to integrate climate change into development processes, but there are also more operational and technical barriers, such as a lack of capacity and resources to engage with complex accreditation requirements (Bird, 2014; OECD, 2015b; Weikmans, 2017; Chhetri et al., 2017). The importance of access to climate finance was recognized in the Paris Agreement, which states that "the institutions serving this Agreement...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".[110] In addition to supporting the accreditation process, governments have also concerned themselves with setting up the appropriate national institutions and developing their technical capacity so that they can meet fiduciary standards and implement the projects successfully (GIZ, 2013).

303. Historically, climate funds have been solely accessed through international partner institutions such as United Nations agencies and MDBs; however, since 2008, there has been a significant push to diversify modalities of access to climate finance, and give institutions based in developing countries "direct access" to international finance. Direct access helps to ensure that projects are managed directly by developing countries, elevates issues relating to climate changed to the national level, amplifies stakeholder voices, and helps to sustain institutional knowledge (AF, 2017). More practically, it can also reduce the transaction costs of climate action (Masullo et al., 2015). Direct access is also strongly linked to issues of ownership, discussed in section 3.3.3, since the operational priorities, experience and networks of the implementing entities through which climate finance is accessed can influence greatly how funds are spent. The results frameworks or allocation frameworks used by the multilateral climate funds do not necessarily match the needs of beneficiary countries.

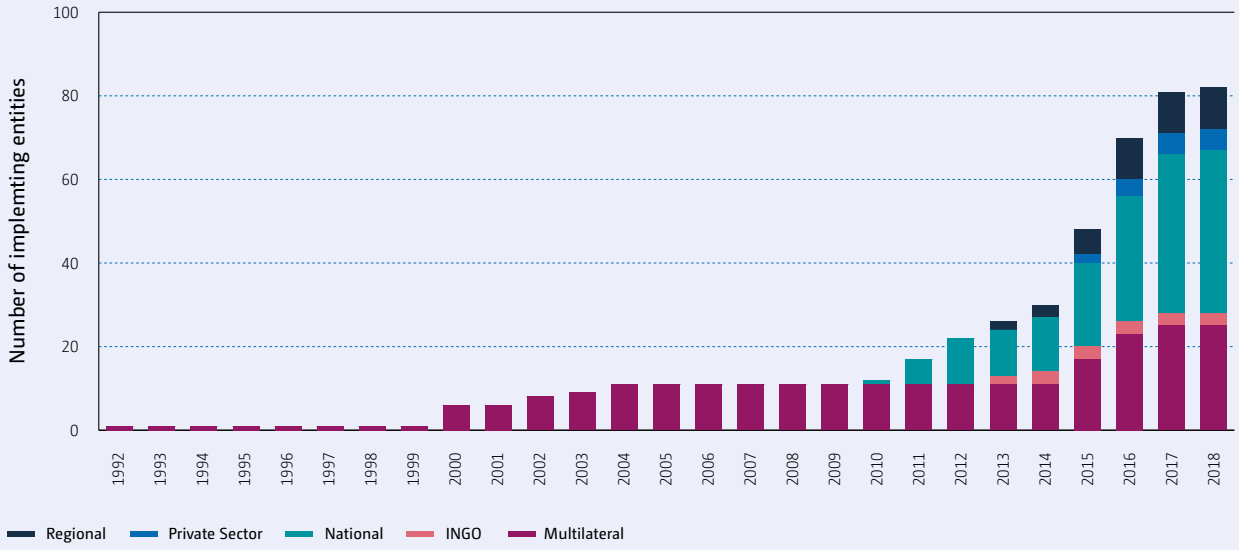
304. The number of partners through which developing countries can access climate finance from the five UNFCCC dedicated multilateral climate funds continues to grow (see figure 3.6). Institutions in developing countries are more and more able to meet fiduciary and environmental and social safeguards, thanks to the often significant investments they have made in enhancing processes and institutional capacities. There has been a notable increase in the number of such institutions over the past five years as a result of the establishment, operationalization and accreditation of entities working with the GCF. Since the 2016 BA, the number of accredited implementing entities at the national, regional and multilateral level across the five UNFCCC funds has multiplied. Yet, it is the rapid increase in the total number and proportion of regional and national implementing entities that is most striking. The GCF has increased the number of accredited entities by 91 per cent since the 2016 BA, and regional and national institutions now make up more than half of its 57 accredited implementing entities (as at November 2017). Progress is not limited to the GCF, however: the AF now has as many national implementing entities as all five climate funds had at the time the 2016 BA was prepared.

305. In line with the significant increases in the number of national and regional implementing agencies, a greater proportion of finance is flowing through these entities. No less than 65 per cent of finance flows from the UNFCCC funds, however, was still being channelled through multilateral entities in 2016 (see figure 3.7). Scaling up the flows channelled through national and regional implementing entities continues to be a challenging task. The GCF has a fit-for-purpose accreditation system whereby entities are accredited according to the size of the projects they manage (micro,

110) Article 9, paragraph 9.

Figure 3.6

Implementing entities of dedicated multilateral climate funds, 1992-2018



Source: Based on a review of the reports of the relevant multilateral climate funds.

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.[111] Although this accreditation system may promote greater efficiency in the accreditation process, it must avoid undermining future efforts to scale up the finance flowing through certain entities.

306. The growing number of national-level institutions in various countries seeking to play a more prominent role in managing climate finance is critical to fostering a greater sense of ownership (UNDP, 2011). Some of these institutions have applied for GCF accreditation, whilst others continue to focus on mobilizing domestic capital for immediate deployment to national adaptation and mitigation activities. For example, the People's Survival Fund of the Philippines[112] was established in 2012 to provide a reliable and robust domestic source of financing for the country's prioritized climate change programmes. The Fund's budget is guaranteed through national appropriations (to ensure its independence and national ownership), but it is open to international contributors. Namibia's Environmental Investment Fund is another example of a national entity established to provide a sustainable source of domestic funding for natural resource management, green technology and low-carbon development. The Environmental Investment Fund is one of the first national entities to have been accredited by the GCF and is currently implementing, with co-financing from the Government and the GCF, two projects on climate resilience and natural resource management. The projects are aligned with national priorities and have been designed so as to ensure buy-in from various stakeholders. The Brazilian National Fund on Climate Change,[113] established in 2009, is another example of an independent national implementing entity. Financed mainly by revenues from a tax on oil companies, the Fund supports national efforts to build resilience to climate change and reduce emissions from the forestry, energy and infrastructure sectors. In other countries, new national institutions and mechanisms have been set up not just to access climate finance but also to track its effectiveness. With greater ownership by national institutions come obligations related to responsibility and accountability, which need to be fulfilled too in order to ensure that the funds achieve maximum impact.

111) See the sixth report of the GCF to the COP, contained in document FCCC/CP/2017/5.

112) See https://www.dof.gov.ph/index.php/government-appropriates-p1-billion-in-the-peoples-survival-fund/.

113) See https://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Social_and_Environmental_Responsibility/climate_fund_program.html.

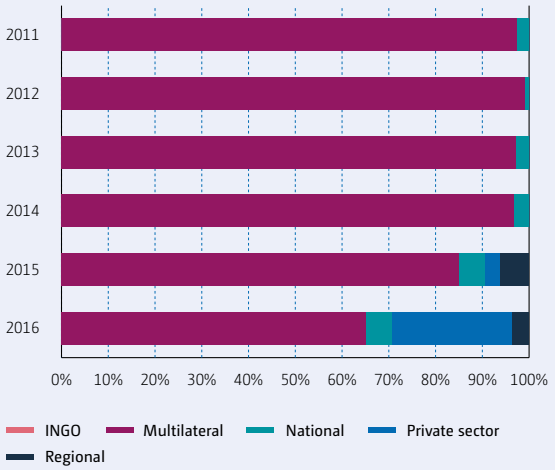
Colombia,[114] Fiji, Bangladesh, Nepal and India are some of the countries that have established national-level institutions and mechanisms to track climate finance (UNDP, 2018b).

307. The importance of access to climate finance goes beyond the multilateral climate funds. The capacity and readiness of institutions to make strategic choices about how to use finance and to oversee the implementation of programmes are just as relevant to domestic public, private and blended[115] finance. As already noted, the barriers to accessing climate finance are diverse. Some of these barriers are not unique to climate finance speaking to the wider policy, regulatory and governance frameworks within a country. Relevant initiatives in this area include the Climate Finance Lab, the Climate Finance Accelerator and Climate-KIC, all of which seek to bring together different stakeholder communities to innovate and accelerate climate finance.

308. The need for capacity to access and use climate finance effectively has long been recognized (GIZ, 2013; UNDP, 2012; GCF Readiness Programme, 2017). The complex architecture of the multilateral climate funds, in particular, often makes great demands on the capacity of the national institutions involved in accessing the funds (i.e. NDAs and direct access entities). The increasing number of related planning processes (e.g. NDCs and NAPs) also requires high levels of capacity. As countries have mobilized to tackle climate change, it has become evident that various layers of capacity are needed to access climate finance at the national level. These issues have been explored at the in-session workshops on long-term climate finance organized by the UNFCCC secretariat in 2017 and 2018. The adoption of a "whole-of-government approach" to climate finance requires capacity-building for key ministries in countries. Furthermore, the private sector and civil society both need to be engaged in order to rally support for the implementation of climate action projects. The different interests, as well as modes and scales of operation, of these actors have to be taken into account. More generally, the need to develop policy frameworks and programmatic approaches that meet the criteria of the multilateral climate funds is proving challenging for many countries, and this is resulting in delays and low levels of disbursement.[116]

Figure 3.7

Percentage of climate finance from key multilateral climate funds by implementing entity type, 2011–2016



Source: Based on a review of the reports of the relevant multilateral climate funds.

309. A number of efforts had been initiated since the time of the 2016 BA to enhance "readiness" for climate finance, 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). Dedicated multilateral climate funds, including the GCF and AF, have launched readiness initiatives to support national institutions in complying with the fiduciary, environmental and social standards required to access finance, notably during the process of developing climate finance proposals.[117] In parallel, a number of bilateral and multilateral development organizations have launched climate finance readiness programmes. Since 2016 there have been significant developments. Within the UNFCCC process, for example, the Regional Collaboration Centres have been expanding their work to support implementation of the NDCs and capacity-building. The CGE is helping to build the capacity of developing countries for MRV activities, as well as for the NC and BUR processes, through dedicated training workshops and webinars. Within the Financial Mechanism, the GCF has been gearing up and systematizing its readiness efforts

114) See https://mrv.dnp.gov.co/Version%20Ingles/About%20the%20platform/Paginas/What-is-the-Climate-Finance-MRV-system-and-why-was-it-created.aspx.

115) "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.

116) See document FCCC/CP/2017/4 and also https://unfccc.int/topics/climate-finance/workstreams/long-term-climate-finance-ltf.

117) In 2018, the AF issued a call for grants to support South–South cooperation among accredited national implementing entities. See https://www.adaptation-fund.org/apply-funding/grants/call-south-south-cooperation-grant-proposals-2018/.

significantly. The GCF readiness programme,[118] which aims to strengthen countries' institutional capacities to directly access the Fund, had approved 165 requests, across 109 countries, amounting to USD 99.7 million by May 2018. An initial review of the programme suggests that it is indeed enhancing country-owned climate action and capacity, although work remains to be done in order to increase the programme's efficiency and to articulate its strategic approach and intended results.[119] In general, there are lingering concerns that global readiness efforts are preparing countries to access particular funds, rather than climate finance more broadly (Amerasinghe et al. 2017).

310. Outside of the formal UNFCCC process, the NDC Partnership is one way in which readiness is now transforming into the wider process of implementation and scaling up ambition towards 2020 and beyond. The Partnership aims to enhance cooperation so that countries have access to the technical knowledge and financial support they need to achieve major climate and SDGs as quickly and effectively as possible.[120] Its efforts to promote in-country capacity are inspired by the guiding principle of aligning development and climate action through an integrated country-driven national planning process. A key component of the NDC Partnership's engagement work with individual countries is the development of a Partnership Plan to enhance coordination among national and global stakeholders, and to mobilize support for NDC implementation.[121]

311. The Cancun Agreements reached in 2010 acknowledged that gender equality and the effective participation of women are critical in climate change action.[122] 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 sets 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. Evidence suggests that public finance that is gender-responsive is both more effective and efficient (WB, 2012a; Habtezion, 2016). Thus, gender-responsive public finance 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).

312. Most of the existing climate funds started out gender-blind. By contrast, the GCF had gender issues mainstreamed into its core operational policies before it became fully operational in November 2015. Other multilateral funds have stepped up efforts to integrate gender considerations in climate finance. The AF adopted a Gender Policy and Action Plan in March 2016, and provided additional guidance to accredited entities in 2017 on how to improve the gender responsiveness of projects and programmes supported by the Fund. As is clear from its Medium-Term Strategy for the years 2018–2022, the AF now considers gender equality as part of its mission. The GEF, responsible also for the SCCF and LDCF, is continuing to make improvements in its gender mainstreaming efforts. A Policy on Gender Mainstreaming was adopted in 2011 requiring all GEF implementing agencies (mostly MDBs and United Nations agencies) to be assessed for their compliance with gender mainstreaming as a requirement for accreditation. In particular, the implementing entities are required to demonstrate that they have taken gender into account during project design and to establish policies and strategies for gender mainstreaming, notably through the measurement of gender impacts. The GEF Independent Evaluation Office praised the Fund's Gender Equality Action Plan, approved in 2014, but noted that the 2011 Policy on Gender Mainstreaming was in need of revision. A revised version of the latter was eventually approved in November 2017. The GCF since 2015 has required implementing entities to have their own gender policies or action plans in place. Moreover, the gender impacts of funding proposals are considered carefully, and the results management and performance framework mandates sex-disaggregated data. A review process to improve further both the GCF gender policy and the Gender Equality Action Plan is underway (Schalatek, 2017).

3.3.3 Developing country ownership of climate finance

313. In the context of climate finance, ownership refers to: the alignment of such finance with national priorities;

118) The Readiness Programme provides resources for strengthening the institutional capacities of NDAs and to support direct access entities to engage with the GCF. It also assists countries in undertaking adaptation planning (i.e. NAPs) and in drawing up programmatic frameworks as part of their long-term climate action agenda.

119) See GCF Board document GCF/B.19/32/Add.01.

120) See http://ndcpartnership.org/.

121) See https://ndcpartnership.org/news/partnership-plan-ndc-implementation-connecting-dots.

122) 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).

the use of, or close links with, national systems for spending and tracking the finance; and the engagement of stakeholders from ministries and other governmental bodies, as well as from the private sector and civil society. The government's ownership of climate finance manifests itself in the articulation of a national development agenda and climate change policies and strategies, whilst ownership by the private sector and civil society has to do with their role in developing such strategies. The importance of supporting national priorities and institutions is enshrined in the principles for ensuring the effectiveness of international assistance for developing countries. Article 11 of the Paris Agreement explicitly calls for national ownership of capacity-building efforts in developing countries.

314. 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). Research shows that the policy and legislative frameworks for climate action are evolving rapidly. There are already over 1,400 climate change-relevant laws worldwide (Nachmany et al., 2017). Thus, the incentives to ensure alignment with such frameworks have increased.

315. The ability of domestic financial systems to absorb international funding has been a focus of efforts to increase national ownership. This can be achieved by channelling international climate finance through national budgeting and financial management systems as they evolve to include a focus on implementing climate policies (Bird et al., 2016), or through new institutions such as national climate funds (UNDP, 2011). The multilateral climate funds are seeking to encourage country ownership. Many of them do this through a letter of no objection, but some also by directly supporting broader climate planning policy and processes. The LDCF, for example, has long supported NAPAs and now supports NAPs, which are longer term and are even more integrated into national planning processes with enhanced potential for national ownership of adaptation actions.

316. 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 need to engage a wide range of government actors is reflected in the ambitious plans of China to "green" its finance frameworks. Under the leadership of the People's Bank of China and the UNEP Inquiry into the Design of a Sustainable Financial System, and with the active participation of the China Development Bank and the Industrial and Commercial Bank of China, the Green Finance Task Force developed a systematic framework and 14 high-level policy recommendations for greening China's financial system. These recommendations include policies to restrict polluting investments; adopting mechanisms to encourage green investments; establishing green credit guidelines; and deploying green financing instruments such as green bonds, carbon emission trading schemes and green insurance. The objective of such policies is to provide the necessary incentives for green projects dealing with energy efficiency, environmental protection, clean energy and clean infrastructure (People's Bank of China and UNEP, 2015).

317. Ownership can be fostered by non-State actors too. Climate finance institutions have increasingly sought to support broad and meaningful stakeholder engagement, in particular to include civil society and private sector actors in both the conceptualization and implementation of proposed approaches and investments. Non-State climate action continues to gain momentum outside of the UNFCCC process, as evidenced by the multiplicity of high-level events, such as the inaugural One Planet Summit held in Paris in 2017 and various events in the second half of 2018 (e.g. the Global Climate Action Summit held in California, the UNEP FI Global Roundtable and Climate Finance Day 2018, and the OECD Forum on Green Finance and Investment). The multilateral climate funds are also accrediting more diverse entities: for example, the Bank of America and Deutsche Bank are now accredited to the GCF.

318. There is no single indicator of the degree of ownership of climate finance flows. It further links to discussions of the alignment of climate finance with financing needs and for access to climate finance. Proxy indicators of ownership are occasionally used, such as the level of funding channelled to beneficiary country institutions or the amount of climate finance reported as received in national systems versus that reported as provided. Although these proxies are imperfect, it is clear that the improvement of climate finance tracking – particularly with regard to the beneficiaries, since that is an area in which there are notorious deficiencies – can make it easier to identify the degree to which climate finance encourages country ownership over activities.

3.3.4 Alignment of climate finance with the needs of developing countries

319. In the absence of complete data from both the top-down tracking and bottom-up estimation, it is not yet possible to generalize about the alignment of climate finance flows with the climate finance needs of developing countries. Ongoing improvement methodologies and a standardized presentation of financial needs in NDCs can aid forward movement by ensuring that needs are matched by existing and potential financing support and technical and policy support.[123]

320. The 2014 BA detailed a number of efforts to complete national climate finance needs assessments; drew on initiatives such as the UNFCCC-supported National Economic, Environment and Development Study for climate change project, the UNDP climate change investment and financial flows initiative, technology needs assessments and NAPAs; and compiled financing needs in NAMAs submitted to the UNFCCC. As noted in the 2016 BA, few new assessments had been completed in the intervening two years, but the BURs and INDCs from some developing countries had included financing needs (see Section 1.3.3.1). Needs, however, were defined differently between countries and presented for different time frames. Thus, despite NDCs serving as a useful framework for moving financing needs assessments forward, Parties have taken very different approaches to needs measurement and have made aggregation and comparison challenging. Analysis of INDCs, identified between USD 3.5 trillion and 4.4 trillion from both international and domestic sources, depending on how conditionality of finance is factored into analysis (Carbon Brief, 2015; Weischer et al., 2016). Recognising that a number of countries have updated their NDCs with the entry into force of the Paris Agreement, these numbers remain indicative of the scales of financing needs in NDCs.

321. As at July 2018, 42 developing countries had submitted BURs. As with NDCs, BURs vary in the level of detail provided on financial needs, which makes them difficult to compare. The 2016 BA highlighted that, within BRs, countries had the opportunity to compare finance received with the financing needs they had set out. The BUR guidance has not been picked up across processes, however. Beyond the BURs, a lack of common format or specific guidance remains for reporting climate finance needs, which prohibits a substantive assessment of the alignment of developing countries' climate finance flows with their needs at both the national and the global level. While the latest round of BURs includes extensive information on finance provided from various sources, further support is needed to make linkages to previously articulated needs.

322. As NDCs continue to be systematically elaborated and implemented, progress on defining financing needs will continue to be made. Common guidelines could facilitate the speed at which progress is achieved, but also allow a greater integration between the various bottom-up financing needs assessments with emerging investment opportunities analyses. The needs assessments include NAPs, REDD-plus investment strategies and emerging 'green finance strategies'. They could also support alignment with broader sustainable development finance flows and strategies, not least in the context of emerging integrated national financing frameworks and development finance assessments in the context of helping countries to achieve the SDGs (Martínez-Solimán, 2017).

323. Although some UNFCCC-led information is provided on how to access the multiple sources of finance for NAPs, little analysis has been undertaken on the costs – for both development and implementation phases – of the NAPs themselves. Nine NAPs have been submitted to date, of which two contain no costings, and the remaining seven vary in the degree of detail into which they break down their needs, with that currently articulated in NAPs totalling USD 49.4 billion. Such estimates sit alongside those of the UNEP Adaptation Gap Report that presents a global estimate of adaptation finance needs of USD 140 billion to 300 billion a year by 2030, rising to USD 280 billion to 500 billion a year by 2050 (UNEP, 2016).

324. A number of REDD-plus countries have developed national investment strategies, largely with the support of multilateral climate funds. These too indicate that best estimates of current flows of REDD-plus finance are below identified needs. Analysis of Forest Carbon Partnership Facility Emission Reduction Program Documents covering a period of 4–10 years indicates USD 9.5 billion in financing needs in just four countries (Chile, Costa Rica, Ghana and Mexico) (Haupt et al., 2017). Such documents are useful, as they also indicate the role and form that complementary domestic finance flows might take.

123) See for example the NDC funding and initiatives navigator tool, used to match countries' expressed needs and activities with financial and technical support, at http://ndcpartnership.org/initiatives-navigator.

325. The enhanced transparency framework for climate action under Article 13 of the Paris Agreement requires developed country Parties to report on technology transfer and capacity-building support – in addition to financing – provided to developing country Parties. The framework further requires developing country Parties to similarly report on support needed and received, though given the Article is still under negotiation, guidance is based on past provisions for both technology transfer and capacity-building support (Garrett and Moarif, 2018).

326. Technology needs are mentioned in 152 NDCs, although only 50 of these mention specific technology needs (Pauw et al., 2016). Although information on technology needs is incomplete, 25 countries are currently in the process of undertaking a TNA, which countries use to assess and communicate their technology priorities for the mitigation of GHG emissions and adaptation to climate change, and a further 85 have already completed a TNA (UNEP DTU Partnership[124] and UNFCCC, 2018). Of these, however, only 26 directly linked their TNAs to their NDCs, and only 25 per cent of developed countries explicitly refer to their finance needs around the required technology to deliver against their NDCs.[125]

327. Capacity-building is mentioned as important in 124 NDCs (Pauw et al., 2016). Capacity-building actions are numerous and can be highly specific, and it can also be challenging to distinguish capacity-building support from the broader provision of climate finance (Ellis et al., 2015; Corfee-Morlot, Guay and Larsen, 2009). Although these issues are likely to continue to complicate reporting, it is possible to build on other reporting processes and entities within and outside the Convention. OECD recommends that the Paris Committee on Capacity-building could recommend guidelines for capacity gaps and needs assessments to support reporting, and processes such as the GEF national capacity self-assessment could also be learned from and adapted (Garrett and Moarif, 2018).

328. A number of tools and documents have emerged to support NDC implementation since 2015. The past two years has seen a continued proliferation of those supporting countries in assessing their financial needs with regard to NDCs, ranging from project to national level, and including frameworks, analytical tools, templates and databases[126] (USAID, 2014; UNDP, 2015c). There is huge variety in the typology of tools available, and many provide high-level advice, rather than explicit methods for financing needs assessments. Platforms that do present NDC financing needs are constrained by the lack of comparability between NDCs, for example in the form of conditionality of NDC action.

3.3.5 Reported results and impacts of climate finance

329. Impact reporting systems and practices for climate finance are maturing, including increased transparency and more regular reporting in more standardized formats (see section 1.6 in chapter I). The multilateral climate funds have progressed the furthest collectively, and the results reported from the funds provide useful insight into climate finance effectiveness. The 2016 BA reported on the expected and reported results of a number of multilateral climate funds. As then, there remains no agreed standard by which to measure the results and impact of climate finance flowing through these multilateral funds. Figure 3.8 illustrates a selection of expected and reported results from these funds, the commonalities and divergences in the status of reporting, and the indicators used (see Annex K for an elaboration of these results).

330. The impact and results of funds often go beyond such reported metrics. Monitoring and evaluation systems rarely capture the wider impacts of policy change and capacity-building, or the demonstrative impact of projects or efforts of the multilateral climate funds to support knowledge-building and dissemination. Transformational change, while hard to define, can for example 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). With multilateral climate funds (and climate finance more broadly) seeking to achieve such transformational change to some degree, the impact and results of programmed funds can be amplified in a way that is difficult if not impossible to monitor and measure. Learning from monitoring and evaluation is another way that the funds can have an impact that is hard to define and measure. The Transformational Change Learning Partnership is a product of the CIF Evaluation and Learning Initiative, for example bringing together GCF, GEF, NAMA Facility and other climate finance initiatives and actors to inform future CIF activities.

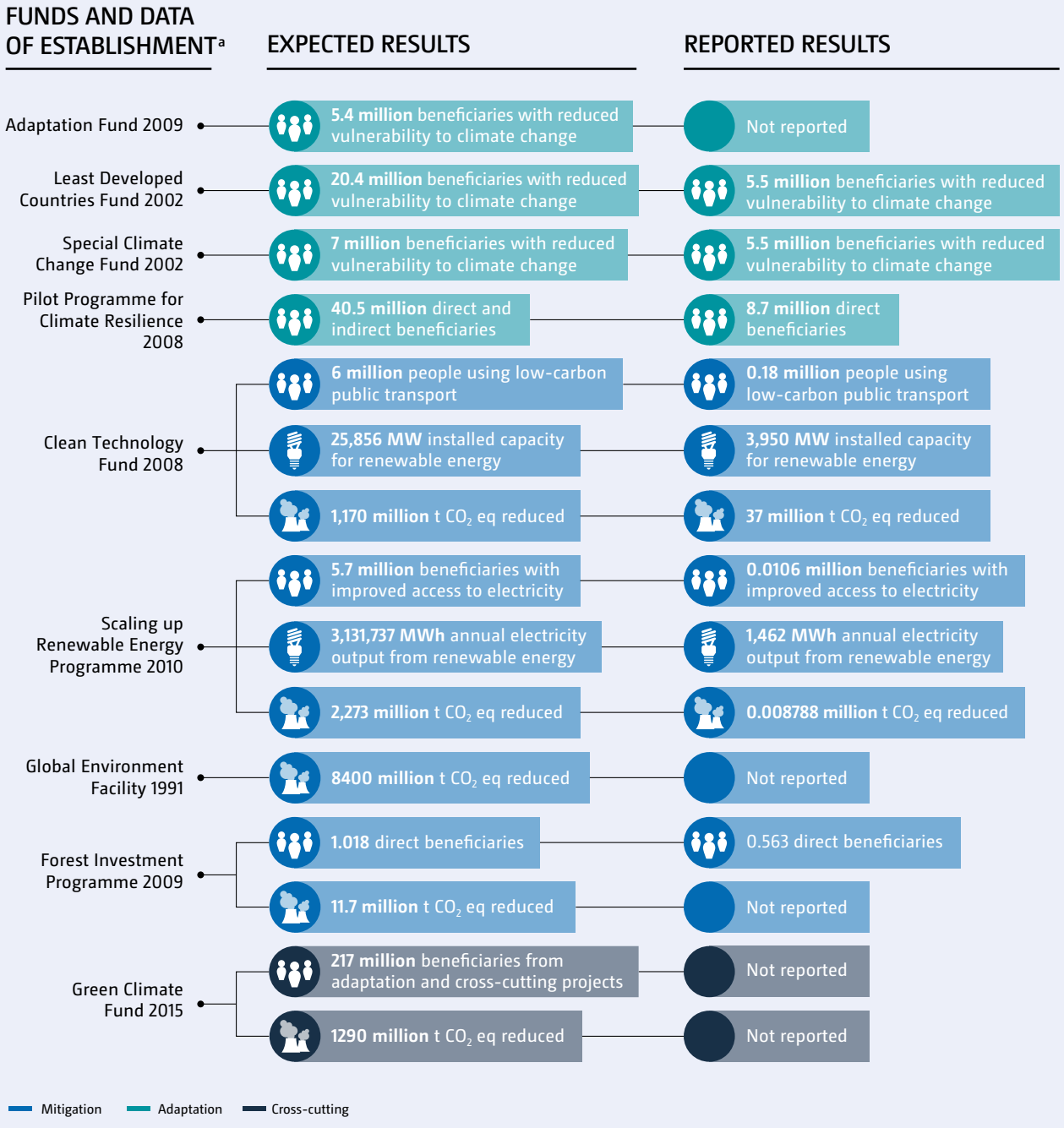
124) The partnership, formerly known as the UNEP Risoe Centre, operates under a tripartite agreement between Denmark's Ministry of Foreign Affairs, DTU and UNEP.

125) See http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/HOME_infobox_2/a61f9f4b94704dd78f06b2bc7cd0b547/f7bbe982812a469db476fd4917714813.pdf.

126) See http://ndcpartnership.org/toolbox-navigator#tools.

Figure 3.8

Selection of actual and expected results of multilateral climate funds



Note: [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.

3.3.5.1 Impact of mitigation finance: selected experiences

331. GHG emissions remain the primary metric to show impact or results when it comes to climate finance for mitigation. Complementary metrics include those that are sector-specific (e.g. for electricity, transport or industrial activities), exposure based or focused on the amount of clean energy installed (for example in megawatts). Multilateral climate fund documentation

is increasingly reporting selected results related to mitigation. Figure 3.8 summarized the results reported by mitigation-focused multilateral climate funds, evidencing the focus on emission reductions and energy access where most funds are now reporting on progress towards expected results. Together the Clean Technology Fund, SREP, GEF Trust Fund and FIP have reached over 750,000 out of an expected 12.7 million beneficiaries, reduced GHG emissions by 37 Mt CO_2 eq out of an expected 11,855 Mt CO_2 eq and experienced gains in installed renewable energy capacity (although measured in different units, which reduces comparability).

332. Multilateral climate funds supporting REDD-plus have predominantly sought to support the strengthening of national policies and policy alignment to facilitate forest conservation and emission reductions in the future (Norman and Nakhooda, 2014; Lee and Pistorius, 2015). As their function is ultimately to deliver emission reductions, multilateral funds supporting REDD-plus have reported on avoided GHG emissions, the enhancement of carbon stocks in forests and the hectares of land or forest under sustainable management. Projects of the CIF FIP can also report on co-benefits such as environmental services, livelihoods or capacities built. Results and impact from REDD-plus finance both take time to be accurately measured and face the possibility of reversals, also called issues of permanence. As programming shifts towards results-based finance (for example through the GCF call for results-based REDD-plus proposals), the M&E of the impact of REDD-plus finance will likely require a flexible and continuous process.

333. Intermediary reporting of GHG emissions associated with investments continues to grow in the context of assessing climate risk (rather than impact). Transparency is increasing to allow a comparison of the volume of low-carbon energy DFIs are supporting as a share of total portfolios (Doukas, DeAngelis and Ghio, 2017). And, of the MDBs, EBRD, EIB and IADB already report on their emissions across their full portfolio, not just their climate spending. AFD, KfW and IDFC are also refining their reporting templates and practices as part of principle 5 in their commitments to mainstreaming climate action in their portfolio following COP 21 in Paris and reiterated at the One Planet summit.[127] Large financial institutions are also increasingly accounting for climate impact and risks related to their investments. For example, the 2° Investing Initiative and partners launched the Developing Sustainable Energy Investment metrics, benchmarks and assessment tools for the financial sector project in 2016 that has provided metrics, benchmarks and frameworks to test how listed equity portfolios measure up to 2 degree scenarios (Weber et al., 2018).[128]

3.3.5.2 Impact of adaptation finance: selected experiences

334. There is no singularly accepted impact metric for adaptation focused climate finance as there is for mitigation. This, in part, reflects the broad suite of sectors and approaches that are part of adaptation efforts. Conventional development interventions, including those supporting sustainable livelihoods or social protection, can strengthen resilience and adaptive capacity, making it difficult to distinguish between good development and adaptation activities (Levine, Ludi and Jones, 2011; Fankhauser and Burton, 2011; Jones et al., 2012). The timescale and frequency over which the multiple impacts of climate change will materialize further complicate the creation of common impact metrics for adaptation. 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, likely after the intervention has ended. Similarly, building resilience to 1-in-100-year extreme weather events can prove problematic to verify beneficiaries in the high likelihood the event happens outside the timespan of the intervention.

335. Efforts to improve the understanding of adaptation impact are often based on the resilience-building lens. However, tracking resilience is challenging and methodologies are diverse. They range from composite indices based on objective indicators (Tanner et al., 2015) to subjective measures of risk perception (Jones and Tanner, 2015). As noted in section 1.6, however, without agreed international definitions on what it means to be more resilient, and consideration of the context in which it is taking place (including for example, various institutional settings) it remains difficult to compare results and impacts between multilateral climate funds. The perspectives for measuring and comparing adaptation outputs also differ between actors; thus, as work on adaptation metrics continues, it will be important to capture results that are important to a diversity of actors (Christiansen, Martinez and Naswa, 2018).

127) See their presentation here: https://www.un.org/pga/71/wp-content/uploads/sites/40/2017/06/IDFC-Mainstreaming-Climate_-5-Principles_2017.pdf.
128) See https://2degrees-investing.org/sei-metrics/.

336. Subsequently, multilateral climate funds supporting adaptation capture diverse results areas. Many have tended to focus on the number of beneficiaries of an intervention, directly or indirectly. Yet monitoring beneficiaries accurately is a challenge and hard to verify. Alternatively, funds have output-based metrics such as the number of early warning systems put in place. Funds such as the LDCF and AF also track the number of vulnerability and risk assessments completed or the number of people trained in issue areas related to climate impacts and adaptation. Figure 3.8 summarizes the adaptation results reported by adaption-focused multilateral climate funds, illustrating the dominance of metrics on beneficiaries. Together the AF, GCF, LDCF, PPCR and SCCF expect to affect 290 million people directly and indirectly, and have directly reached close to 20 million to date.

337. MDBs are making efforts to differentiate between their usual development finance and finance provided with an explicit intent to reduce vulnerability to climate change.[129] With the IDFC, the MDBs are developing a framework for climate resilience metrics in an attempt to include outcome (or impact) information in their annual reporting (see section 1.6.1 above). Although being developed in the context of public finance, this is likely to have particular relevance for private investment. As the need for greater disclosure of climate risk in financial decision-making becomes apparent (see section 3.4 below), the development of associated methods and metrics could be relevant for the next iteration of multilateral climate funds' M&E systems.

3.3.5.3 Mobilizing additional climate finance flows

338. Climate finance providers can use mobilization of further finance as a measure of impact. Attracting more investment, both public and private investment, in low-emissions, climate-resilient approaches is necessary to meet the scale of climate finance needed. The availability of data varies across sources and institutions of public climate finance, however, and is often incomplete. A key challenge is definitional with co-financing leverage and private sector leveraging both distinctly different but often conflated hence the usefulness of the CIF evaluation of leverage factors (De Nevers, 2017). The MDB approach, for example, categorizes co-financing as the volume of financial resources invested by public and private external parties alongside MDBs for climate mitigation and adaptation activities (AfDB et al., 2018c:18).

339. A number of multilateral climate funds have focused on private finance outcomes largely calculated using leverage ratios. The CIF's overall co-financing (of public and private sources) ratio is estimated at 1:7.0, and the private sector co-financing ratio as 1:1.6. The highest co-financing ratios are found in the SREP and the Clean Technology Fund, both of which finance predominantly infrastructure and are on par with available GEF co-financing data.[130] The Clean Technology Fund delivers the highest ratio of private sector co-financing at 1:2.1, and the CIF's performance is consistent with other DFIs (De Nevers, 2017). As the different funds assess the resources mobilized in their own way, however, comparing results is challenging.

340. Mobilization of co-finance or leverage effects remain a narrow indicator of impact. Methodological approaches are unable to capture the mobilization effect of capacity-building, budgetary support or domestic policies, for example. There also remain longstanding concerns that high ratios of both co-financing and leverage may suggest that highly concessional public finance was not required in the first instance (Brown et al., 2011; Stadelmann et al., 2013). 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.

341. Overall, existing approaches are inadequate for assessing the relative mobilization effect of different forms of public financing. Improvements in the transparency of private sector projects from funders, and further alignment between the funds, would lead to an improved understanding of the relationship between public and private investment. Various groups, including IFC, OECD and BSDC, are all currently reviewing approaches to blending finance, while the funds are conducting ongoing reviews of their own leveraging, co-financing or private finance mobilization strategies (AfDB et al. 2017b; OECD, 2015c; BSDC, 2018).

129) The methodology for tracking adaptation finance, for example, attempts to capture the incremental cost of adaptation technologies by looking at only the value of the activities aimed at addressing specific climate variabilities. See (AfDB et al. 2018c).

130) See document FCCC/CP/2012/6.

3.4 Global total climate finance in context

342. Climate finance flows to developing countries and other climate finance flows that constitute the global total must be considered within the context of broader finance flows. Article 2.1 of the Paris Agreement links the task of holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels with the task of making finance flows consistent with a pathway towards low GHG emissions and climate-resilient development. Thus, to strengthen the global response to the threat of climate change, there is a need not only to scale up investment in solutions for climate change from the public and private sectors, but also to ensure all financial flows are consistent with UNFCCC objectives through the long-term goals of the Paris Agreement (see also sections 1.7 and 2.6 above).

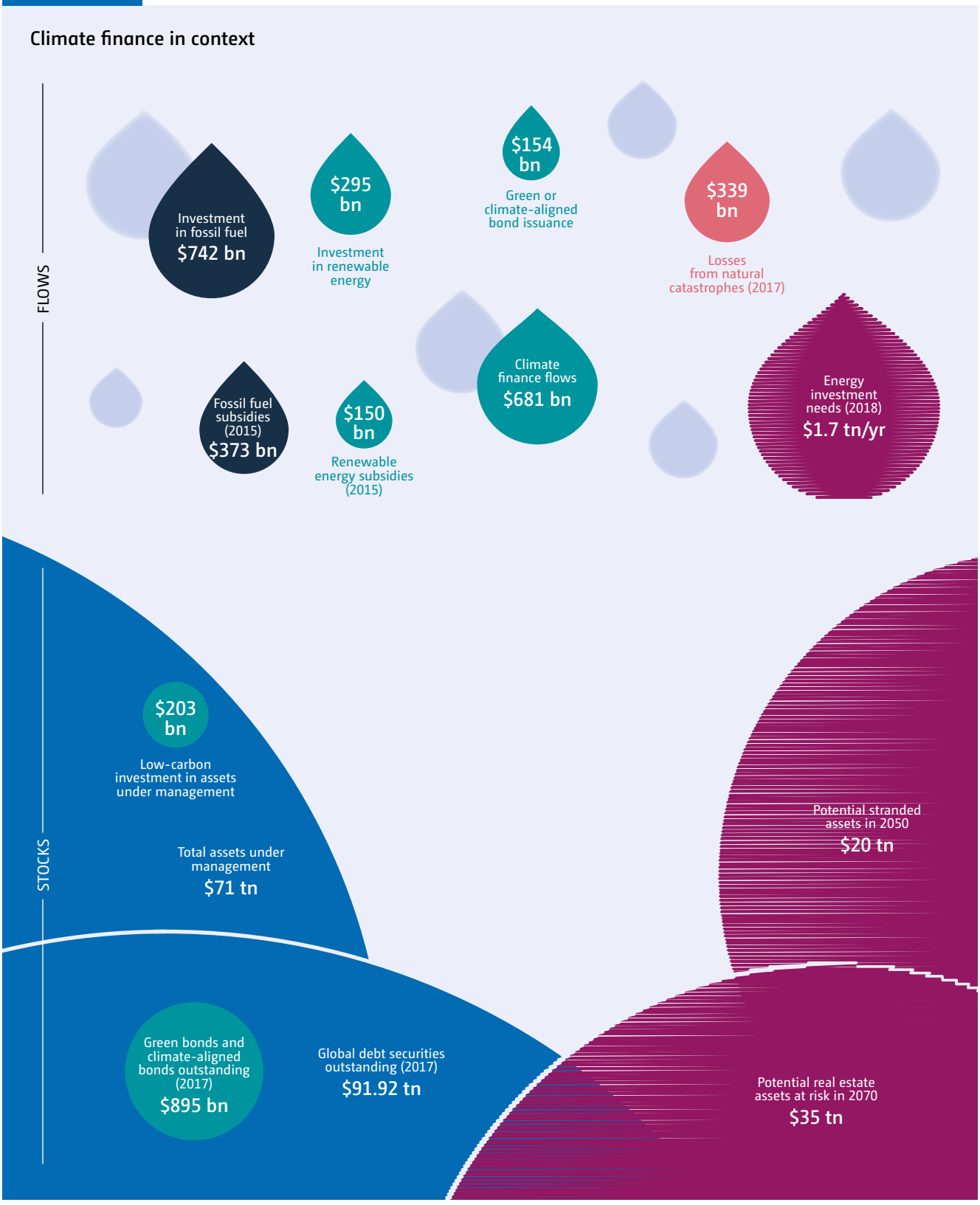
343. The 2018 BA shows that there has been a scaling up of climate finance flows. Chapter II above estimates an 18 per cent increase in new investments in the 2015–2016 period compared to 2014, or approximately USD 680 billion annually. Although climate finance flows are increasing, they remain relatively small when compared to broader finance flows (see figure 3.9). Global fossil fuel subsidies were estimated at USD 373 billion in 2015 (OECD and IEA, 2018c), and global total investment in fossil fuel supply (including oil and gas upstream, liquefied natural gas, oil refining, oil and gas) was estimated at USD 7.42 billion in 2016 (IEA, 2017c), for example.

344. The estimated finance flows for climate action in developing countries remain well below the estimated opportunities to invest in low-emission, climate-resilient development. The IFC (2016) estimated that there will be USD 23 trillion in climate investment opportunities for infrastructure, energy, energy efficiency and agriculture in emerging economies between 2016 and 2030. The IFC analysis also suggests regional differentiation of investment opportunities, with climate-resilient and low-emission infrastructure and building a priority for South and East Asia (USD 17.2 trillion), clean energy production for the Middle East and North Africa (USD 1 trillion), sustainable transport for Latin America (USD 2.6 trillion) and energy efficiency for Eastern Europe (USD 665 billion). These figures are likely to be underestimates given the availability of data for emerging markets and around key sectors such as climate-smart agriculture.

345. New-build infrastructure will need to be informed by climate change and best practice in climate action. Acclimatise, Four Twenty Seven and Climate Finance Advisors (2017) highlight both the opportunities and the risks of climate change for infrastructure investment from new market creation to reduced operational and economic performance, and the impact this has on lenders. This complements a growing literature on infrastructure asset stranding (Meltzer, 2016; Caldecott et al., 2016), which refers 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 or policy, or technological progress, for example coal assets losing value as a result of increasing renewable energy production (Lloyd's, 2017)

Figure 3.9

Climate finance in context



Note: All flows are global and annual for 2016 unless stated otherwise. Energy investment needs are modelled under a 2 °C scenario. The representation of stocks that overlap is not necessarily reflective of real of world overlaps. The flows represented are not representative of all flows contributing to the stocks presented. Data points are provided to place climate finance in context and do not represent an aggregate or systematic view. Climate finance flows are those represented in Section B of the Summary and Recommendations and as reported in chapter 2 of the 2018 Biennial Assessment and Overview of Climate Finance Flows technical report. Investment in renewable energy overlaps with this estimate of climate finance flows.

Source: Asset Owner Disclosure Project, 2017; Bosteels and Sweatman, 2016; Boston Consulting Group, 2018; CBI, 2017; IEA, 2017; IEA, 2018; IRENA 2017; OECD, 2018b; SIFMA (2016 data); Swiss Re Institute, 2018.

or the agricultural infrastructure becoming redundant if agroecological zones shift. As a result of the challenges in forecasting the pace and scale of ambition on implementing climate policy, assessing current levels of stranded assets is difficult. IRENA (2017) estimates USD 20 trillion of upstream energy and power generation investment alone is at risk of stranding under a 2 °C scenario, unless early action is taken to shift capital away from carbon-intensive investments. Kepler Cheuvreux (2014), meanwhile, consider this figure to be around USD 28 trillion. Absolute financial risk of stranding is dominated by the oil and gas (rather than coal) industries, as a result of their greater capital intensity (Carbon Tracker Initiative, 2018).

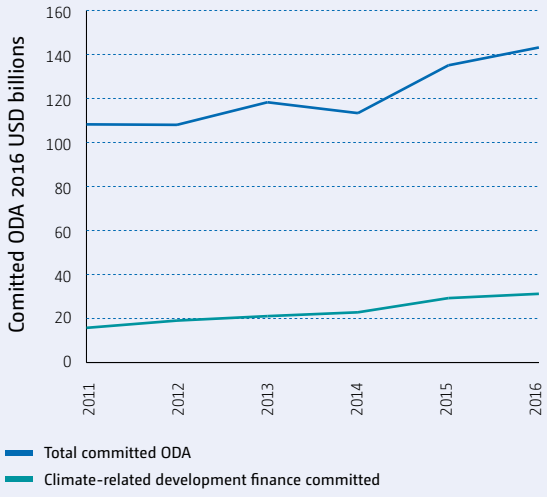
346. New investments, particularly in built infrastructure, will need to take into account the increasing frequency and intensity of climate-related hazards that will be experienced under a changing climate (IPCC, 2014b). While not all natural disasters (or climate-related hazards) can be attributed to climate change, the costs of inaction could be high. Continued climate change increases the risks that these costs will spike sharply and continue to rise in the future. Economic losses from weather catastrophes were the highest ever in 2017 (Munich Re, 2018). The hurricane season that included Harvey, Irma and Maria also contributed to making 2017 the year with the highest amount of insured losses from natural catastrophes so far (Munich Re, 2018; Swiss Re, 2018). While 2016 remained slightly below the previous 10-year average of USD 178 billion and USD 50 billion in overall economic losses and insured losses from natural catastrophes respectively, events in 2017 greatly surpassed these rates. Total economic losses amounted to USD 330 billion, and insured losses came to USD 138 billion in 2017 prices (Swiss Re, 2018). Data on the geographical distribution of insurance penetration are lacking, so it is difficult to compare the extent to which developing and industrialized countries were able to rely on insurance to recoup disaster losses, with further losses going unreported due to challenges around typology and data availability. Although costs have been higher in industrialized countries (North and Central America comprise 83 per cent of all economic losses from disasters compared to 1 per cent in Africa), insurance markets are generally less developed in SIDS and LDCs, which means economic costs are often unrecoverable through insurance.

347. This section has demonstrated that 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 ensure the consistency of broader financial flows and capital stock with the long-term goals of the Paris Agreement. This does not mean that all financial flows must have explicit beneficial climate outcomes, but it does mean that they must avoid **increasing** the likelihood of negative climate outcomes. This is a process that, of course, takes time, and despite the accelerated pace required to meet the Paris Agreement objectives, there is a need to ensure low-GHG emission and climate-resilient development pathways are mindful of broader socioeconomic impacts of such shifts.

348. This section explored the ongoing efforts aimed at fostering the consistency of wider financial flows and capital stock with the long-term goals of the Paris Agreement. It considered the actions taken towards increasing the consistency of public and private, and international and domestic, finance flows, initiated by both public and private actors. Captured in Article 2.1(c), this consistency provides an opportunity for countries and actors alike to outline domestic efforts and support to international efforts to (re)direct all finance and investment towards the support of low-emission and climate-resilient approaches to meeting economic and development needs.

Figure 3.10

Development Assistance Committee Members' total committed bilateral official development assistance and that climate marked



Source: OECD-DAC statistics available at OECD-DAC climate-related development finance website.

Abbreviation: ODA = official development assistance.

3.4.1 Considerations for improving the consistency of international public financial flows with low-emission, climate-resilient development pathways

349. Finance is a critical point of intersection between international frameworks that seek sustainable economic growth and development. This includes the SDGs, the Paris Agreement, the World Humanitarian Summit and the Sendai Framework for Disaster Risk Reduction (Watson, 2016). It is also recognized that climate change and development agendas are inextricably linked (Granoff et al., 2014). In this context, public development finance flows must work to become consistent with climate objectives. In 2015–2016, 22 per cent of bilateral ODA was considered climate-related, which represented an increase from 19 per cent in 2013–2014 and 17 per cent in 2011–2012 (see Figure 3.10). While this trend might reflect a mainstreaming of climate in development assistance, it is critical that efforts are made for ODA to be climate-consistent, avoiding any increase in the likelihood of negative climate outcomes, and that assistance remains reflective of needs across sustainable development objectives.

350. Due to the scale of financing required, development banks and DFIs will be essential in helping countries to deliver on their NDCs (OECD, 2017c). This includes not just the MDBs, but also a range of national and regional DFIs. Twenty-three national and regional DFIs are represented by the IDFC, the members of which are becoming more engaged in progress reporting and in harmonizing definitions and methods to track climate finance. DFIs have made progress towards increasing their climate finance programming in the light of significant commitments made in Paris in 2015. There has been increasing scrutiny of the non-climate part of their portfolio, for example their continued investment in high-emissions projects.

351. The MDBs in particular have made growing commitments to tackle climate risks and minimize GHG emissions when making investment decisions. This can be achieved at the upstream governance level through setting targets, goals and strategic direction, or at a more downstream structuring and appraisal level through evaluation process guidance or exclusion criteria (Cochran and Deheza, 2017). Initial research suggests varying progress among the MDBs (Germanwatch and NewClimate Institute, 2018). While most have standalone climate strategies or integrate climate change into key sectoral strategies, few have fully integrated climate risk screening and assessment to apply internal carbon pricing to investment decisions. Progress is being made. The World Bank announced in late 2017 that it will end funding to the upstream exploration and extraction of oil and gas by 2019 (WB, 2017). Other MDBs need to follow this lead, and all need to increase whole portfolio transparency. Others have suggested that MDBs can go further to expand climate investment through either expanding the availability of development assistance or boosting climate-related investment directly (Granoff et al., 2017).

352. 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 Islamic Development Bank, as well as the AIIB and the NDB. Over half of the disbursements for infrastructure from the Brazilian development bank in 2015, for example, went to green infrastructure, including 27 per cent for renewable energy and energy efficiency and 24 per cent for large hydro plants (OECD, 2017c). While these flows, largely South–South in nature, will remain voluntary under the Paris Agreement, it will remain important to seek greater transparency and consistency in data to understand the leading role national development banks have and can take.

353. Other officially supported international financial flows that are not concessional might be scrutinized for alignment with the Paris Agreement, in a similar manner to that being demanded of the MDBs. This includes the consistency of OOF, motivated not by development objectives but by commercial and foreign policy objectives. Data on OOF are often partial and incomplete; however, 5 per cent of OOF in 2015–2016 was marked as climate-related development finance by DAC contributors (a slight decrease from previous BA periods), the majority of which was mitigation related (95 per cent).[131] Progress could be embedded within existing OECD efforts to increase transparency on all cross-border flows given their potential role in supporting sustainable development. The OECD-proposed measure of TOSSD would capture all resources provided by government and official agencies, including state-owned enterprises and others with

131) OECD-DAC statistics available at OECD-DAC climate-related development finance website.

significant government influence, to ODA beneficiary countries. Complementary indicators would consider the private resources mobilized by official flows, as well as flows important for development but not necessarily officially supported, such as remittances. Other initiatives relate to 'green' public procurement in sectors such as construction, vehicles and transport (OECD, 2015i) or to sustainable public infrastructure spending. The Paris Collaborative on Green Budgeting, launched by OECD in late 2017, will seek new, innovative tools to assess and drive improvements in the alignment of national expenditure and revenue processes with climate and other environmental goals.

3.4.2 Considerations for making wider financial flows consistent with low-emission, climate-resilient development pathways

3.4.2.1 The use of regulatory instruments

354. Recent increase in regulation and policy related to climate change supports the consistency of finance flows with climate change objectives. Nachmany et al. (2017) have identified over 1,200 climate change relevant laws worldwide, with low-income countries singled out for being progressively active on climate change legislation, predominantly for climate resilience. This combination of strong domestic policy and regulation and direct public investment can 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).

355. A number of countries, including Argentina, China, Italy and South Africa, have embarked on a process of developing national financial system road maps or systemic plans to enhance the ability of the financial system to mobilize private capital for investment that meets environmental objectives, including climate objectives (UNEP, 2017a). China has produced the *Guidelines for Establishing the Green Financial System*.[132] Such planning often extends beyond state actors. The objective of the EU High-Level Group on Sustainable Finance is to make the EU's financial system consistent with global objectives for sustainability, for example by bringing together banking, insurance, asset management, stock exchanges, financial industry associations, international institutions and civil society perspectives. The Group's recommendations in 2018 included bringing a greater ESG focus to investment decisions, upgrading financial disclosure to make opportunities and risks more transparent, developing standards for financial assets such as green bonds and monitoring investment plans and delivery.

356. Central banks and financial regulatory authorities are increasingly engaging to make broader finance flows, consistent with the Paris Agreement. Many regulators around the world already require investors to disclose their ESG criteria in their financial reports (UNEP, 2015). The creation of the Central Banks and Supervisors Network for Greening the Financial System[133] in December 2017 is a positive development in this direction. The Network should be encouraged to contribute to the strengthening of the global response on the long-term goal outlined in Article 2.1(c) of the Paris Agreement. As actors that contribute to setting market rules, they have further potential to encourage green market development through priority lending requirements and by outlining standards of due diligence. The Reserve Bank of India, for example, has included lending to small renewable energy projects within the targets of its priority sector lending requirement. Bank Indonesia regulates the environmental aspects of credit policies for commercial banks. Furthermore, a vibrant group of financial regulators is working together in Southeast Asia under the ASEAN Capital Markets Forum, which also created the ASEAN green bonds standards.

357. There has been a picking up of pace in recognizing climate risk in the financial sector over the past few years. Understanding the knock-on impact in the real economy, a number of groups are working on financial sector reform to integrate climate risk[134] and to manage climate risk in financial institutions more proactively. Domestic financial regulators are increasingly requiring investors to disclose their ESG criteria in their financial reports. Article 173 of France's 2015 Energy Transition Law requires investors to disclose how they factor ESG dimensions into their investment policies (see analysis of PRI, 2016), thus introducing mandatory climate-related reporting for asset owners and asset managers (Assemblée Nationale, 2015; see also UNEP and WBG, 2017).

3.4.2.2 The use of economic instruments

132) Available at http://www.pbc.gov.cn/english/130721/3133045/index.html.

133) The Network includes the Banco de Mexico, the Bank of England, the Banque de France and Autorité de Contrôle Prudentiel et de Résolution, De Nederlandsche Bank, the Deutsche Bundesbank, Finansinspektionen (the Swedish financial supervisory authority), the Monetary Authority of Singapore and the People's Bank of China.

134) See, for example, https://europeanclimate.org/initiatives/cross-cutting/finance-economics/.

358. Many different subsidies exist in any country at both the national and subnational level. Although subsidies may have multiple objectives, including the protection of poor and vulnerable households, it remains important to understand and address inappropriate fiscal policy. Subsidies to high-emissions and maladaptive activities will slow progress in meeting the objectives of the Paris Agreement. Such fiscal policy levers[135] also strongly influence private investment decisions and consumer behaviours, Inappropriate fiscal policy can introduce perverse environmental, fiscal, macroeconomic and social consequences, while at the same time can generate positive impacts if used to support low-carbon and climate-resilient activities (Bast et al., 2015; Coady et al., 2015).

359. A number of countries have made commitments or taken actions to reorganize public subsidies that facilitate higher GHG emissions, such as fossil fuel subsidies and some land use subsidies (provided through direct budget expenditure and tax breaks). Fossil fuel subsidies often discourage renewable energy and energy efficiency investment. They can also lead to high-emissions asset creation, while bearing a burden on government budgets. Over 40 countries were identified as in the process of reform between 2015 and 2017 (Whitley and van der Burg, 2015). The G20 countries in particular have pledged to phase out inefficient fossil fuel subsidies. Progress has been made toward achieving this pledge, yet there is still no timeline for a phaseout. The G7 has reinforced this commitment and encouraged other countries to phase out inefficient fossil fuel subsidies by 2025, as government subsidies for the consumption and production of fossil fuels and electricity generated from fossil fuels remain global in nature. These commitments to a fossil fuel subsidy phaseout are important drivers of change; the value of global fossil fuel subsidies was estimated at over USD 373 billion in 2015, which was a reduction from USD 551 billion in 2014 (OECD, 2018a; OECD, 2018b; IEA, 2017b; IEA, 2018c).

360. Since 2001 there has been a decline in the value of fossil fuel subsidies, primarily due to falling global oil and gas prices. Yet in 2015 alone, the IEA estimated that fossil fuel consumption subsidies were more than double the value of renewable energy subsidies. Fossil fuel subsidy reform and carbon pricing can, as such, raise government revenue for development objectives. Fossil fuel subsidy reform in Ghana and Indonesia, for example, has been linked to increased expenditure on education and cash transfers (Coady and Newhouse, 2006; WB, 2012b). The pricing reform of gasoline and diesel in India between 2010 and 2014 cut the country's subsidy bill by USD 15 billion (IEA, 2015). Similarly, carbon pricing – the other side of the energy pricing coin – can equally create fiscal space (5 et al., 2018). Support for carbon pricing, via carbon taxes or emissions trading, is growing and covered 13 per cent of global GHG emissions in 2017. In 2016 governments raised an estimated USD 22 billion in carbon pricing revenues from allowance auctions, direct payments and carbon tax receipts (World Bank et al., 2017).

361. As with fossil fuel subsidies, most countries have agricultural and land-use subsidies. Data related to these domestic subsidies are limited, but a study looking across five REDD-plus countries suggests domestic agricultural subsidies in beef, soy and palm oil are more than 100 times larger than international public REDD-plus finance flows (McFarland, Whitley and Kissinger, 2015). Lack of data makes it difficult to quantify the global effect of such subsidies on GHG emissions; it is known, however, that agriculture is a key driver of deforestation worldwide. Countries have made positive strides to reform subsidies that may encourage GHG emissions, including through deforestation and degradation. Brazil's reform of concessional rural credit reduced loans to beef producers on forested lands and is thought to have avoided the deforestation of 250,000 hectares (Assunção, e Gandour and Rocha, 2012). India, in 2015, changed the way that tax revenue is distributed between its 29 state governments. The country's tax revenues are now shared between states on the basis of population, area, income and forest cover. This decision is estimated to allocate USD 6 billion a year in tax revenue towards encouraging forest conservation, although results are still emerging (Busch and Mukherjee, 2017).

362. Fiscal policy support to support investment in climate change resilience is needed, but nascent. It is not well understood if the existing fiscal incentives in the agriculture and the water and sanitation sector, as well as in infrastructure, are building resilience to the impacts of climate change or increasing potential exposure to them. Fiscal policy to build resilience is likely to include introducing tariffs and exemptions for water supply, tax breaks for geographical diversification of farming and exemptions from land-use fees for road and rail infrastructure (Trujillo, Hong and Whitley, 2015; Norman et al., 2016).

135) Fiscal policy is taken to mean budget expenditure, taxes, price support and controls, royalties, access to resources at reduced costs and tradeable permits (Green Growth Best Practice, 2014).

363. Public finance is wider than fiscal support, as it includes not just budget expenditure and tax breaks, but also off-budget government spending including through public enterprises and credit provided or guaranteed by government (see also section 3.4.1). Such domestic public finance, complemented by international climate finance flows, will continue to play a critical role in sustainable development and economic growth. This is emphasized in the Addis Ababa Action Agenda, the outcome of the 2015 Finance for Development Conference (United Nations, 2015). Thus far, studies have focused on public energy investment by MDBs and other DFIs. Oil Change International (2017) finds government support for 'brown' energy projects including coal, oil, gas and fossil fuel-based power generation and transmission to be significantly higher than for 'green' energy projects, such as solar, wind, tidal and geothermal power generation.[136] Although their data overlap with the data presented in section 3.4.1 above by including some international transfers, the data also include a review of other public finance institutions such as national development banks.

364. The issuance of sovereign and sub-sovereign green bonds has increased in the green bond market, despite corporate and financial issuers dominating growth in this market[137] (CBI, 2017b; White and Case, 2017). India entered the green bond market in 2015, and its green bond market has expanded to several public-sector undertakings, state-owned commercial banks, state-owned financial institutions, corporations and the banking sector. By 2017 India ranked fifth among G20 countries in terms of green bond issuance as a share of the country's overall debt market (Agarwal and Singh, 2018). With good creditworthiness, state actors can often make large-scale issuances. Often an instrument for refinancing, state issuances can also ensure that the capital raised is used for new investments. Not all countries have debt markets as developed as others, but the state can also play a role in creating policy that directly and indirectly drives the green bond market. China has produced a green bond catalogue and green bond guidelines, while Japan's Ministry of the Environment released green bond guidelines in March 2017, for example.

365. Public funds can also be used to support resilience. Governments can engage with risk-pooling instruments such as insurance (see section 3.2.1 above) and catastrophe bonds that transfer risk, reduce financial pressure and increase liquidity following climate-related events, for example, or retain risk through mechanisms such as contingent credit lines and contingency funds held by governments, although these should not divert funds from other productive investments (Watson and Kellett, 2016). A number of governments further subsidize insurance, largely through publicly sponsored private schemes (some with mandatory participation). Important for a country's economic resilience (with an impact on financing conditions such as pricing sovereign debt), public finance might support the development of insurance products for green assets, the availability of reinsurance for high-risk assets or the existence of sovereign catastrophic risk schemes (UNEP, 2017b).

3.4.2.3 The use of information instruments

366. The role of non-State actors in making financial flows consistent with the Paris Agreement objectives is increasing at both international and domestic scales. The private sector has been engaged in and has driven, often with or alongside state counterparts, the emergence of a number of platforms and innovations towards 'greening' the financial system. They include the PRI, Principles for Sustainable Insurance, and Principles for Positive Impact Finance. These initiatives have proved a common ground between State and non-State actors, expanded learning networks for capacity-building and facilitated knowledge-sharing on environmental and financial risk.

367. A number of other initiatives are relevant or have emerged to foster transparency and competition between actors and investments. These are diverse and have captured some of the many angles from which to approach the consistency of financial flows with the Paris Agreement objectives. The initiatives include the Institutional Investors Group on Climate Change, who encourage public policies, investment practices and corporate behaviour that address long-term risks and opportunities associated with climate change.[138] The SSE Initiative is a peer-to-peer learning platform on ESG issues to encourage sustainable investment. The International Organization for Standardization has partnered with the 2° Investing Initiative, for example, and developed a standard to measure investors' contributions to climate change

136) Note that OCI further generated a 'grey' category that takes into account large-scale hydropower, biofuels, biomass, nuclear, incineration, transmission, distribution, storage, energy efficiency, other general electricity support whose impacts are either context specific, debated or neutral with respect to climate change objectives.

137) A debt financing instrument, bonds raise capital on financial markets. It is recognised that green bonds capture environmental objectives other than purely climate action, however, are relevant to the general trends in green market development.

138) See http://www.iigcc.org.

goals. The Transition Pathway Initiative toolkit[139] allows an assessment of companies' carbon management quality and carbon performance. MSCI, a private research institution that provides advice and tools for institutional investors, is providing ESG data research, ratings and analysis of companies, and a Climate Risk Analysis Framework launched by HSBC.[140]

368. While the Climate Disclosure Project has long tracked corporate climate action, the Task Force on Climate Related Financial Disclosure (TCFD) has most recently highlighted the physical as well as the transition risks to investors and opportunities of climate change. The TCFD in its 2017 recommendations has highlighted the misalignment of financial markets and long term strategies to address climate change and the potential for losses in investment assets, particularly in oil, gas and coal intensive industries (TCFD, 2017). These 2017 recommendations are fast being translated so that they can be adopted by financial institutions. In December 2017 at the One Planet Summit, it was announced that 237 companies including over 150 financial firms with market capitalization of over USD 6 trillion and responsible for assets over USD 81 trillion has signed up to its recommendations. CISL (2018) shows that G20 countries are taking varying approaches to TCFD implementation that enable them to be relevant to their national context. What is clear, is that 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.

369. New investors seeking low-risk, long-return investments have been attracted by green and climate bonds, increasing awareness and driving up their quality. There is increasing data availability on green bonds and improving standardization, with the majority of issuances aligned with the International Capital Market Association's Green Bond Principles (International Capital Market Association, 2017). Despite historical challenges around standards and adherence to standards, there has been a sharp growth in the issuance of green and climate bonds in recent years driven by both corporate and financial issuers. Global issuance rose from just USD 3 billion in 2011 to USD 95 billion in 2016, inclusive of sovereign issuance (see above).

370. Rating agencies and stock exchanges are also supporting the consistency of the financial sector with the Paris Agreement through the information they provide. These market makers have influence over the behaviour and investment decisions of private actors via the factoring of climate-related risks into creditworthiness assessments or the issuance of environmental disclosure guidance for listed companies, for example (Climate Transparency, 2017b). In 2016 Moody's rating agency, for example, set out an approach to capture the credit implications of physical climate change for sovereign issuers, while Standard & Poor's has increasingly engaged in integrating and communicating how climate risks influence credit ratings. The London Stock Exchange Group recently released ESG guidance for its listed companies that incorporates climate-related financial disclosure, as recommended by the TCFD, and Luxembourg launched the world's first green stock exchange in 2016 (London Stock Exchange Group, 2017; Luxembourg Green Exchange, 2016).

371. Companies and investors are also adopting an internal carbon price to inform decision-making. In 2017, it was estimated that 1,400 companies have or plan to use an internal carbon price that will allow them to reduce risk exposure as well as meet sustainability goals, potentially also driving innovation (Sustainable Brands, 2017). Both government and public entities[141] can make use of these shadow prices (in addition to using the social cost of carbon[142]), but the transparency in application varies; thus, there is no shadow price benchmark (Morris, 2015).

372. This section has illustrated the ongoing efforts that could be considered as fostering the consistency of wider financial flows with the long-term goals of the Paris Agreement. As outlined in sections 1.7 and 2.4 above, these efforts put forward methods and metrics to varying degrees. There is a long way to go to build consensus between actors on which methods and metrics are appropriate in the pursuit of Article 2.1(c) of the Paris Agreement. More work is needed, yet clear momentum can be seen towards strengthening the global response to the threat of climate change in financial systems.

139) See http://www.lse.ac.uk/GranthamInstitute/tpi/the-toolkit/.

140) See https://www.environmental-finance.com/content/news/hsbc-launches-climate-risk-analysis-tool.html.

141) Private actors are also incorporating the shadow price of carbon into their investment decisions, but this report focuses on public entities (Morris, 2015).

142) The social cost of carbon is the global cost of the damage of an incremental unit of GHGs, thus it is the scale of the externality to be incorporated into policy and investment decisions (Price, Thornton and Nelson, 2007).

ANNEXES

Annex A: Country and institution groupings used in the 2018 biennial assessment and overview of climate finance flows

Table A.1

Provider groups

Country and institution groupings (number of)	Country/Institution
Annex I Parties (43) Annex I Parties include the industrialized countries that were members of the OECD in 1992, the EU and countries with economies in transition, including the Russian Federation, the Baltic States, and several Central and Eastern European States	Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czechia, Denmark, Estonia, EU, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, and United States
Annex II Parties (24) These are the countries listed in Annex II to the Convention, which have a special obligation to provide financial resources and facilitate technology transfer to developing countries. Annex II Parties include the 24 original OECD members plus the EU	Australia, Austria, Belgium, Canada, Denmark, EU, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, and United States
OECD member countries (36)	Australia, Austria, Belgium, Canada, Chile, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland, and United States
DAC members (30)	Australia, Austria, Belgium, Canada, Czechia, Denmark, EU, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, and United States

Table A.2

Recipient groups

Country groupings	Country
LDCs, as of 2016 (48)	Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Myanmar, Nepal, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Sudan, Sudan, Timor-Leste, Togo, Tuvalu, Uganda, United Republic of Tanzania, Vanuatu, Yemen and Zambia
SIDS that are Member States of the United Nations (38)	Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Cabo Verde, Comoros, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia (Federated States of), Nauru, Palau, Papua New Guinea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Singapore, Solomon Islands, Suriname, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu and Vanuatu

Table A.2 (continued)

Recipient groups

Country groupings	Country
Non-Annex I Parties (154)	Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belize, Benin, Bhutan, Bolivia (Plurinational State of), Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Cook Islands, Costa Rica, Côte d'Ivoire, Cuba, Democratic People's Republic of Korea, Democratic Republic of the Congo, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia (Federated States of), Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niger, Nigeria, Niue, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Republic of Korea, Republic of Moldova, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, State of Palestine, Sudan, Suriname, Syrian Arab Republic, Tajikistan, Thailand, the former Yugoslav Republic of Macedonia, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkmenistan, Tuvalu, Uganda, United Arab Emirates, United Republic of Tanzania, Uruguay, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia and Zimbabwe

Table A.3

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
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, Republic of Moldova, Russian Federation, Serbia, Tajikistan, the former Yugoslav Republic of Macedonia 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

Source: https://www.idfc.org/Downloads/Publications/01_green_finance_mappings/IDFC_Green_Finance_Mapping_Report_2017_12_11.pdf

Note: [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.

Table A.4

Multilateral development banks – regional groupings

EU-12	Latin America and the Caribbean	Middle East and North Africa	South Asia	Non-EU Europe and Central Asia	Sub-Saharan Africa
Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia	Anguilla, Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia (Plurinational State of), Bonaire, 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,	Algeria, Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tunisia, United Arab Emirates, Western Sahara and Yemen	Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka	Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kosovo,[a] Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation, Serbia, Tajikistan,	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, Mayotte,

Table A.4 (continued)

Multilateral development banks – regional groupings

EU-12	Latin America and the Caribbean	Middle East and North Africa	South Asia	Non-EU Europe and Central Asia	Sub-Saharan Africa
	Paraguay, Peru, Saint Barthélemy, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay and Venezuela (Bolivarian Republic of)			the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan	Mozambique, Namibia, Niger, Nigeria, Réunion, 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

Source: http://www.ebrd.com/2017-joint-report-on-mdbs-climate-finance.

Note: [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.

Table A.5

Organisation for Economic Co-operation and Development – 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), Kosovo,[a] Montenegro, Republic of Moldova, Serbia, States Ex-Yugoslavia unspecified, the former Yugoslav Republic of Macedonia, Turkey 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 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, and West Indies (regional)	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, Chile, 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, Sudan, Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe

Source: http://www.oecd.org/dac/stats/dacandcrscodelists.htm.

Note: There is also a "Regional and Unspecified" group, which includes "Africa (regional)", "America (regional)", "Asia (regional)", and "Developing countries (unspecified)".

[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.

Annex B: Compilation of operational definitions of climate finance and criteria used by various institutions

Table B.1

Compilation of operational definitions of climate finance and criteria used by various institutions

Institution	Climate finance definition	Mitigation finance definition	Mitigation finance eligibility	Adaptation finance definition	Adaptation finance eligibility	References
OECD-DAC	Rio markers were originally designed to track the mainstreaming of environmental considerations into development cooperation rather than providing a quantification of finance. 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 sequestration	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, or research; or (d) developing countries' efforts to meet their obligations under the Convention	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	(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	(OECD, 2016b)

Table B.1 (continued)

Compilation of operational definitions of climate finance and criteria used by various institutions

Institution	Climate finance definition	Mitigation finance definition	Mitigation finance eligibility	Adaptation finance definition	Adaptation finance eligibility	References
MDBs	MDB climate finance refers to financial resources (own and MDB-managed external resources) committed by MDBs to develop operations and components thereof, which deliver climate change mitigation or adaptation, including dual benefit	Drawing on the OECD-DAC definition of Rio markers, the MDBs classify an activity as related to climate change mitigation if • it promotes "efforts to reduce, or limit, or sequester GHG emissions to reduce climate change". • it is based on the MDB joint typology following the Common Principles for Climate Change Mitigation Finance Tracking jointly agreed by the MDBs and the IDFC	Based on a positive list of activities that are compatible with low-emission pathways, and recognizes the importance of long-term structural changes such as the shift in energy production to renewable energy technologies, and the modal shift to low-carbon modes of transport. Includes greenfield and brownfield renewable energy and transport modal shift projects; brownfield energy efficiency investments that foresee the replacement of old technologies well before the end of their lifetime, with greenfield energy efficiency investments included only in cases where they prevent lock-in to high-carbon infrastructure. -Some MDBs consider additional activities not covered by the joint approach for their own reporting purposes	– 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. – Has been based on MDB joint methodology for tracking adaption finance that follows a context- and location-specific, conservative and granular approach. 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	• Setting out the climate vulnerability context of the project • Making an explicit statement of intent to address climate vulnerability as part of the project • Articulating a clear and direct link between the climate vulnerability context and the specific project activities	(AfDB, ADB, EBRD, et al., 2018c)

Table B.1 (continued)

Compilation of operational definitions of climate finance and criteria used by various institutions

Institution	Climate finance definition	Mitigation finance definition	Mitigation finance eligibility	Adaptation finance definition	Adaptation finance eligibility	References
IDFC	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"	Uses the definition provided in appendix B of the Green Finance Mapping IDFC report, which takes the MDBs–IDFC Common Principles for climate mitigation finance tracking into account. 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 criteria are based on a positive list of project categories and activities, which are aligned with the MDBs–IDFC Common Principles. The list is given in appendix C, table C1, of the of the Green Finance Mapping IDFC Report	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	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	(IDFC, 2017)
CPI	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. 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; • Fossil fuel-based lower-carbon and energy-efficient generation (e.g. efficient coal-fired power plants) due to significant future carbon emissions lock-in	Positive list, drawing on OECD-DAC, MDB and IDFC approaches	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	Positive list, drawing on OECD-DAC, MDB and IDFC approaches	(Buchner et al, 2017)

Table B.1 (continued)

Compilation of operational definitions of climate finance and criteria used by various institutions

Institution	Climate finance definition	Mitigation finance definition	Mitigation finance eligibility	Adaptation finance definition	Adaptation finance eligibility	References
IPCC	There is no agreed definition of climate finance. The term "climate finance" is applied both to the financial resources devoted to addressing climate change globally and to financial flows to developing countries to assist them in addressing climate change	A human intervention to reduce the sources or enhance the sinks of GHGs. The contribution of Working Group III to the Fifth Assessment Report of the IPCC in 2014 also assesses human interventions to reduce the sources of other substances that may contribute directly or indirectly to limiting climate change		The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects		(IPCC, 2014a)

Annex C: Comparison of reporting approaches used by selected organizations

Table C.1

Comparison of reporting approaches used by selected organizations

Topic	UNFCCC	OECD-DAC	MDBs	IDFC	BNEF
Who submits data	National government	National government (29 DAC members, 3 non-DAC members), 7 MDBs and 10 climate funds	Data collection and reporting is done by a central unit in each MDB	Individual development banks	Experts in over 40 countries
Who prepares integrated report or compilation of information	UNFCCC[1]	OECD-DAC (activity-level data are compiled and processed by OECD-DAC and published online); in addition, OECD-DAC publishes statistical analyses	The annual joint report on MDB climate finance is coordinated by one of the MDBs. The coordinator role rotates among MDBs every three years.	IDFC secretariat and steering group	Centralized unit in South Africa
Who classifies projects	Countries	OECD-DAC members have responsibility for applying the markers, which is shared between project officers, sector experts and central statistical units	Staff from central location in each MDB[2]	Development bank staff	Experts in countries
Reporting approach		Objective or purpose of the activity (drawing on Rio markers definitions and eligibility criteria)	– *Mitigation finance:* based on a list of sectoral categories, subcategories, and activities eligible for classification as climate mitigation finance, which are based on the MDBs–IDFC Common Principles for Climate Change Mitigation Finance Tracking – *Adaptation finance:* based on the MDBs–IDFC Common Principles for Climate Change Adaptation Finance Tracking. Ongoing harmonization with OECD-DAC Rio markers. The adaptation finance tracking methodology uses a conservative and granular approach to reflect the specific focus of adaptation activities, and reduce the scope for over-reporting of adaptation finance.	– *Mitigation finance:* activity list based on Common Principles for Climate Change Mitigation Finance Tracking – *Adaptation finance:* based on Common Principles for Climate Change Adaptation Finance Tracking. Ongoing harmonization with OECD-DAC Rio markers	Activity list
Sectors	Energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting, other	There are over 30 sectors in the OECD-DAC CRS, and additional subsectors, with a few exceptions where Rio markers are not applied (e.g. general budget support, debt relief)	– 10 mitigation sectoral categories broken down into 31 subcategories with 47 eligible activities in total – The joint MDB methodology for tracking climate change adaptation finance identifies 11 adaptation sectoral groupings/topics broken down into subsectors/topics, possible vulnerabilities to climate change and potential adaptation activities to address climate change	10 mitigation categories and 6 adaptation categories[3]	Clean energy: renewable energy, energy efficiency, smart grid, power storage and other new energy technologies[4]

1) Example of UNFCCC compilation please see <http://unfccc.int/national_reports/annex_i_natcom/compilation_and_synthesis_reports/items/2736.php>

2) In the case of MDBs, project staff classify the project and later it is checked centrally

3) The categories were adopted from the 2011 IDFC Green Finance Mapping methodology and updated according to the MDBs-IDFC Common Principles for Climate Finance Tracking. As there are significant challenges to unambiguously attributing specific investments to only one of the main themes, it was decided to split each theme into separate subcategories with clear project activity examples. The category on green energy and mitigation was also disaggregated further into sub-subcategories, based on the developed MDBs-IDFC Common Principles for Climate Mitigation Finance Tracking. When an IDFC members do not have, or refrain from providing, subcategory information, amounts were classified as "non-attributed" under categories.

4) BNEF counts: smaller distributed technologies; energy efficiency technologies where cash flows are identifiable; investments in energy efficiency technology companies and certain larger energy efficiency projects; smart grid and grid-scale power storage; electric vehicle charging networks

Table C.1 (continued)

Comparison of reporting approaches used by selected organizations

Topic	UNFCCC	OECD-DAC	MDBs	IDFC	BNEF
Criteria for adaptation eligibility		Yes. An activity is eligible for the climate change adaptation marker if: – the climate change adaptation objective is explicitly indicated in the activity documentation; and – the activity contains specific measures targeting adaptation[5].	Yes, based on purpose, vulnerability context and activity linkage.	Yes, based on purpose, vulnerability context and activity linkage.	
Criteria for mitigation eligibility		Yes. The activity must contribute to either: – the mitigation of climate change by limiting anthropogenic emissions of GHGs, including gases regulated by the Montreal Protocol; or – the protection and/or enhancement of GHG sinks and reservoirs; or – the integration of climate change concerns with the recipient countries' development objectives through institution building, capacity development, strengthening the regulatory and policy framework, or research; or – developing countries' efforts to meet their obligations under the Convention.	Yes, based on positive list of activities; including some brownfield investments	Yes, based on positive list of activities	Yes, based on activity list
Instruments	Grants, concessional loans, non-concessional loans, equity and other	Grants, loans (concessional and non-concessional), equity	All	All	All project costs. Includes mergers and acquisitions and carbon markets, but limited to what is public[6]
Status/ point of estimation	Committed or disbursed (starting from BR3s)	Commitments (disbursements also tracked; but data not comprehensive)	Commitments	Commitments	Projects are tracked from the first proposal, permitted, financing secured; and in construction, commissioned, decommissioned, abandoned

[5] i.e 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.

[6] Bloomberg notes that it may not get all members of a debt syndicate. Separate data sets are maintained for investments by MDBs

Table C.1 (continued)

Comparison of reporting approaches used by selected organizations

Topic	UNFCCC	OECD-DAC	MDBs	IDFC	BNEF
Dealing with overlaps		Allows for both adaptation/ mitigation markers to be applied to the same activity; activity-level database and publications identify overlap to avoid double counting	Individual processes of MDBs determine proportion to be counted as mitigation or adaptation	Split each theme into separate subcategories with clear project activity examples	
Granularity	Recipient country, region, project, programme (activity level added for BR3s)	Activity level data	Project component or subcomponent, or element or proportion[7].	Project component or subcomponent, or element or proportion.[8]	All countries, but better data are available for bigger countries where information is more transparent
Types or sources of funds	ODA, OOF and other	ODA and OOF,[9] private finance mobilized by three instruments from 2017	Internal and external; external resources managed by MDBs are separated from MDB own resources	Internal and external.	No longer keeps track of grants. Includes public (domestic and cross-border) and private (domestic and cross-border) finance
Type of support (e.g. asset finance, R&D, capacity-building)	Core/general, climate-specific (mitigation, adaptation, cross-cutting and other)	Type of support specified at the activity level	Investments and technical assistance (including capacity-building); policy-based instruments are included in total finance, but highlighted as a category	Reported in aggregated form	Asset finance, R&D, venture capital, but not by training or capacity-building
Mitigation and/or adaptation outcome tracking and reporting			No common approach. Individual MDBs seek to demonstrate climate change impacts through project-specific data		
Recipient	Country, region, project or programme is identified	Country and delivery channels identified	Not clear, except split by private and public sector based on first-tier recipient	Project sponsor (e.g. national or local governments, private or public sector companies or civil society organizations)	Private and public sector
Reporting period	Every two years on calendar basis	Calendar year	Fiscal year	Fiscal year	Annually every January, but subsequently revised. Also available quarterly online

[7] The approach may not always capture activities that contribute to resilience but that cannot be tracked in quantitative terms, or that do not have associated costs.

[8] As described in the appendices to the IDFC Green finance report. (IDFC, 2017).

[9] Reporting on the climate focus of non-ODA flows is not mandatory and the coverage of these data is limited. Project-level information on OOF is also not always available, in part because of confidentiality reasons.

Table C.1 (continued)

Comparison of reporting approaches used by selected organizations

Topic	UNFCCC	OECD-DAC	MDBs	IDFC	BNEF
Form of reporting guidance	Guidelines adopted by the COP, including CTF tables	Reporting governed by OECD-DAC *Converged Statistical Reporting Directives for the Creditor Reporting System (CRS) and the Annual DAC Questionnaire* (annex 18) The Rio Marker handbook also includes reporting guidance specific to Rio marking	There is a common reporting sheet that MDBs fill in with project information, including climate finance (started in 2014)	Guidance, template and survey tool	Written guidelines for experts in different countries
Quality control procedures	Countries are responsible for the data, which are managed by the secretariat	There is a series of automated checks carried out by the secretariat when data are entered into the system, to check for reporting errors, together with a CRS checklist for reporters, providing a list of integrity checks designed to help reporters avoid inconsistencies.	Each MDB ensures its data are correct and complete, and in compliance with the methodology. In addition, the central unit checks data submitted by MDBs	Each IDFC member bank carries out quality assurance procedures according to its internal standards. Consultant checks plausibility and works on analysis	Yes, but many small projects make this more challenging than large projects. No formal error bars by country or technology
Review procedures	According to guidelines adopted by the COP	Members' reporting performance is reviewed annually by the OECD-DAC secretariat and results shared with the Working Party on Development Finance Statistics. This includes issues such as timeliness, consistency of aggregate versus activity reporting, accuracy of coding, quality of descriptive information, etc. Specific quality reviews on Rio markers are also conducted periodically	No peer review procedure to date	No peer review procedure to date	Not formally, but use by wide variety of users and experts which helps identify gaps and promotes quality control
Existing data system	All data available on the UNFCCC website	OECD-DAC CRS. The CRS and climate-related development finance databases are available on the OECD-DAC website	Data are in Excel files. No activity-level database available online.	Excel standard template applied. No activity-level database available online.	Internally managed data system

Annex D: Compilation of information on methods for estimating and tracking climate-related private finance

Table D.1

International institutions use different terms to describe the finance that flows together with, or as a consequence of, their operations. Some of the key terms used are leverage, co-financing and mobilization. These terms are sometimes used interchangeably; however, different entities can also have different definitions for each. The table below summarizes information on approaches used for estimating, tracking and reporting on mobilization/co financing of private finance by select international institutions.

Institution	OECD-DAC	IDFC	MDBs	
Methodology	**Mobilization**	**Private sector co-financing**	**Private mobilization**	**Climate co-finance**
Operational definition	In DAC statistics and surveys, mobilization means the stimulation by specific financial mechanisms/ interventions of additional resource flows for development	No operational definitions, but report on private sector co financing, which entails: • The asset financed is in private ownership (>= 50%) (i.e. private investment); • and/or the financial contribution comes from a private sector actor (i.e. private capital)	Private mobilization (also referred to as private co financing) is the investment made by a private entity, which is defined as a legal entity that is: (a) carrying out or established for business purposes and (b) financially and managerially autonomous from national or local government. Some public entities that are organized with financial and managerial autonomy are counted as private entities	Climate co-finance is defined as the amount of financial resources contributed by external entities alongside climate finance invested by MDBs
Direct/indirect mobilization	No differentiation between direct and indirect mobilization. Reporting on all private finance mobilized by official development finance interventions that can be measured and reported at the activity level.	No differentiation between direct and indirect mobilization	Differentiation between direct and indirect mobilization for private co-financing[a]	• No differentiation between direct and indirect mobilization for public co-financing. • Differentiation between direct and indirect mobilization for private co-financing[a]
Limitation to climate-related finance projects	No, covers both climate and non-climate related projects	Yes, covers only climate-related projects	No, covers both climate and non-climate related projects	Yes, covers only climate-related projects
Financial instruments	Syndicated loans, guarantees, shares in collective investment vehicles, direct investment in companies, credit lines. Reporting is being expanded to cover grants and loans in co-financing arrangements, as well as project finance schemes	Loans, equity, guarantees, grants, revolving use of credit lines or green funds, public–private partnerships	Covers all instruments	Covers all forms of financial instruments, including grants, loans, equity and guarantees

Table D.1 (continued)

Compilation of information on methods for estimating and tracking climate-related private finance

Institution	OECD-DAC	IDFC	MDBs	
Methodology	**Mobilization**	**Private sector co-financing**	**Private mobilization**	**Climate co-finance**
Provider coverage	Bilateral and multilateral • DAC members report on mobilized amount through bilateral channels. • Multilateral institutions (including MDBs) report on amounts mobilized through their own interventions[b]	IDFC members	Individual MDBs	Individual MDBs
Public and private sources	Co-financing from private sources only. Covers all private finance mobilized by official development finance interventions regardless of the origin of the private funds (provider country, recipient country, third country). The origin of the private funds is distinguished when this information is available.	Co-financing from private sources only. • Loans by private sector actors mobilized by IDFC members' loans, equity positions, guarantees, grants, public–private partnerships, credit lines or green funds. • Equity from private sector mobilized by IDFC member loans, equity positions, public–private partnerships, grants	Co-financing from private sources only	Co-financing from both public and private sources.[c] Encompasses financial resource providers that are government or government-affiliated, as well as those that are private. Public entities include multilateral and bilateral financial institutions, export credit agencies, and any other institution whose primary purpose is to benefit or promote a specific national interest, regardless of ownership
Attribution methodology	Attribution of private mobilization to all public institutions involved in a transaction, based on instrument-specific causality assumptions and attribution methods: • The general causality assumption is that the private financiers would not have invested in a development activity in the absence of the official sector mechanism/intervention. • Causality is based on assumptions that vary depending on the financial instrument/mechanism being used and take into account the risk taken and role played by public providers, as well as the volume of finance committed by these public providers.	Attribution of private mobilization to IDFC members. No attribution methodology described in the IDFC report. The report, however, mentions that it is acceptable to derive representative mobilization factors (e.g. 1.5 for revolving credit lines to banks or 1.5 for equity in project finance) for homogenous fractions of the portfolio based on a representative subset of projects	Attribution of private mobilization to MDBs: • For private direct mobilization: the mobilization is attributed at its full value, less any adjustments in the case of guarantees or unfunded risk transfers, to the MDB which demonstrates the active and direct role. • For private indirect mobilization: the mobilization is attributed on a pro rata basis, according to the reporting MDB's share of all commitments attributed to all MDBs in an activity. When the co-financing cannot be accurately tracked, only the amounts that are known with certainty are reported	The methodology does not focus on measuring or on attributing private finance mobilization. It focuses solely on reporting resources contributed by external entities (both public and private) alongside MDB climate finance. • Climate co-finance does not imply a causal relationship as to who catalysed whom in a particular investment, but rather measures the amount of co-financing that has been invested alongside contributions made by MDBs. • When the co-financing cannot be explicitly tracked, MDBs do not estimate indirect financing but simply report it at known levels, which may be zero

Table D.1 (continued)

Compilation of information on methods for estimating and tracking climate-related private finance

Institution	OECD-DAC	IDFC	MDBs	
Methodology	**Mobilization**	**Private sector co-financing**	**Private mobilization**	**Climate co-finance**
Addressing double counting	The OECD-DAC approach aims to develop a standard for measuring the mobilization effect of official development finance interventions, while avoiding double counting at the international level Amounts of private finance mobilized are attributed at the activity level to all public institutions involved in a transaction using a pro rata methodology	When several public sector actors are involved, the mobilized investment is attributed on a pro rata basis to different public financiers independent of the specific instruments applied. For loans to the private sector generated by the revolving use of credit lines or green funds the original loan is subtracted to avoid double counting	The MDB approach prorates the amounts associated with the MDB finance mobilized among the MDBs only; there is therefore no double counting of co-finance reported by different MDBs from the same source. However, there is no attribution to potential bilateral providers or local actors, which would lead to double counting if those amounts were added to the MDB amounts	The approach does not double count co-finance reported by different MDBs from the same source and as such overall co finance reported subtracts or "nets out" resources already reported. In cases where multiple investments are made in the same project, climate co-finance does not double count the same co-finance between different years. Once co finance is reported for one year, it cannot be counted in the next year if additional MDB finance is placed without additional co-finance. In order to avoid double counting, MDBs either group all investments under the first year of reporting, or split the co-finance over a number of years, depending on the type of project and available information. There is no attribution to potential bilateral, multilateral or local co-financers[d]
Measurement base	Commitment	Commitment	Commitment	Project approval
Reporting period	Calendar year	Fiscal year	Calendar year	Fiscal year
Reporting framework	Reporting governed by the DAC Converged Statistical Reporting Directives and the "Methodologies to measure amounts mobilised for the private sector"	Reporting governed by the IDFC Green Finance Mapping methodology	Reporting governed by the joint methodology for tracking and reporting mitigation and adaptation finance	Reporting governed by the methodology for tracking climate co-finance proposed by MDBs
Quality control procedures	Beyond individual checks by bilateral and multilateral reporters, quality control procedures are performed by the OECD-DAC secretariat when data are collected	Only at the individual DFI level	Only at the individual bank level	Only at the individual bank level
References	(OECD, 2017a) (OECD, 2017b)	(IDFC, 2017)	(AfDB, ADB, EBRD, et al., 2018b)	(AfDB, ADB, EBRD, et al., 2018b) (AfDB, ADB, EBRD, et al., 2015b) (AfDB, ADB, EBRD, et al., 2018c)

Notes:

[a] Private direct mobilization is financing from a private entity on commercial terms, where the active and direct involvement of an MDB leads to commitment of the private entity's finance. Evidence of active and direct involvement includes mandate letters, fees linked to financial commitment or other validated or auditable evidence of an MDB's active and direct role leading to commitments by other private financiers. Private direct mobilization does not include sponsor financing. Private indirect mobilization is financing from private entities provided 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.

[b] MDBs report on their activities to the DAC on a regular basis. When reporting on the amounts mobilized, they follow the DAC approach, both for comparability purposes and to avoid double counting at the international level.

[c] Most MDBs do not have a specific tracking system in place that would allow them to distinguish between public and private sources. Consequently, all co-financing sources have to be assessed individually.

[d] Co-finance may also include other DFIs, specific climate funds, or other public sources. In order to use the data to assess the impact of all public finance for the mobilization of private finance, a more in-depth analysis of project-level co-finance data is needed.

Annex E: Reporting guidelines/parameters and reporting issues in common tabular format tables 7, 7(a) and 7(b)

Table E.1

Reporting guidelines/parameters and reporting issues in CTF tables 7, 7(a) and 7(b)

Reporting parameter	Guidance for reporting (including BR guidelines (decision 2/CP.17) and footnotes to CTF tables)	Reporting issues (as analysed from BR3s of a total of 43 Annex I Parties)
Year	Not applicable	• Four Parties report according to fiscal/financial year, while the remaining Parties report according to calendar year
Currency (domestic currency and USD)	• Parties should provide an explanation on the methodology used for currency exchange in the documentation box	• Seven Parties report only in domestic currencies. • 30 Parties do not indicate exchange rates in the documentation boxes, although 16 Parties provide this information in the financial chapter of their BR3s
Status (disbursed and committed)	• Parties should explain, in their BRs, the methodologies used to specify the funds as disbursed and committed • Parties to provide information on definitions and methodologies in documentation box	• Less than a half of the Parties provide an explanation on the methodologies used to specify funds as disbursed and committed
Funding source (ODA, OOF, other)	• Parties to specify "other" • Parties to provide information on definitions and methodologies in documentation box	• Few Parties do not further specify "other" • In some cases in which Parties report a funding source as "other" where there is a mix of ODA and OOF, information on distribution is not available
Financial instrument (grant, concessional loan, non-concessional loan, equity, other)	• Parties to specify "other" • Parties to provide information on definitions and methodologies in documentation box	• Few Parties do not further specify "other" • In some cases in which Parties report a financial instrument as "other" where there is a mix of instruments, information on distribution is not available
Type of support (mitigation, adaptation, cross-cutting, other)	• Parties to specify "other" • Parties to provide information on definitions and methodologies in documentation box	• Technical issue in CTF table 7a: Parties are not able to enter more types of support per organization. However, in many cases contributions have both a mitigation and an adaptation component • Most Parties have no entries categorized as "other" • "Other" was specified as REDD-plus/forestry for the few Parties that have relevant entries
Sector (energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting, other)	• Parties to specify "other". Parties may select several applicable sectors. Parties may report sectoral distribution, as applicable, under "other" • Parties to provide information on definitions and methodologies in documentation box	• More than 50% of total entries for 2015–2016 are categorized as "other" • Some Parties do not specify "other" for a number of entries • Many Parties select several applicable sectors from the given categories and report under "other". Information on sectoral distribution is not available in these cases
Core/general and climate-specific	• Parties should explain in their BRs how they define funds as being climate-specific • Core/general refers to support to multilateral institutions that Parties cannot specify as being climate-specific • Parties to provide information on definitions and methodologies in documentation box	• 22 Parties include some information, although to varying degrees of detail, on how they define funds as being climate-specific, • For bilateral flows, 21 Parties refer to the use of the Rio markers to identify relevant projects. 17 Parties provide information on coefficients used to differentiate and scale down funding marked as targeting climate change as a significant objective as opposed to principal objective • For multilateral flows, several Parties noted the difficulty in estimating the climate-specific share of core contributions, as well as capturing outflows from multilateral channels. Several Parties referred to the application of the methodologies established by either the MDB joint approach or the OECD-DAC methodology

Table E.1 (continued)

Reporting guidelines/parameters and reporting issues in CTF tables 7, 7(a) and 7(b)

Recipient country / region / project / programme / activity	• Parties should report, to the extent possible, on recipient country / region / project / programme / activity	• For about 6% of the total entries for 2015–2016, the reporting field is left blank or does not specify any recipient countries / regions / projects / programmes / activities (i.e. including wording such as worldwide, global, other) • 19 Parties provide a title or short description of the projects/ programmes/activities in the reporting field or in the additional information column, in addition to the recipient country or region. Eight Parties only provide information on the recipient country/region. Other Parties leave the reporting field or the additional information column blank in the CTF tables and provide more information in their BR • The level of granularity of the data is not necessarily clear from the information in the CTF tables themselves • Few Parties include information on implementing agencies

Annex F: Comparison of reporting approaches used by non-Annex I Parties in their biennial update reports to report finance received[10]

Table F.1

Parties providing summary information on climate finance received during a certain period

Party	Approach to reporting	Allocation channel	Sector[11]/ Type of support	Financial instrument
Argentina	Reports in textual format on total amount of finance received and top providers of support Provides information on co-financing Time frame of projects within 2011–2020	Multilateral providers of support: GEF / WB / EIB / IADB Bilateral providers of support: Spain	Energy / waste / agriculture, forestry and other land uses / cross-cutting	Grants
Armenia	Reports on finance received per project in tabular format Notes difficulties in collection, analysis and database creation on climate change finance Time frame of projects within 2013–2017	Multilateral climate change funds[a] Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a]	Not specified	Grants / loans
Brazil	Reports on finance received annually per provider of support in detailed tabular format Time frame: 2014–2015	Multilateral providers of support: CAF, IFC, IADB, IBRD Bilateral providers of support: Germany (KfW), Japan (JBIC), France (AFD), EU (EIB), Norway	Mitigation / adaptation / cross-cutting Energy / forestry / agriculture / waste, transport / cross-cutting	Grants / loans / equity
Chile	Reports on finance received per project in tabular format Provides total amount of finance received, in textual and tabular format Provides information on status of finance (received or approved) Provides information on financial resources channelled to private sector projects (for energy sector) Provides information on domestic support for activities related to climate change Time frame: 2014–2016	Bilateral[a] Multilateral funds and institutions[a] International financial institutions[a] Other multilateral[a] Multilateral providers of support: WB, GEF Bilateral providers of support: United Kingdom, Canada, Mexico	Energy / transport / agriculture, forestry / fishing and aquaculture / waste / infrastructure / biodiversity / risk / water / cross-cutting	Not specified
China	Reports on finance received per project in tabular and textual format Varying time frames of projects within 2008–2018 Includes detailed information in textual format on domestic finance. Provides descriptions of projects and impacts. Different time frames over the period 2010–2015 Separate section on South–South cooperation	Multilateral provider of support: GEF Other multilateral and bilateral providers of support: Annex I Parties and international organizations	Energy / transport / energy-efficient buildings / agriculture / forestry	GEF grants / not specified

[10] Financial information on climate finance received included in BURs varies in degree of detail. Many BURs indicate that the financial information provided is partial and that it represents best efforts to present accurate information, while avoiding double counting. Reporting periods also vary across BURs, ranging from annual or biennial time frames to multiple years. In some cases, BURs include financial information associated with activity or project duration and/or years of commitment or disbursement. In several cases, Parties do not make a clear distinction between the type of support (mitigation, adaptation, cross-cutting) and sectors.

[11] In some cases, Parties do not make a categorical distinction between type of support (mitigation, adaptation, cross-cutting) and sectors.

Table F.1 (continued)

Parties providing summary information on climate finance received during a certain period

Party	Approach to reporting	Allocation channel	Sector[11]/ Type of support	Financial instrument
Colombia	Reports on finance received per provider in tabular format Provides total amount of finance received in textual and tabular format Reports summary of national initiatives on climate change supported by international cooperation over 2010–2014	Multilateral climate change funds[a] Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a] Multilateral provider of support: GEF Bilateral providers of support: United States, Germany, United Kingdom	Mitigation / adaptation / REDD-plus / cross-cutting	Not specified
Costa Rica	Reports on financial flows directly related to four mitigation actions in textual and tabular format. Provides total amount in tabular format Support was committed/ disbursed in 2015 Needs for National Strategy REDD-plus results-based payment for period 2010–2025	Not specified. Only two providers of support mentioned in the text and footnotes: GIZ and FCPF	Mitigation	Not specified
Côte d'Ivoire	Reports on climate finance received in textual and tabular format, including total amounts in USD and CFA francs Provides information at activity level, by objective, type and source of support Time frame for activities: different periods within 2012–2020Provides information on domestic finance in textual and tabular format, and co-financing for projects financed by GEF	Multilateral climate funds[a] Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a] Multilateral provider of support: GEF	Mitigation / adaptation / general / cross-cutting / capacity-building	Grants / loans / guarantees (all amounts reported are grants)
Ecuador	Reports in tabular format on finance received for direct and indirect climate change mitigation initiatives, per provider, during period 2011–2013 Provides total amount received in tabular format Provides information in tabular format on how resources are distributed among national implementing agencies	Multilateral climate change funds[a] Multilateral financial institutions, including regional development banks[a] Bilateral[a] Multilateral providers of support: GEF, CAF, IADB, UNDP, FAO, UNEP Bilateral providers of support: Germany, European Commission	Mitigation Energy / land use, land use change and forestry / waste / agriculture / water resources / natural heritage / multi-sectoral (only percentages provided in textual format)	Non-refundable / refundable / mixed funds (only percentages provided in textual format)
Georgia	Reports on finance received per project in tabular format. Provides information on top contributors, implementing agencies, duration, budget and scope per project	Multilateral climate change funds[a] Multilateral provider of support: GEF	Mitigation / adaptation Energy / forestry / transport / waste	Grants

Table F.1 (continued)

Parties providing summary information on climate finance received during a certain period

Party	Approach to reporting	Allocation channel	Sector[11]/ Type of support	Financial instrument
Ghana	Reports on finance received per activity in tabular format Provides total amount of financial flows, including domestic contributions, private sector, co-financing and loans from the China Development Bank Time frame: 2011–2017	Multilateral[a] / bilateral[a] / Private sector[a] Multilateral provider of support: GEF, IDA, ACGF, AfDB, UNDP, WB, ITTO, FAO, Strategic Climate Fund, Bilateral provider of support: CHN, DE, FIN, EU, US, CHF, DK, NETH, JAP, AUS, UK, NOR, CAN	Mitigation / adaptation / means of implementation / sustainable development / enabling activities Energy / agriculture / forestry / transport / development planning / environment / health / interior / water / education / finance	Grants / loans / co-financing
Indonesia	Reports total financial support received as grants and loans in textual format Reports on finance received per provider in tabular format Time frames: totals in period 2008–2014; specific activities in period 2009–2017 Includes information on national and local budget for climate change	Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a]	Mitigation / adaptation Energy / forestry / agriculture / transport / waste management	Grants / loans (indicated only for some projects)
Jamaica	Reports on finance received in textual format	Multilateral climate change funds[a] Bilateral[a]	Not specified	Grants
Jordan	Reports on finance received from national and international sources in tabular format Provides information on duration, project description, provider/implementing agency, type of support and objectives Notes difficulties in data collection systems, which means that information is compiled from a mix of private and public sector actors and international organizations	Multilateral climate change funds[a] Multilateral financial institutions, including regional development banks[a] Bilateral[a]	Mitigation / adaptation Energy / water and sanitation / waste / forestry and agriculture	Grants / not specified (private sector, general budget)
Lebanon	Reports in tabular format on climate finance received by top providers per project/ initiative. Time frame: 2011–ongoing Includes description of expected outputs for a few projects/initiatives Shows the amount of finance contributed by top providers in graphical format	Multilateral provider of support: GEF Bilateral providers of support: EU / Australia / Germany	Not specified	Not specified
Malaysia	Reports on finance received per project in tabular format. Includes project descriptions. Amounts reported in USD, EUR and pounds sterling (GBP) Time frame: different project durations within 2006–2019	Multilateral providers of support: GEF / UNDP / UNIDO / ADB Bilateral providers of support: European Commission / European Union / Germany / Australia / United Kingdom	Not specified	Not specified

Table F.1 (continued)

Parties providing summary information on climate finance received during a certain period

Party	Approach to reporting	Allocation channel	Sector[11]/ Type of support	Financial instrument
Mauritania	Reports on finance received per project in tabular format	Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a]	Mitigation / adaptation / cross-cutting	Grants / loans / leasing
Mexico	Reports on total amount of finance received in textual format	Not specified	Mitigation Energy / industrial / residential and commercial / agriculture and forestry / planning and transport	Grants / loans (only in percentages, no total amounts provided)
Mongolia	Reports on finance received per project in tabular format Time frame: different activity durations within 2009–2020	Multilateral providers of support: GEF / GCF / other multilateral institutions Bilateral providers of support: Annex II Parties and other developed country Parties	Energy / construction / forestry	Not specified
Montenegro	Reports on total amount of ODA received in textual format Reports on percentage received from top providers, and distribution between loans and grants	Specialized United Nations bodies[a] Multilateral provider of support: GEF Bilateral providers of support: EU	Not specified	Grants / loans
Morocco	Reports on finance received per project in tabular format Provides total amount of finance received Separately reports on annual budgetary expenditure on climate finance per sector for the period 2005–2010	Multilateral climate funds[a] Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a]	Mitigation / adaptation	Grants / concessional loans
Namibia	Reports on finance received per activity/ project in tabular format, including domestic financial contribution Provides information on status and short description of project/activity No time frames specified	Multilateral climate change funds[a] Multilateral providers of support: GEF / WB	Not specified	Grants/ not specified
Nigeria	Reports on finance received in tabular format, across sources, sectors, objectives Includes brief descriptions and information on co-funding Amounts reported in USD, EUR, GBP and Nigerian naira Time frame of projects: 2013–2020	Multilateral climate change funds[a] Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a]	Mitigation / adaptation / cross-cutting Energy / power / transport / agriculture / environment / NAMA / health and environment / agriculture and water / UNFCCC compliance / mining / cross-cutting	Grants / loans

Table F.1 (continued)

Parties providing summary information on climate finance received during a certain period

Party	Approach to reporting	Allocation channel	Sector[11]/ Type of support	Financial instrument
Paraguay	Reports on finance received per provider in tabular format Amounts reported in USD and yen Time frame of support received: 1995–2015	Not specified (however, providers of support can be deduced from the descriptions provided, see below) [a] Multilateral provider of support: UNDP Bilateral providers of support: EU, Norway	Not specified	Grants
Peru	Reports in tabular format on finance received for preparation of the BUR and per mitigation project/activity Provides total amount of finance received, including indicative co-financing Provides total domestic finance over 2010–2013 Time frame: implementation of projects from 2014 onwards	Multilateral financial institutions, including regional development banks[a] Specialized United Nations bodies[a] Multilateral providers of support: GEF, CAF, IADB, others Bilateral providers of support: Annex II Parties and other developed countries, European Commission	(*thematic/ type of support*) Mitigation / GHG inventory	Grants / concessional loans
Republic of Moldova	Reports on finance received per project in tabular format	Multilateral climate change funds[a] Multilateral financial institutions[a] Specialized United Nations bodies[a] Bilateral[a]	Agriculture / health / water resources / forestry sector and biodiversity protection / transport / energy (combination of these sectors)	Grants / loans
South Africa	Reports on finance received per activity and support provider in tabular format, including a description of the specific purpose of funding Provides indicative information on co-financing Separately reports on domestic finance flows in period 2008–2014 Amounts reported in USD and South African rand Provides information on ODA / non-ODA	Multilateral climate change funds[a] Multilateral financial institutions[a] Bilateral[a]	Mitigation / adaptation / capacity-building / technical support / technology support	Grants / loans
Thailand	Reports on finance received per project and by provider in tabular format Provides amounts only for a few projects Amounts reported in USD, EUR and Australian dollars (AUD) Time frame: different project periods within 2014–2020	Specialized United Nations bodies[a] Bilateral[a] Multilateral providers of support: GEF	Mitigation / adaptation / capacity-building / technology transfer	Not specified

Table F.1 (continued)

Parties providing summary information on climate finance received during a certain period

Party	Approach to reporting	Allocation channel	Sector[11]/ Type of support	Financial instrument
Togo	Reports on finance received in tabular format aggregated by provider and nature of support (financial, capacity-building, technology support and technology transfer)	Multilateral climate change funds[a] Multilateral financial institutions[a] Bilateral[a] For multilateral channels a breakdown by institution is provided[a]	Not specified	Not specified
Tunisia	Reports on finance received per project in tabular format Provides total amount of finance received	Multilateral climate change funds[a] Specialized United Nations bodies[a] Bilateral[a]	Mitigation	Not specified
Uruguay	Reports on mitigation finance received per project in tabular format Provides information on amount, source of funding and description of activity/project Time frame: projects being implemented from 2017 onwards Includes information on South–South flows	Multilateral climate change funds[a] Multilateral financial institutions, including regional development banks[a] Specialized United Nations bodies[a] Bilateral[a]	Not specified (in a few cases this can be deduced from the project description)	Not specified
Viet Nam	Provides summary information in tabular format on annual financial support received per provider of support Amounts reported in USD, EUR and AUD Time frame: 2008–2017 Provides a table with detailed information on climate change projects having received international support since 2010. Includes information on ODA Includes a table on commitments by international providers of support	Multilateral financial institutions, including regional development banks[a] Specialized United Nations Bodies[a] Bilateral[a] Multilateral providers of support: GEF, GCF, ADB, WB, FAO, UNEP, UNDP	Mitigation / adaptation Technical and policy assistance / capacity-building / cross-cutting	Grants / loans
Yemen	Provide summary information in tabular format on financial support received per provider of support/project. Time frame: 2000–2015	Multilateral providers of support: WB, GEF, UNDP Bilateral providers of support: EU, Netherlands, Italy, GIZ	Mitigation / adaptation / capacity-building / cross-cutting	Not specified

Notes:

[a] Further specifications made available in reports.

Table F.2

Parties that do not provide summary information on climate finance received during a certain period

Party	Financial instrument
Andorra	Reports on having received EUR 0 on activities for which financial support is needed
Azerbaijan	Provides examples of projects in the past few years for which finance has been received
Bosnia and Herzegovina	Reports on financial costs of preparation and implementation per project in tabular format, indicating that bilateral and multilateral finance has been received for some of the activities
El Salvador	Reports on financial costs of preparation and implementation per project in tabular format in period 2011-2015, indicating that most of the funding came from public domestic resources, followed by multilateral funds and only small portion of the funding came from external loans and grants.
India	Provides amount of GEF grant (in USD) utilized for climate change action during GEF replenishment cycles 4 and 5
Israel	Provides description of projects for which it received international support, but it mostly includes information on support it provides to other countries including tabular data.
Saudi Arabia	No dedicated section on climate finance received or provided
Serbia	No dedicated section on climate finance received
Singapore	No dedicated section on climate finance received or provided
The former Yugoslav Republic of Macedonia	Provides expenditures (in EUR) for major economic sectors
Gives percentage of total finance received from top three providers of support	Not specified
*** Provider of support: Republic of Korea**	Reports in tabular format totals and detailed information on climate finance provided, via multilateral institutions and bilateral, regional and other channels. The amounts are provided in won and USD. Includes information on status (completed/ongoing), funding sources (ODA), financial instruments, type of support and sectors. Information provided annually over 2014–2016.

Annex G: Case studies on domestic tracking of and reporting on climate finance

Table G.1

Case studies on domestic tracking of and reporting on climate finance

Country/ Institution	Colombia	Philippines	Pakistan	Cambodia	UNDP CPEIR (for reference)
Definition of climate finance	Yes: Uses the definition provided by the SCF	Yes: Resources that have been allocated or may be used towards meeting the climate change adaptation and mitigation requirements of the country and its vulnerable communities	N/A	Yes: Climate-related expenditure covers all expenditure that plays a role in increasing resilience to climate change or reducing GHG emissions	No: Defining what is climate-relevant for a country is the first step of the methodology. This step is performed by the CPEIR team in collaboration with officials from the country's relevant ministries
Source of finance	• Public domestic • Public international (excluding international refundable funds) • Private domestic	N/A	Public domestic (tracks allocations related to climate change)	• Public domestic • Public international (bilateral and multilateral)	• Public domestic • Public international (external)
Use of international methodologies	Yes: Rio markers (but adapted to the national context)	N/A	Yes: CPEIR	Yes: OECD-DAC and CPEIR	Yes: Rio markers if CPEIR Climate Relevance Index approach is followed
Development of a national methodology	Yes: Climate Financing MRV System	Yes: Climate Change Expenditure Tagging (CCET)	Yes: Climate Change Financing Framework (CCFF)	Yes: Climate Change Financing Framework (CCFF)	
Methodology/ process for tracking	The Climate Financing MRV System can be applied to both the analysis of international financing and public expenditure. The underlying methodology uses two perspectives: a top-down perspective, based on international methodologies together with a bottom-up perspective, which is in line with the national policy framework • The analysis of international methodologies (including the Rio Markers, the Climate Components; and the GFLAC methodology) made it possible to identify activities that are relevant to mitigation and/or adaptation to climate change. • The analysis of the main national policy frameworks and instruments dedicated to climate change in Colombia helped to specify further mitigation and adaptation activities. Based on these analyses, an indicative eligibility list of 248 activities grouped under 12 sectors and 38 subsectors has been drawn up	N/A	Based on the country's CPEIR, a Climate Change Coding and Tracking System has been developed. This system builds on the Government's integrated financial management system, and makes it possible to track climate change expenditures at the federal level continuously	• MEF database: The Ministry of Economy and Finance has set up a database based on climate public expenditure reviews. Drawing on lessons learned from the first CPEIR, a methodology has been developed. After initially following the CPEIR Climate Relevance Index approach, which led to overestimations, Cambodia has switched to a benefit–cost ratio approach. Case studies were conducted for nine typical climate change activities, leading to improved quantitative assessments for these activities. • CDC database: The Cambodia Development Committee tracks bilateral and multilateral climate finance in the OECD-DAC Official Development Assistance (ODA) Database	• Systematic qualitative and quantitative analysis of a country's public expenditures and how they relate to climate change. • Three-step methodology: (1) Identifying whether an expenditure is climate-related; (2) Classification of the expenditure based on one of the two recommended typologies (Standardized UNDP/ WB CPEIR typology, or National Policy Objectives typology); (3) Weighting the climate part in the expenditure (using either of two methodologies depending on the level of data availability: if there are insufficient data, the CPEIR Climate Relevance Index; if the necessary data are available, the benefit–cost ratio)

Table G.1

Case studies on domestic tracking of and reporting on climate finance

Country/ Institution	Colombia	Philippines	Pakistan	Cambodia	UNDP CPEIR (for reference)
Identification of cross–cutting activities	Yes	Yes	Yes	No	No
Mitigation/ adaptation breakdown	Yes	Yes	Yes	No	Yes
Sectoral distribution	Yes	N/A	Breakdown by economic functional classification.	Yes	Joint UNDP–WB CPEIR typology with three-level classification.
Subnational-level information available	Yes: Information at the national, territorial or local level	No	Yes: Information available at both the federal and provincial level	Yes: Subnational administrations are included	Yes: The subnational budget allocation and expenditure process should be included in the review
Transparency of information	Climate Finance MRV System online platform hosted on the website of the National Department of Planning[12].	NICCDIES (National Integrated Climate Change Database Information and Exchange System[13] covering mitigation finance but currently expanding to cover adaptation too	The Pakistan Economic Survey 2016–17 prepared by the Ministry of Finance includes a section on climate change that is based on the above-mentioned tracking[14]	Country data available through the CPEIR online database.[15]	CPEIR online database[16] containing data collected from Climate Public Expenditure Reports or data automatically extracted from Public Financial Management Information Systems (PFMIS) and generated by different stakeholders in each country
Source	Response by Colombia to call for evidence for preparation of 2018 BA (UNDP, 2018a) Colombia Climate Finance MRV System website[17] (Comité de Gestión Financiera-Departamento Nacional de Planeación, 2016) (Guzmán, Guillén and Manda, 2018)	(Guzmán, Guillén and Manda, 2018)	(UNDP, 2018a) (UNDP, 2017) (Government of Pakistan, 2017)	(UNDP, 2018a) (Kingdom of Cambodia. 2016)	(UNDP, 2015a)

Note: When no information could be accessed, the cell shows N/A ("Not available").

[12] See http://mrv.dnp.gov.co.

[13] See https://niccdies.ph/.

[14] See http://www.finance.gov.pk/survey_1617.html.

[15] See https://www.climatefinance-developmenteffectiveness.org/CPEIR-Database.

[16] See https://www.climatefinance-developmenteffectiveness.org/CPEIR-Database.

[17] Further information is available at : https://mrv.dnp.gov.co/Version%20Ingles/About%20the%20platform/Paginas/What-is-the-Climate-Finance-MRV-system-and-why-was-it-created.aspx

Table G.2

Domestic tracking reporting systems, examples of Cambodia, Colombia and South Africa

Cambodia	Colombia	South Africa	Vietnam	Nepal
Cambodia is integrating climate change in budgeting through the development of a Climate Change Financing Framework (CCFF). The Ministry of Economy and Finance produces annual climate public expenditure reviews. Based on lessons learnt from the first CPEIR a methodology has been developed over time and case studies conducted to better estimate (through the application of a coefficient) the climate relevance of typical climate change activities. In the meantime, externally financed projects (bilateral and multilateral) are being systematically tracked through the OECD-DAC database.	The establishment of a climate finance MRV system for GHG emissions and climate finance is one of Colombia's commitments toward the UNFCCC as part of its NDCs. This system aims at collecting information on climate finance flows in Colombia which is currently dispersed over numerous portals and reports. The objective is to integrate this information into one easily searchable platform, in order to increase the effectiveness of climate finance, through a better understanding of financial flows which are both public and private and originate from both national and international sources. The development of such an MRV system can help identify investment gap, and is particularly relevant for a country like Colombia which is both recipient and provider of climate finance[18]	South Africa's Climate Change Monitoring and Evaluation System Framework was established by the Department of Environmental Affairs with the overall objective to "track South Africa's transition to a lower-carbon economy and climate-resilient society". With respect to climate finance, the system facilitates the tracking of the use, impact and effectiveness of funds in climate change response, as well as support the identification of resource requirements, allocation and opportunities. South Africa has also piloted methodology for estimating and tracking publicly-mobilized private finance for climate action.[19]	Vietnam finalized recently a CPEIR covering 13 provinces in Mekong Delta. It not only quantifies and analyses past expenditure it also maps future public investments for a five-year period, looking forward. The methodology also couples both climate change and green growth. The report identifies which sectors and functional ministries have been allocating funds to different adaptation and mitigation priorities mapped under the country's Paris Agreement Implementation Plan and reports on trends over a three-year period within these sectors.	Nepal is refining climate budget coding working with a sector-based approach, starting with the ministry of agriculture and livestock. It has developed a new method for coding and tracking climate investments and using the analysis as an input to risk-informed plans. It will use seven budget markers for climate-related agricultural activities coded at activity level to build estimates spending across programmes and down to the smallest level of governance. The weighting of relevance is now proposed to be based on three non-budgetary factors, including: (1) availability of information about climate risks and vulnerability, (2) the extent to which an activity is targeting the appropriate beneficiaries, taking into account gender responsiveness; and (3) the links between the activity to the policy objectives and national commitments including to the NDC.

[18] Further information is available at : https://mrv.dnp.gov.co/Version%20Ingles/About%20the%20platform/Paginas/What-is-the-Climate-Finance-MRV-system-and-why-was-it-created.aspx

[19] The pilot methodology was implemented by the OECD and Trade & Industrial Policy Strategies (a domestic research institution), in collaboration with the South African Department of Environmental Affairs and Treasury (McNicoll et al., 2017)

Annex H: Improving statistics on provider effort within OECD-DAC statistics

Box H.1

At their High-Level Meeting in December 2014, DAC members agreed to make important improvements in the OECD-DAC statistical system. Whereas in the past the face value of both grants and loans was counted as ODA, they agreed that only grants and the "grant portion" of concessional loans would be considered. This provides a more realistic comparison of loans and grants, and encourages the use of grants and highly concessional loans.

More and better conditions for countries most in need

The discount rate used in the calculation is also differentiated by developing country groups. Therefore, a loan to a least developed country (LDC) or other low-income country (LIC) will score more ODA than a loan provided under the same conditions extended to a middle-income country (MIC). This incentivises lending to poorer countries based on the consideration that it involves greater effort by providers (in terms of both the funding cost of the loan and the risk associated with it).

Furthermore, higher concessionality thresholds have been introduced to fix softer terms and conditions for lending to countries most in need. In the past, the threshold for ODA eligibility was set at a grant element of 25%. Under the new system, loans to LDCs and other LICs must reach a grant element of at least 45% to be reportable as ODA, while lower middle-income countries (LMICs) will require only a minimum 15% grant element and upper middle-income countries (UMICs) a minimum 10% grant element.

Particular emphasis has also been placed on debt sustainability: to be reportable as ODA, loans must comply with the International Monetary Fund's (IMF) Debt Limits Policy and the World Bank's Non-Concessional Borrowing Policy. Finally, the maximum ODA interest rates permitted have been lowered for all country categories and nearly halved for LDCs and other LICs.

When will these changes take effect?

For the time being, ODA will be reported using both the new grant equivalent and previous cash flow-based systems. This means that full transparency regarding the impact of changes on ODA volumes will be maintained. The new system will become the standard for reporting from 2018 on (for which ODA reporting will take place in early 2019).

Annex I: Challenges in collecting domestic climate finance identified during the preparation of Climate Public Expenditure Reports

Box I.1

Public climate finance data remains patchy in most countries because there are no systems to consistently and regularly update the data. Four countries, Indonesia, Nepal, Pakistan and The Philippines, have transitioned from standalone CPEIR reports to automated budget tagging within the PFM system which has resulted in yearly data of consistent quality. However, most countries still rely on manual expenditure analysis and in some cases manual budget tagging.

There remains much scope for harmonization/standardization and common understanding of climate change related terms and methodologies. Definitions of 'adaptation' and 'mitigation' vary from country to country and the broader context, including institutional context may influence the way in which data is collected and stored. In Indonesia for example, climate related expenditure refers to mitigation only. No adaptation data is collected because there is no legislative mandate for sectors to report on it. Another example is Nepal's budget for climate change which is between 20-30% of the national budget. Nepal appears to be an outlier when compared to other countries, because it defines all reconstruction and rehabilitation in the wake of the 2014 earthquake as adaptation activity following a policy commitment to ensure that all reconstruction is resilient to climate disasters and the inclusion of transfers to State Entities conducting climate responsive activities (e.g. water etc.).

In terms of methodologies for climate related expenditures, countries have used different approaches from expert opinion to various formulae for the assignment of weightages and classification of climate change components of projects. This means that data is not comparable across countries. It is also often not clear whether expenditure data is based on climate change related expenditure (i.e. actual spending) or climate change related budget appropriation (i.e. allocation). Currently, these terms are used interchangeable by data providers without precision regarding at which stage of the budget cycle the data is collected.

Findings from a recent UNDP/GFLAC review of domestic data sources for climate finance flows in recipient countries which showed that comprehensive data on domestic climate expenditures is not readily available nor is it collected regularly or with a consistent methodology (across time within the country or across countries).

Other aspects relating to domestic climate finance data that deserve closer examination include:

- Capacity-building – Sector ministries continue to require support to develop climate responsive budgets which stack up to a national budget that clearly mainstreams climate change. Ministries of finance also require support to develop public financial management information systems that correctly tag climate change related expenditures to allow more consistent tracking and reporting on domestic climate finance.
- Public finance management reforms – are necessary for improving governance of climate finance in recipient countries. Many countries do not have systems such as performance based budgeting which could be used to tie budget expenditure to relevant policy outcomes such as climate change adaptation and mitigation.
- National tracking of climate finance flows – There is need to strengthen institutional co-ordination between agencies that collect domestic and international climate finance data. This will greatly improve national reporting on climate finance flows. However, many countries often lack capacity and in some cases, there is no clear mandate for collecting or collating domestic public and private climate finance data. As a result, there is limited information available for in the preparation of National Communications, BURs or as a part of any national climate change policy. Estimates of climate related finance included in national budgets have been produced but mainly through external programme support although increasingly countries are beginning to engage in PFM reforms that include establishing institutionalized budget tags that can track domestic climate finance.
- Estimation of financing needs - Few developing countries are quantifying the climate finance gap in relation to their climate change strategies, NAMAs, NAPs and NDCs

Source: (UNDP Submission to 2018 BA - Domestic Climate Finance Data)

Annex J: Preliminary findings on sectoral reporting in BR-CTF

The current reporting of sectoral information in the BR-CTF does not allow precise sectoral statistics to be derived. One of the main limitation is the current absence of a common sector classification or sector coding for Parties to report this information. Reporting Parties are therefore currently reporting climate finance based on various sector classifications (international or national) or sometime using the same sector classification but at different level of granularity. Some Parties reported a sector name in text format while others reported a sector code. Some parties list multiple sectors in a single reporting line, while others report only one sector per line (either because the party report at a granular sectoral level, or because only the main sector targeted was listed). The lack of sub-sectoral classification in the BR-CTF format may have been an issue for Parties[20].

All this currently limit the compilation of statistics using the sector variable of the BR-CTF. Based on the nature of the information reported the BR-CTF sector variable is currently closer to a descriptive field relative to the targeted sector. Key-word searches still give an indication on what sectors are being targeted: Agriculture was mentioned in 15% of the sector reported to the table7b, Water 12%, Sanitation 11%, Energy 11%, and Education 6%. When considering the frequency of the main reported sectors, the key-word searching reveals a certain degree of similarities in the distribution with the OECD-DAC source (see table below).

Sector frequency comparison between OECD-DAC and BR-CTF sources

OECD-DAC sector	Frequency in bilateral climate-related development finance database	Keyword(s) within BR-CTF sector variable	Frequency in BR-CTF sector variable.
Agriculture	13%	Agriculture	15%
Water Supply & Sanitation	10%	Water Supply OR Sanitation	11%
Energy	10%	Energy	11%
Forestry	4%	Forestry	3%
Disaster Prevention & Preparedness	3%	Disaster Prevention OR Preparedness	1%
Education related sectors[21]	6%	Education	6%
General Environment Protection	26%	Environmental OR Environment OR General OR Crosscutting OR Cross-Cutting OR Cross Cutting OR 410[22]	22%
		Environmental policy OR administrative management OR Biosphere protection OR Bio-diversity OR Biodiversity OR Site preservation OR Flood prevention OR Flood control OR Environmental education OR training OR Environmental research[23]	7%
		Together	24%

Note: The analysis is limited to reported project frequencies (% are not weighted by the amount committed/disbursed).

[20] In that regard, the word 'other' was mentioned in 65% of the BR-CTF reported sectors.

[21] Not all included in the main education sector: Environmental education/training, Agricultural education/training, Higher education, Energy education/training, Multisector education/training, Primary education, Education facilities and training, Education and training in water supply and sanitation, Health education, Education policy and administrative management, Forestry education/training, Medical education/training, Fishery education/training, Secondary education, Trade education/training, Education/training in banking and financial services, Educational research, Early childhood education, Education and training in transport and storage.

[22] 410 is the DAC sector code (1st level of granularity) for General Environment Protection.

[23] These are the sector codes (2nd level of granularity) composing the main sector General Environment Protection. They were added to take into account the fact that parties do not all report at the same level of granularity. Were also added to the query the corresponding purpose codes (41010 OR 41020 OR 41030 OR 41040 OR 41050 OR 41081 OR 41082).

Annex K: Status of impact reporting under operating entities

Table K.1

Status of impact reporting under operating entities

Funds	Date operational	Reporting on expected results (ex ante)							
		Performance rating target	Adaptation			Mitigation			
			Number of project/ programme expected	Expected beneficiaries with vulnerabilty reduced (in million)	Expected Number of countries (or regional programme)	Number of project/ programme expected	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO2 equivalent, millions of metric tonnes)
AF	2009	n/a	n/a	5.4 (direct)	n/a				
CIF-CTF	2008	n/a				85	6 (additional passenger using low carbon public transport)	25,856 MW (installed energy capacity for renewable energy)	1170
CIF-SREP	2010	n/a				24	5.7 (beneficiaries of improved access to electricity)	3,131,737 MWh (annual electricity output from renewable energy)	2.273
CIF-FIP	2009	n/a				18	1.018 (direct)	n/a	11,7

Reporting on achieved results (ex post) *Figures are cumulative from the operationalisation of the fund as of date mentioned. Unless stated otherwise.*									Other Impact metrics	Source	Comments, if any
Performance rating results	Adaptation			Mitigation				As of			
	Number of project/ programme (approved)	Number of beneficiaries (in million)	Number of countries (or regional programme)	Number of project/ programme (approved)	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)				
98 percent of projects under the portfolio in FY17 have received implementation ratings of marginally satisfactory or above	66	n/a	57					June-2017	- Number of early warning systems - Assets Produced, Developed, Improved, or Strengthened - Increased income, or avoided decrease in income - Natural Assets Protected or Rehabilitated.	- Survey to the AF Secretariat - (AF, 2018) - (AF, 2013)	n/a
n/a				85	0.18 (additional passenger using low carbon public transport)	3,950 MW (installed energy capacity for renewable energy)	37	June-2017	n/a	- Survey to the CIF Secretariat - (CIF, 2017a)	n/a
n/a				24	0.0106 (beneficiaries of improved access to electricity)	1,462 MWh (annual electricity output from renewable energy)	0,008788	December-2017	n/a	- Survey to the CIF Secretariat - (CIF, 2017b)	The SREP started in 2010 with a group of six pilot countries. In 2012, six new pilots were added, and in 2014 the governing body agreed to select another 14 countries.
n/a				18	0.563 (direct)	n/a	n/a	December-2016	Number of Hectares under Sustainable Land management or other FIP Interventions (Target: 31,072,260ha; Achieved results: 3,494,554ha).	- Survey to the CIF Secretariat - (CIF, 2017g) - (CIF, 2017c)	n/a

Table K.1

Status of impact reporting under operating entities (continued)

Funds	Date operational	Reporting on expected results (ex ante)							
			Adaptation			Mitigation			
		Performance rating target	Number of project/ programme expected	Expected beneficiaries with vulnerability reduced (in million)	Expected Number of countries (or regional programme)	Number of project/ programme expected	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)
CIF-PPCR	2008	n/a	20 investment plans (Strategic Program for Climate Resilience) and 64 projects	40.5 (direct and indirect)	18 countries and 2 regional programs				

Reporting on achieved results (ex post) *Figures are cumulative from the operationalisation of the fund as of date mentioned. Unless stated otherwise.*											
Performance rating results	Adaptation			Mitigation				As of	Other Impact metrics	Source	Comments, if any
	Number of project/ programme (approved)	Number of beneficiaries (in million)	Number of countries (or regional programme)	Number of project/ programme (approved)	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)				
n/a	20 investment plans (Strategic Program for Climate Resilience) and 64 projects	8.7 million (direct)	18 countries and 2 regional programs					June-2017	- Degree of integration of climate change in national and sectoral planning; - Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience (qualitative) - Number of people supported by the PPCR to cope with the effects of climate change; - Quality and extent to which climate responsive instruments/investment models are developed and tested; Extent to which vulnerable households, communities, businesses, and public sector services use improved PPCR supported tools, instruments, strategies, and activities to respond to climate variability or climate change (quantitaive)	- Survey to the CIF secretariat - (CIF, 2017f) - (CIF, 2017d) - (CIF, 2017e)	- The number of expected benificiaries will increase when remaining projects will be approved. - The paragraph 58 of the PPCR ORR contains a summary of results achieved as of end December 2016.

Table K.1

Status of impact reporting under operating entities (continued)

Funds	Date operational	Reporting on expected results (ex ante)							
		Performance rating target	Adaptation			Mitigation			
			Number of project/ programme expected	Expected beneficiaries with vulnerability reduced (in million)	Expected Number of countries (or regional programme)	Number of project/ programme expected	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)
GCF	2015	n/a	55 projects (including 18 cross-cutting projects)	217 (adaptation and cross-cutting projects)	55 countries (adaptation and cross-cutting projects)	37 (including 18 cross-cutting projects)	n/a	n/a	1290
GEF-General Trust Fund	1991	85 percent of projects to be rated Moderately Satisfactory or higher	n/a	n/a	n/a	1314	n/a	n/a	8400

Reporting on achieved results (ex post) *Figures are cumulative from the operationalisation of the fund as of date mentioned. Unless stated otherwise.*											
Performance rating results	Adaptation			Mitigation				As of	Other Impact metrics	Source	Comments, if any
	Number of project/ programme (approved)	Number of beneficiaries (in million)	Number of countries (or regional programme)	Number of project/ programme (approved)	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	August-2018	n/a	- Survey to the GCF secretariat - (Green Climate Fund Board document GCF/B.20/13) - (Green Climate Fund Board document GCF/B.20/6)	- On performance rating target, the GCF Secretariat is currently working on different rating score cards (no rating available as of August 31, 2018). - Concerning Energy/ Electricity saving, some relevant indicators need further refinement (no data available as of August 31, 2018).
77 percent of completed projects (excluding multifocal area projects) have overall outcome ratings in the satisfactory range.	n/a	n/a	n/a	1314	n/a	n/a	n/a	June-2018	The GEF IEO OPS6 report also includes performance ratings and analysis on project sustainability, quality of implementation, M&E design and implementation, co-financing, quality of terminal evaluations, project cycle efficiency, progress towards GEF-5 and GEF-6 targets, and progress towards impact (see also Updated Results Architecture for GEF-7).	- Survey to the GEF secretariat - (GEF document GEF/C.47/05) - (GEF Independent Evaluation Office, 2017)	- Ex ante GHG reduction estimated from project mitigation targets at project approval, endorsement and/or project completion. - Since April 2016, the GEF prepares a Corporate Scorecard for each Council Meeting that provides an update on contributions to global environmental benefits, programming, and corporate efficiency and effectiveness. - The GEF has not systematically tracked or reported on estimated emissions reductions achieved at time of project closure. The new RBM system will allow for systematic tracking of core indicators at concept approval, full project proposal endorsement, mid-term evaluation and terminal evaluation for GEF-6 and GEF-7 projects.

Table K.1

Status of impact reporting under operating entities (continued)

Funds	Date operational	Reporting on expected results (ex ante)							
			Adaptation			Mitigation			
		Performance rating target	Number of project/ programme expected	Expected beneficiaries with vulnerability reduced (in million)	Expected Number of countries (or regional programme)	Number of project/ programme expected	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)
GEF-LDCF	2002	85 percent of projects to be rated Moderately Satisfactory or higher	260	20,4	51				
GEF-SCCF	2002	85 percent of projects to be rated Moderately Satisfactory or higher	78	7	78				
WB-FCPF	2008	n/a				36	n/a	n/a	n/a

Reporting on achieved results (ex post) *Figures are cumulative from the operationalisation of the fund as of date mentioned. Unless stated otherwise.*											
	Adaptation			Mitigation							
Performance rating results	Number of project/ programme (approved)	Number of beneficiaries (in million)	Number of countries (or regional programme)	Number of project/ programme (approved)	Number of beneficiaries (in million)	Energy/Electricity saving	GHG reduction (CO_2 equivalent, millions of metric tonnes)	As of	Other Impact metrics	Source	Comments, if any
86 percent of the projects under implementation for which performance ratings were received, were rated moderately satisfactory or higher.	247	5,5	51					June-2017	- Hectares of land better managed to withstand the effects of climate change. - Number of projects that contribute towards public awareness of climate change impacts, vulnerability and adaptation. - Number of people trained.	- Survey to the GEF secretariat - (GEF document GEF/LDCF.SCCF.14/06)	- Not all LDCF/SCCF projects have reported on achieved Number of beneficiaries due to changing results frameworks since LDCF/SCCF inception. - The full range of indicators can be consulted in The Annual Monitoring Report on The LDCF/SCCF and The Progress Report on The LDCF/SCCF.
97 percent of the projects for which a rating was received, were rated Moderately Satisfactory or higher.	77	5,5	76					June-2017			
n/a				55	65 (potential beneficiaries in ER program Areas of Carbon Fund)	n/a	n/a	August-2018	19 Carbon Fund ER Programs have the potential to promote more sustainable forest management and land use over 150 million hectares	- Survey to the FCPF secretariat - (FCPF, 2017)	- Among the 36 project/ programme expected (30 signed agreements for the Readiness Fund and 6 ERPDs for the Carbon Fund). - Among the 55 project/ programme approved (44 signed agreements for the Readiness Fund and 11 ERPDs for the Carbon Fund). - Fully implemented, the 19 FCPF ER Programs have the potential to promote more sustainable forest management and land use over 150 million hectares and reduce up to 300 million tonnes of CO_2 equivalent. This work also has the potential to positively impact the lives of 65-70 million people.

Annex L: Climate finance reported in common tabular format tables

Table L.1

Amounts of climate-specific finance and core/general funding provided to developing countries in 2015 as reported in their BR CTF tables 7, 7(a) and 7(b) (millions of USD)

	Bilateral, regional and other channels					Multilateral							
	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (bilateral. reg. & other)	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (multilateral)	Total climate-specific finance	Core/ general[a]	Grand total
Annex II Parties													
Australia	--	--	90.11	--	90.11	--	--	146.58	--	146.58	236.69	385.33	622.02
Austria	108.51	7.88	4.99	--	121.38	1.30	--	64.93	--	66.23	187.61	--	187.61
Belgium	12.11	26.12	5.95	--	44.18	0.04	1.94	6.03	--	8.01	52.19	284.87	337.06
Canada	1.53	35.78	1.29	--	38.60	0.01	0.39	2.54	--	2.94	41.54	108.83	150.37
Denmark	35.09	12.97	89.35	--	137.41	8.97	2.88	23.85	6.42	42.12	179.53	256.28	435.81
EU (28)	2,901.24	799.56	503.88	--	4,204.68	--	--	--	--	--	4,204.68	0.44	4,205.12
Finland	16.38	10.32	16.03	--	42.73	4.66	2.86	77.79	0.00	85.31	128.04	771.96	900.00
France	1,814.48	733.75	413.22	--	2,961.45	19.95	5.55	230.20	--	255.70	3,217.15	637.85	3,855.00
Germany	4,501.18	459.64	261.26	2,570.78	7,792.86	24.70	109.41	28.86	13.75	176.72	7,969.58	956.24	8,925.82
Greece	--	0.25	--	--	0.25	--	--	--	--	--	0.25	0.41	0.66
Iceland	2.08	6.07	2.09	--	10.24	--	0.17	0.47	--	0.64	10.88	7.19	18.07
Ireland	2.19	24.97	10.88	--	38.04	--	1.87	--	0.00	1.87	39.91	110.69	150.60
Italy	33.33	28.43	135.5	--	197.26	36.54	21.97	183.15	--	241.66	438.92	358.61	797.53
Japan	7,485.36	1,051.50	301.51	--	8,838.37	22.42	0.73	99.40	--	122.55	8,960.92	2,155.22	11,116.14
Luxembourg	7.04	8.33	15.52	--	30.89	--	6.40	52.29	--	58.69	89.58	1.14	90.72
Netherlands	39.08	125.72	159.51	--	324.31	3.34	31.21	208.88	--	243.43	567.74	--	567.74
New Zealand	19.75	17.70	2.82	--	40.27	0.35	0.00	2.18	--	2.53	42.80	41.79	84.59
Norway	267.78	34.70	52.02	--	354.50	9.39	--	6.03	170.01	185.43	539.93	111.93	651.86
Portugal	3.78	0.35	0.55	--	4.68	--	--	2.22	--	2.22	6.90	4.51	11.41
Spain	390.26	31.33	76.67	--	498.26	--	--	12.35	--	12.35	510.61	--	510.61
Sweden	75.93	104.16	123.80	--	303.89	2.57	0.68	56.55	--	59.80	363.69	535.94	899.63
Switzerland	76.22	97.01	--	--	173.23	--	1.04	130.13	0.00	131.17	304.40	3,273.20	3,577.60
United Kingdom	110.98	270.01	19.39	768.52	1,168.90	240.92	--	505.17	--	746.09	1,914.99	2,415.89	4,330.88
United States	2,075.98	268.72	158.29	--	2,502.99	463.70 (no breakdown)[c]				463.70[c]	2,966.69[c]	--	2966.69
Total	19,980.28	4,155.27	2,444.63	3,339.30	29,919.48	375.16	187.10	1,839.60	190.18	3,055.74	32,975.22	12,418.32	45,393.54

Table L.2

Amounts of climate-specific finance and core/general funding provided to developing countries in 2015 as reported in their BR CTF tables 7, 7(a) and 7(b) (millions of USD) (continued)

	Bilateral, regional and other channels					Multilateral					Total climate-specific finance	Core/ general[a]	Grand total
	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (bilateral. reg. & other)	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (multilateral)			
Other Annex I Parties													
Bulgaria	--	--	--	--	--	--	--	--	--	--	--	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	0.00[b]	0.00[b]
Cyprus	--	--	--	--	--	--	--	--	0.00	0.00	0.00	0.00	0.00
Czechia	3.27	2.74	--	--	6.01	--	--	3.05	--	3.05	9.06	9.89	18.95
Estonia	0.08	0.25	0.11	--	0.44	--	--	0.90	--	0.90	1.34	0.09	1.43
Hungary	--	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	--	--	--	--	--	0.01	--	--	--	0.01	0.01	--	0.01
Liechtenstein	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	0.31	--	--	--	0.31	--	--	0.17	0.06	0.23	0.54	1.11	1.65
Malta	--	0.06	0.06	--	0.12	--	--	--	--	--	0.12	--	0.12
Monaco	--	0.43	0.51	--	0.94	--	--	--	--	--	0.94	0.28	1.22
Poland	1.08	1.64	0.22	--	2.94	--	--	3.36	--	3.36	6.30	22.44	28.74
Romania	--	--	--	--	--	--	--	--	--	--	--	0.04	0.04
Russian Federation	--	--	3.02	--	3.02	--	--	--	--	--	3.02	6.5	9.52
Slovakia	--	1.73	0.12	--	1.85	0.38	0.37	--	--	0.75	2.60	0.30	2.90
Slovenia	--	0.86	0.87	--	1.73	--	--	0.88	--	0.88	2.61	--	2.61
Total	4.74	7.71	4.91	0.00	17.36	0.39	0.37	8.36	0.06	9.18	26.54	40.65	67.19

Note: Data accessed on 25 October 2018. Some data relate to national fiscal years rather than calendar years. For countries that only provide information in their respective domestic currency, OECD exchange rates https://data.oecd.org/conversion/exchange-rates.htm for the respective reporting period were used for conversion to USD. For 2015, Euro 0.902 to USD 1.

[a] Support to multilateral and bilateral institutions that parties cannot specify as climate-specific. The amount that a few Parties reported as bilateral core general is USD 2726.37.

[b] 0.00 means the amount was not null but rounded to 0. Croatia reported USD 4,813.33 amount in Year 2015.

[c] Information related to the United States is drawn from preliminary data provided by the United States. According to the provisional data provided by the US, climate-specific finance through multilateral channels amounted to USD 463.70 but were not broken down by mitigation, adaptation and cross-cutting.

Table L.3

Amounts of climate-specific finance and core/general funding provided to developing countries in 2016 as reported in their BR CTF tables 7, 7(a) and 7(b) (millions of USD)

	Bilateral, regional and other channels					Multilateral							
	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (bilateral. reg. & other)	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (multilateral)	Total climate-specific finance	Core/ general[a]	Grand total
Annex II Parties													
Australia	--	--	100.21	--	100.21	--	--	106.98	--	106.98	207.19	320.65	527.84
Austria	102.91	6.40	25.89	--	135.20	1.34	--	72.88	--	74.22	209.42	--	209.42
Belgium	10.44	30.26	11.61	--	52.31	0.03	28.48	30.80	--	59.31	111.62	293.51	405.13
Canada	9.81	32.92	3.96	--	46.69	0.01	12.61	130.07	--	142.69	189.38	99.99	289.37
Denmark	35.85	27.65	84.87	--	148.37	15.61	9.21	17.8	1.10	43.72	192.09	239.55	431.64
EU (28)	3,052.73	1,404.24	717.68	--	5,174.65	--	--	--	--	--	5,174.65	0.45	5,175.10
Finland	9.56	6.02	13.44	--	29.02	2.47	0.33	15.77	0.00	18.57	47.59	589.41	637.00
France	2,505.93	370.38	597.64	--	3,473.95	19.95	16.59	182.53	--	219.07	3,693.02	642.49	4,335.51
Germany	5,842.70	1,302.28	971.52	721.23	8,837.73	45.01	180.17	111.98	57.30	394.46	9,232.19	908.18	10,140.37
Greece	--	0.26	--	--	0.26	--	--	--	--	--	0.26	1.25	1.51
Iceland	3.83	5.79	1.18	--	10.80	--	0.11	0.32	--	0.43	11.23	8.75	19.98
Ireland	1.36	42.00	10.51	--	53.87	--	2.21	--	2.21	4.42	58.29	162.61	220.90
Italy	12.38	45.78	78.27	--	136.43	17.21	19.48	117.71	--	154.40	290.83	510.73	801.56
Japan	9,901.31	553.85	242.36	--	10,697.52	22.42	1.52	164.06	--	188.00	10,885.52	2,175.28	13,060.80
Luxembourg	11.65	10.15	25.21	--	47.01	0.29	21.12	75.37	--	96.78	143.79	1.06	144.85
Netherlands	30.03	133.28	93.49	--	256.80	3.34	36.62	216.17	--	256.13	512.93	--	512.93
New Zealand	18.95	11.73	3.93	--	34.61	0.00	0.00	0.54	--	0.54	35.15	46.79	81.94
Norway	231.13	27.18	32.20	--	290.51	4.61	--	--	127.96	132.57	423.08	93.41	516.49
Portugal	1.45	0.47	0.29	--	2.21	--	--	--	--	--	2.21	14.24	16.45
Spain	468.73	69.48	11.92	--	550.13	--	--	81.09	--	81.09	631.22	--	631.22
Sweden	56.57	161.94	107.29	0.00	325.80	9.03	41.16	69.15	0.00	119.34	445.14	551.18	996.32
Switzerland	100.22	102.10	--	--	202.32	--	1.78	134.54	0.00	136.32	338.64	3,320.33	3,658.97
United Kingdom	321.60	375.89	--	357.37	1,054.86	68.15	40.49	252.97	--	361.61	1,416.47	1,925.52	3,341.99
United States	1,333.69	428.69	135.22	--	1,897.60	1,372.60 (no breakdown)[b]				1372.60[b]	3,270.20[b]	--	3,270.20
Total	24,062.82	5,148.73	3,268.66	1,078.60	33,558.86	209.48	411.90	1,780.74	188.58	3,963.30	37,522.16	11,905.39	49,427.55

Table L.4

Amounts of climate-specific finance and core/general funding provided to developing countries in 2016 as reported in their BR CTF tables 7, 7(a) and 7(b) (millions of USD) (continued)

	Bilateral, regional and other channels					Multilateral							
	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (bilateral. reg. & other)	Mitigation	Adaptation	Cross-cutting	Other	Total climate-specific finance (multilateral)	Total climate-specific finance	Core/ general[a]	Grand total
Other Annex I Parties													
Bulgaria	--	--	--	--	--	--	--	--	--	--	--	--	--
Croatia	--	--	--	--	--	--	--	--	--	--	--	0.01	0.01
Cyprus	--	--	--	--	--	--	--	--	--	--	0.00	0.00	0.00
Czechia	1.77	3.06	0.45	--	5.28	--	--	9.89	--	9.89	15.17	1.41	16.58
Estonia	0.08	0.11	--	--	0.19	--	--	0.23	--	0.23	0.42	0.3	0.72
Hungary	--	35.47	1.32	--	36.79	--	--	0.03	3.79	3.82	40.61	5.95	46.56
Latvia	--	--	--	--	--	0.01	--	--	--	0.01	0.01	--	0.01
Liechtenstein	--	--	--	--	--	--	--	--	--	--	--	--	--
Lithuania	0.43	--	--	--	0.43	--	--	0.17	0.06	0.23	0.66	1.12	1.78
Malta	--	0.05	0.06	--	0.11	--	--	--	--	--	0.11	--	0.11
Monaco	--	0.4	0.47	--	0.87	--	--	--	--	--	0.87	0.28	1.15
Poland	1.15	1.15	0.05	--	2.35	--	--	3.61	--	3.61	5.96	29.59	35.55
Romania	--	0.05	--	--	0.05	--	--	--	0.81	0.81	0.86	--	0.86
Russian Federation	--	--	10.81	--	10.81	--	--	--	--	--	10.81	9.00	19.81
Slovakia	0.22	0.87	0.39	--	1.48	1.93	0.12	--	--	2.05	3.53	1.06	4.59
Slovenia	0.1	1.23	0.76	--	2.09	--	--	1.21	--	1.21	3.30	--	3.30
Total	3.75	42.39	14.31	0.00	60.45	1.94	0.12	15.14	4.66	21.86	82.31	48.72	131.03

Note: Data accessed on 25 October 2018. Some data relate to national fiscal years rather than calendar years. For countries that only provide information in their respective domestic currency, OECD exchange rates https://data.oecd.org/conversion/exchange-rates.htm for the respective reporting period were used for conversion to USD. For 2016, Euro 0.904 to USD 1.

[a] Support to multilateral and bilateral institutions that parties cannot specify as climate-specific. The amount that a few Parties reported as bilateral core general is USD 2783.00.

[b] Information related to the United States is drawn from preliminary data provided by the United States. According to the provisional data provided by the US, climate-specific finance through multilateral channels amounted to USD 1372.60 but were not broken down by mitigation, adaptation and cross-cutting.

Annex M: Climate-related bilateral development finance as reported to the OECD-DAC

Table M.1

Climate-Related Bilateral Development finance in 2016 by objective

	Mitigation-related development finance only - Commitment - 2016 USD thousand		Adaptation-related development finance only - Commitment - 2016 USD thousand		Overlap - Commitment - 2016 USD thousand	Climate-related development finance - 2016 USD thousand	
	Principal	Significant	Principal	Significant		Principal	Significant
Australia	0	12,163	8,568	128,070	245,715	41,346	353,169
Austria	93,903	17,874	2,788	7,166	34,373	114,090	42,014
Belgium	22,118	1,880	8,041	86,595	112,766	33,043	198,358
Canada	23,848	102,136	4,782	198,377	299,325	182,243	446,224
Czechia	905	894	615	2,445	447	1,525	3,782
Denmark	22,833	27,221	0	27,581	59,680	41,315	96,001
EU institutions (excl. EIB)	267,494	1,571,354	422,054	1,881,193	1,737,322	1,115,050	4,764,366
Finland	3,601	31,871	1,309	16,705	25,813	5,231	74,068
France	1,927,506	89,499	708,539	5,637	366,680	2,993,096	104,766
Germany	3,250,942	1,114,388	514,585	859,030	1,031,200	3,765,527	3,004,619
Greece	.	0	.	0	957	.	957
Iceland	0	141	729	4,277	4,431	4,550	5,028
Ireland	743	112	11,944	29,067	45,693	44,459	43,099
Italy	1,226	15,349	268	9,609	56,194	21,271	61,374
Japan	605,451	6,542,345	71,642	1,448,155	291,167	800,384	8,158,375
Korea	0	2,469	3,140	169,909	61,510	22,303	214,725
Lithuania	0	167	0	0	249	31	385
Luxembourg	32	10,882	0	10,037	19,878	2,418	38,410
Netherlands	4,691	6,477	28,544	351,460	207,479	77,528	521,122
New Zealand	2,739	452	3,857	8,617	12,403	11,163	16,905
Norway	349,031	102,559	15,465	24,142	51,775	397,210	145,762
Poland	291	889	81	944	233	557	1,880
Portugal	1,194	0	461	382	852	2,207	683
Romania	0	0	0	0	150	52	99
Slovak Republic	31	0	.	60	0	31	60
Slovenia	0	304	.	663	411	337	1,040
Spain	796	3,212	8,237	47,919	12,871	13,654	59,382
Sweden	9,239	30,745	36,123	297,379	289,298	191,658	471,126
Switzerland	39,877	79,313	32,048	100,435	72,969	92,829	231,813
United Arab Emirates	15,680	0	.	15,000	0	15,680	15,000
United Kingdom	276,594	62,138	138,049	663,617	275,839	503,893	912,343
United States	264,268	428,413	56,453	193	988,560	1,304,622	433,266

Table M.2

Climate-Related Bilateral Development finance in 2015 by objective

	Mitigation-related development finance only - Commitment - 2016 USD thousand		Adaptation-related development finance only - Commitment - 2016 USD thousand		Overlap - Commitment - 2016 USD thousand	Climate-related development finance - 2016 USD thousand	
	Principal	Significant	Principal	Significant		Principal	Significant
Australia	9,992	13,081	20,536	113,950	177,794	55,122	280,232
Austria	22,542	11,919	1,773	12,135	9,028	25,478	31,919
Belgium	12,834	17,385	5,545	171,948	120,586	43,903	284,396
Canada	1,216	52,472	3,001	153,808	108,054	4,415	314,137
Czechia	2,182	625	668	2,133	553	2,856	3,305
Denmark	7,503	34,051	3,475	18,940	155,481	25,323	194,127
EU institutions (excl. EIB)	168,319	569,156	214,514	751,066	1,503,455	714,369	2,492,140
Finland	5,078	10,050	482	24,310	32,389	9,080	63,228
France	2,418,685	12,433	747,817	1,053	461,797	3,626,762	15,022
Germany	1,559,639	1,161,493	446,346	1,153,127	931,363	2,005,985	3,245,983
Greece	0	.	0	.	192	192	.
Iceland	0	0	671	4,840	4,270	4,024	5,757
Ireland	0	0	14,230	16,887	33,876	38,643	26,350
Italy	11,739	20,125	3,808	11,837	202,391	170,639	79,261
Japan	2,842,171	3,876,581	102,520	2,819,148	352,348	3,207,900	6,784,868
Korea	2,831	26,547	92,518	176,097	18,731	97,848	218,876
Lithuania	0	25	.	0	202	13	213
Luxembourg	276	5,345	544	8,518	15,797	2,223	28,256
Netherlands	40,025	2,031	70,432	660,647	239,961	125,794	887,303
New Zealand	4,135	489	1,324	30,153	9,754	14,700	31,154
Norway	562,935	107,772	10,637	16,846	58,858	615,568	141,480
Poland	592	1,186	406	565	113	999	1,864
Portugal	3,251	13,355	222	264	3,787	6,981	13,899
Slovak Republic	.	0	.	297	0	.	297
Slovenia	.	88	.	1,358	111	.	1,557
Spain	13,368	4,937	3,734	23,573	13,189	23,062	35,741
Sweden	17,409	103,704	15,939	136,892	201,355	76,982	398,317
Switzerland	17,018	31,249	38,781	72,039	63,377	88,148	134,314
United Arab Emirates	49,582	39,385	35,644	12,426	0	85,226	51,811
United Kingdom	208,386	68,622	47,543	536,272	1,183,997	483,564	1,561,256
United States	196,974	156,887	131,784	210,468	250,915	489,505	457,522

Note: "." means 0 USD reported for that provider for that year. "0" means the amount was not null but rounded to 0. Longer series (from 2000 onwards) can be downloaded on the OECD-DAC climate-related development finance website (here). Activity-level data can also be downloaded from the same page. For more information supporting the OECD-DAC databases please consult the methodological note.

Annex N: Characteristics of climate finance from multilateral development banks

Table N.1

Climate finance from multilateral development banks from their own resources and external sources by theme in 2015 (millions of USD)

Bank	2015								
	Adaptation			Mitigation			Total		
	Own Resources	External	Total	Own Resources	External	Total	Own Resources	External	Total
ADB	283	73	356	2372	189	2561	2,655	261	2,917
AfDB	305	91	396	905	58	963	1,211	148	1,359
EBRD	234	10	244	2,775	198	2973	3,009	208	3,217
EIB	365	0	365	4,723	49	4772	5,088	49	5,137
IDBG	194	76	270	1293	181	1474	1,486	258	1,744
WBG	3215	178	3393	6,783	546	7329	9,997	725	10,722
Total	**4,596**	**428**	**5024**	**18,851**	**1,221**	**20072**	**23,447**	**1,649**	**25,096**

Table N.2

Climate finance from multilateral development banks from their own resources and external sources by theme in 2016 (millions of USD)

Bank	2016								
	Adaptation			Mitigation			Total		
	Own Resources	External	Total	Own Resources	External	Total	Own Resources	External	Total
ADB	1081	106	1187	2655	595	3250	3,736	701	4,437
AfDB	330	58	388	643	29	672	974	87	1,061
EBRD	208	17	225	3,080	189	3269	3,288	206	3,495
EIB	281	9	290	3,945	31	3976	4,226	40	4,266
IDBG	537	42	580	1,869	241	2110	2,406	283	2,689
WBG	3452	103	3555	7,400	539	7939	10,852	642	11,494
Total	**5,889**	**335**	**6224**	**19,592**	**1,625**	**21217**	**25,482**	**1,959**	**27,441**

Annex O: Climate finance provided by members of the International Development Finance Club

Table O.1

Climate finance from the International Development Finance Club by theme in 2015 and 2016 (billions of USD)

Theme	2015	2016
Adaptation	5.9	4.9
Mitigation	128.2	153.3
Both Adaptation and Mitigation	1.3	1.5
Total	**135.4**	**159.6**

Table O.2

Geographic distribution of climate finance from the International Development Finance Club by theme in 2015 and 2016 (billions of USD)

Region	2015				2016			
	Adaptation	Mitigation	Both Adaptation and Mitigation	Total	Adaptation	Mitigation	Both Adaptation and Mitigation	Total
Domestic								
OECD financing in home country	0.2	24.7	0.6	25.5	0.8	30.7	0.5	31.9
Non-OECD financing in home country	0.1	83.3		83.3	0.1	101.1	0.1	101.3
Total Domestic	**0.3**	**107.9**	**0.6**	**108.8**	**0.9**	**131.8**	**0.6**	**133.2**
International								
OECD financing in other OECD countries		2.2		2.2	0.0	3.4		3.4
OECD financing in non-OECD countries	4.4	11.4	0.7	16.5	2.8	13.2	0.9	16.9
Non-OECD finance in OECD countries		0.0		0.0		0.3		0.3
Non-OECD financing in other non-OECD countries	1.2	6.8		8.0	1.2	4.6		5.8
Total International	**5.6**	**20.4**	**0.7**	**26.7**	**4.0**	**21.5**	**0.9**	**26.4**
Total international finance to non-OECD	*5.6*	*18.1*	*0.7*	*24.5*	*4.0*	*17.8*	*0.9*	*22.7*
Total domestic/ international finance	**5.9**	**128.2**	**1.3**	**135.4**	**4.9**	**153.3**	**1.5**	**159.6**

Annex P: Estimates of domestic public climate finance

Table P.1

Domestic public climate finance as reported in Biennial Update Reports (BUR), Climate Public Expenditure and Investment Reviews (CPEIR) and other sources in 2015 and 2016 (millions of USD)

Country	Source of data			Comment	Annualized expenditure 2015-2016 (USDm)
	BUR	CPEIR/GFLAC	Other		
Developing countries					**18,065**
Argentina	x	x			200
Chile	x	x			5
China		x		(Hebei province only)	6,100
Jordan	x				14
Nigeria	x				116
Vietnam	x	x			117
Bangladesh		x			1656
Cambodia		x			188
Nepal		x			1712
Pakistan		x			2867
Philippines		x			3884
Colombia		x			248
Honduras		x			184
Bolivia		x			258
Guatemala		x			233
Nicaragua		x			26
Zambia			x	EY 2016	259
Developed countries					**49045**
France			x	I4CE 2017	16900
European Commission			x	EC Budget	32145
Total Domestic Public					**67,111**

Annex Q: Characteristics of global climate finance

Table Q.1

Global climate finance estimates broken down by sector and data source in 2015 and 2016 (billions of USD)

Sector aggregated data	2015			2016			Aggregate Note	Data assessment		Completeness	Comment
	Public	Private	Total	Public	Private	Total		Quality	Comment		
Renewable energy	**62**	**260**	**322**	**53**	**218**	**271**	CPI data				
CPI	62	260	322	53	218	271		High	Project level data	High	All technologies covered
Energy efficiency	**25.7**	**209.6**	**235.3**	**32.9**	**212.1**	**245.0**	IEA and CPI data				
IEA – buildings (incremental)			118			133		Medium	Product level sales data calculated as incremental to baseline energy performance. Total investment in project not included	High	All technologies covered
IEA – industry (incremental)			39			37		Medium	Product level sales data calculated as incremental to baseline energy performance. Total investment not included	High	All technologies covered
IEA – transport (incremental)			64			60		Medium	Product level sales data calculated as incremental to baseline energy performance. Total investment data not included	High	All technologies covered
CPI	25.7		25.7	32.9		32.9		High	Project level data	Low	Private sector data lacking
Sustainable transport	**69.7**	**8.3**	**78.0**	**92.5**	**13.3**	**105.8**	IEA and CPI data				
Battery Electric Vehicles	3.1	8.3	11.4	4.6	13.3	17.9		High	Model-level sales data calculated at retail prices with public subsidies data	Low	Not all technologies or solutions covered
CPI – other transport	66.6		66.6	87.9		87.9		High	Project level data	Low	Private sector data lacking
Agriculture, forestry and land use	**6.5**		**6.5**	**5.6**		**5.6**	CPI data				
CPI	6.5		6.5	5.6		5.6		High	Project level data	Low	Private sector data lacking
Forest Trends (conservation finance)		2	2					Low	Survey responses	Low	Unclear
Adaptation	**21.7**		**21.7**	**22.4**		**22.4**	CPI data				
CPI	21.7		21.7	22.4		22.4		High	Project level data	Low	Private sector data lacking
Other sectors	18.5		18.5	18.4		18.4	CPI data				
Non-sector-aggregated data											
Domestic public finance flows total	67.1		67.1	67.1		67.1					
Developing country BUR	0.3		0.3	0.3		0.3		Medium	Project and budget expenditure data vary by country	Low	4 countries
Developing country CPEIR	16.5		16.5	16.5		16.5		High	Weighted expenditure methodology	Low	7 countries
Developed country studies/reports	49.0		49.0	49.0		49.0		Medium	Various methods used	Low	2 countries

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AF	Adaptation Fund
AFD	Agence Française de Développement
AfDB	African Development Bank
AIIB	Asian Infrastructure Investment Bank
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
ASAP	Adaptation for Smallholder Agriculture Programme
AUM	assets under management
BA	biennial assessment
BCG	Boston Consulting Group
BIS	Bank for International Settlements
BNEF	Bloomberg New Energy Finance
BR	biennial report
BR1	first biennial report
BR2	second biennial report
BR3	third biennial report
BSDC	Business and Sustainable Development Commission
BUR	biennial update report
CAF	Andean Development Corporation
CBI	Climate Bonds Initiative
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CDI	California Department of Insurance
CDM	clean development mechanism
CFU	Climate Funds Update
CGE	Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention
CIF	Climate Investment Funds
CISL	Cambridge Institute for Sustainability Leadership
COP	Conference of the Parties
CO_2	carbon dioxide
CO2 eq	carbon dioxide equivalent
CPEIR	climate public expenditure and institutional review
CPI	Climate Policy Initiative
CRS	Creditor Reporting System
CTF	common tabular format
DAC	Development Assistance Committee
DFI	development finance institution
DPRK	Democratic People's Republic of Korea
DTU	Technical University of Denmark
EBRD	European Bank for Reconstruction and Development
EDFI	European Development Finance Institutions
EIB	European Investment Bank
EMPEA	Emerging Markets Private Equity Association
ERT	expert review team
ESG	environmental, social and governance
EU	European Union
FCPF	Forest Carbon Partnership Facility
FDI	foreign direct investment
FIP	Forest Investment Program
Frankfurt School	Frankfurt School of Finance and Management
FY	fiscal year
GABC	Global Alliance for Buildings and Construction
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GEA	Global Energy Assessment
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environment Facility
GFLAC	Group for Climate Finance in Latin America and the Caribbean
GHG	greenhouse gas
GICCC	Global Investor Coalition on Climate Change
GIZ	German Agency for International Cooperation
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
IATI	International Aid Transparency Initiative
IBRD	International Bank for Reconstruction and Development
ICA	international consultation and analysis
ICD	Islamic Corporation for the Development of the Private Sector
I4CE	Institute for Climate Economics
IDBG	Inter-American Development Bank Group
IDFC	International Development Finance Club
IEA	International Energy Agency
IFC	International Finance Corporation
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
INDC	intended nationally determined contribution
INGO	international non-governmental organization
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
IsDB	Islamic Development Bank
JBIC	Japan Bank for International Cooperation
KfW	Kreditanstalt für Wiederaufbau (Reconstruction Credit Institute)
LDC	least developed country
LDCF	Least Developed Countries Fund
M&E	monitoring and evaluation
MDB	multilateral development bank
MMR	Monitoring Mechanism Regulation
MRV	measurement, reporting and verification
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
NeST	Network of Southern Think Tanks
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
OOF	other official flows
OPIC	Overseas Private Investment Corporation
PDC	Portfolio Decarbonization Coalition
PMR	Partnership for Market Readiness
PPCR	Pilot Program for Climate Resilience
PRA	Prudential Regulatory Authority
PRI	Principles for Responsible Investment
R&D	research and development
RC	research collaborative on tracking private climate finance
REDD-plus	Reducing emissions from deforestation and forest degradation including conservation of forest carbon stocks, sustainable management of forests, and enhancement of forest carbon stocks
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBTi	Science Based Targets initiative
SCCF	Special Climate Change Fund
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
SIDS	small island developing States
SITF	Sustainable Insurance and Takaful Facility
SREP	Scaling Up Renewable Energy Program in Low Income Countries
SSE	Sustainable Stock Exchanges
TCFD	Task Force on Climate-related Financial Disclosures

TNA	technology needs assessment
TRR	technical review report
UAE	United Arab Emirates
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
UNGC	United Nations Global Compact
UNIDO	United Nations Industrial Development Organization
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
USAID	United States Agency for International Development
WB	World Bank
WBCSD	World Business Council on Sustainable Development
WBG	World Bank Group
WRI	World Resources Institute

United Nations
Framework Convention on
Climate Change