



Conference of the Parties

Twenty-seventh session

Sharm el-Sheikh, 6–18 November 2022

Agenda item 8(a)

Matters relating to finance

Long-term climate finance

Progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation

Technical report by the Standing Committee on Finance

1. The Conference of the Parties (COP) requested the Standing Committee on Finance to prepare a report in 2022 on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation, taking into account the Climate Finance Delivery Plan and other relevant reports, for consideration at COP 27, and to continue to contribute to assessing the achievement of the goal in the context of the preparation of its biennial assessment and overview of climate finance flows.¹
2. The report is reproduced in the annex in the form originally made available on the UNFCCC website,² with original pagination.

¹ Decision 4/CP.26, paragraph 19.

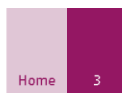
² https://unfccc.int/sites/default/files/resource/J0156_UNFCCC%20100BN%202022%20Report_Book_v3.2.pdf.



Annex

Report on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency of implementation

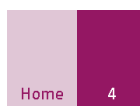
UNFCCC
Standing Committee on Finance



Report on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency of implementation

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	6
LIST OF ABBREVIATIONS	7
1. INTRODUCTION	9
1.1 Background and objectives	10
1.1.1 Background	10
1.1.2 Objectives	14
1.2 Scope	14
1.3 Challenges and limitations	14
1.4 Approach used in preparing the report	15
1.5 Structure of the report	18
1.5 Structure of the report	18
2. APPROACHES USED IN SOURCES OF INFORMATION	19
2.1 Approaches used in sources of information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year	20
2.1.1 Backward looking sources of information	20
2.1.2 Forward-looking information on progress towards achieving the goal of jointly mobilizing USD 100 billion per year	27
2.1.3 Summary	31
2.2 Approaches used in sources of information on the needs of developing countries	33
2.2.1 Reports under the UNFCCC	34
2.2.2 Other relevant reports	37
2.2.3 Summary	38
2.3 Approaches used in sources of information on meaningful mitigation actions and transparency on implementation	41
2.3.1 National reporting on mitigation action under the UNFCCC	41
2.3.2 Aggregate level reports on mitigation action	42
2.3.3 Summary	44
3. QUANTITATIVE AND QUALITATIVE INFORMATION	47
3.1 Available quantitative and qualitative information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year	48
3.1.1 Current status on finance flows towards achieving the goal of mobilizing jointly USD 100 billion per year	48
3.1.2 Forward-looking information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year	55
3.2 Available quantitative and qualitative information on the needs of developing countries	59
3.2.1 Current status on the needs of developing countries	59
3.2.2 Information on how the needs of developing countries have been addressed	70
3.3 Available quantitative and qualitative information on meaningful mitigation actions and transparency on implementation	74
3.3.1 Current status in meaningful mitigation actions	74
3.3.2 Current status in transparency on implementation	83
4. PROGRESS TOWARDS THE GOAL OF MOBILIZING JOINTLY USD 100 BILLION PER YEAR TO ADDRESS THE NEEDS OF DEVELOPING COUNTRIES IN THE CONTEXT OF MEANINGFUL MITIGATION ACTIONS AND TRANSPARENCY ON IMPLEMENTATION	87
4.1 Trends	88
4.1.1 Trends in mobilizing finance flows	88
4.1.2 Trends on how financing is linked to addressing needs	93
4.1.3 Trends related to the context of the USD 100 billion goal: meaningful mitigation actions and transparency on implementation	99



4.2 Challenges and lessons learned	101
4.2.1 Challenges and lessons learned in mobilizing the finance to achieve the goal	101
4.2.2 Challenges and lessons learned related to ensuring mobilization addresses the needs of developing countries	104
4.2.3 Challenges and lessons learned in the context of meaningful mitigation action and transparency on implementation	108
4.2.4 Challenges and lessons learned in measuring progress to support implementation of the goal	108
ANNEXES	
Annex A.1: Financial support provided by Annex II Parties to developing countries, 2011–2020, as reported in their BRs (billions of USD)	112
Annex A.2: Climate finance commitments from MDBs own resources that are attributable to developed country Parties (billions of USD)	113
Annex B: Overview of information provided by developed country Parties on expected levels of climate finance mobilized from different sources	114
Annex C: Number and cost of needs expressed in nationally determined contributions by region	115
Annex D: Comparison of estimates per channel and sources of information based on latest available year	116
REFERENCES	118
LIST OF BOXES	
Box 2.1 Climate finance data from MDBs and DFIs	22
Box 2.2 Reporting of public and private financial support provided and mobilized and received under the enhanced transparency framework from 2024	25
Box 3.1 Meaningful climate resilience and adaptation actions	82
LIST OF TABLES	
Table 1.1 Sources of information used in the report by each dimension	17
Table 2.1 Ranges of approaches used across backward-looking sources of information related to first dimension	31
Table 2.2 Ranges of approaches used in forward looking sources of information related to the first dimension	33
Table 2.3 Ranges of approaches used in national reports that contain information related to the second dimension	39
Table 2.4 Ranges of approaches used in select sources of information related to meaningful mitigation and transparency on implementation	45
Table 3.1 Flows from developed to developing countries reported in biennial assessments and overviews of climate finance flows by the SCF (billions of USD)	49
Table 3.2 Four components of climate finance provided and mobilized, as estimated by OECD (billions of USD)	53
Table 3.3 Breakdown of climate-specific net assistance by instrument and source (billions of USD)	55
Table 3.4 Reported costed needs of developing countries by type of national report submitted to the UNFCCC	60
Table 3.5 Overview of needs identified compared to financial flows per region covered under the NBF project as identified in the technical assessments	74
Table 3.6 Overview of core result indicators in use by multilateral climate funds, by theme and sector	75
Table 3.7 Development of UNEP emissions gaps to 2C or 1.5C pathways by publication year (GtCO ₂ eq/yr)	78

LIST OF FIGURES

Figure 2.1 Climate finance data providers, aggregators and reporters referenced in the BA 21

Figure 2.2 Climate finance reporting with common tabular formats under the Convention and the enhanced transparency framework of the Paris Agreement 25

Figure 3.1 Financial support provided by Annex II Parties to developing countries, 2011-2020, as reported in their biennial reports (billions of USD)..... 52

Figure 3.2 Share of thematic split of climate finance provided and mobilized, as reported by OECD 54

Figure 3.3 Possible range of projected outcomes of climate finance by 2020, as estimated in the 2016 Roadmap to USD 100 billion 57

Figure 3.4 Annual projections towards the USD 100 billion goal, as estimated by the Climate Finance Delivery Plan (billions of USD) 58

Figure 3.5 Overview of articulation of needs of developing country Parties, including costed needs, by type of national report submitted to the UNFCCC 59

Figure 3.6 Needs expressed by developing countries in national reports by sector 62

Figure 3.7 Adaptation priorities identified by developing country Parties in their Adaptation Communications, NCS, NDCs and NAPs 65

Figure 3.8 Aggregate effect of NDCs up to end-2021 compared to INDCs in 2016 on global emission levels in 2025 vs 2010 baseline. 76

Figure 3.9 Number of NAMAs registered from 2013 to 2021 by type. 79

Figure 3.10 Clean energy investment in EMEs and China (IEA, 2022) and annual capacity additions (MW) and growth rates of RE installed capacity by region (IRENA, 2022b) 80

Figure 3.11 Energy sector investments 2015-2021 by region (USD 2021 billion) 81

Figure 3.12 Evolution of available information on transparency of climate action, needs and support, cumulative number of Parties submitting national reports to UNFCCC 84

Figure 3.13 Non-Annex I Parties reporting on implementation of climate finance received 85

Figure 4.1 Range of estimates per channel from sources of information in the latest available year 91

Figure 4.2 Trend in aggregate estimates from backward-looking information (2013-2020) and forward-looking projections (2020-2025). 92

Figure 4.3 Comparison of sources of information by channel 93

Figure 4.4 Thematic distribution of needs and finance provided and mobilized 95

Figure 4.5 Sector distribution of expressed needs (NDR) and climate finance provided and mobilized (OECD). 96

Figure 4.6 Geographical distribution of needs and finance flows 98

Figure 4.7 Time lags in data availability on climate finance flows 109

ACKNOWLEDGEMENTS

Special thanks go to the advisors and contributors of the technical report, Preety Bhandari, Senior Advisor at World Resources Institute, and Simon Buckle. Thanks also goes to support received from Leonard Schmidt, Jingyi Ye, Mariana Lima Maia and Tanvee Kanaujia in the preparation of the report.

Acknowledgments and appreciation go to all external contributors and their teams. Special recognition and thanks are due to the Environment Directorate of the OECD, Chiara Falduto, Raphael Jachnik, Oxfam, Tracy Carty, Jan Kowalzig, Christopher Roy,

In addition, appreciation goes to the numerous experts who offered views and perspectives at technical stakeholder dialogues and through the call for evidence respectively. Although they are too numerous to mention individually, their contributions are deeply appreciated.

Within the SCF, the report on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation was prepared under the guidance of the co-facilitators, Gabriela Blatter and Richard Muyungi. The report has benefited from inputs and guidance from SCF members in 2022, including Kevin Adams, Abdelrahman Al-Gwaiz, Diann Black-Layne, Zaheer Fakir, Mattias Frumerie, Zerihun Getu Mekuria, Fiona Gilbert, Javier Antonio Gutiérrez Ramírez, Outi Honkatukia, Konstantin Kulikov, Apollonia Miola, Bianca Moldovean, Mohamed Nasr, Vicky Noens, Ayman Shasly, Toru Sugio, Ali Waqas Malik, Gertraud Wollansky, Ivan Zambrana Flores and Liucui Zhu.

LIST OF ABBREVIATIONS

AC	adaptation communication	GWP	global warming potential
ADB	Asian Development Bank	HLMD	high-level ministerial dialogue
AF	Adaptation Fund	IBRD	International Bank for Reconstruction and Development
AfDB	African Development Bank	IDA	International Development Association
AFOLU	agriculture, food and other land use sector	IDBG	Inter-American Development Bank Group
AGR	Adaptation Gap Report	IDFC	International Development Finance Club
AIIB	Asian Infrastructure Investment Bank	IEA	International Energy Agency
Annex I Party	Party included in Annex I to the Convention	IMF	International Monetary Fund
Annex II Party	Party included in Annex II to the Convention	INDC	intended nationally determined contribution
APS	announced pledges scenario of the International Energy Agency	IPCC	Intergovernmental Panel on Climate Change
AR6	Sixth Assessment Report of the Intergovernmental Panel on Climate Change	IRENA	International Renewable Energy Agency
ASEAN	Association of Southeast Asian Nations	IsDB	Islamic Development Bank
BA	biennial assessment and overview of climate finance flows	ISIO	island States in the Indian Ocean
BAU	business as usual	JET-P	Just Energy Transition partnership for South Africa
BR	biennial report	LDC	least developed country
BUR	biennial update report	LDCF	Least Developed Countries Fund
CAGR	compound annual growth rate	LEDS	low emissions and development strategies
CCU/S	carbon capture and utilization/storage	LTF	long-term finance
CFU	Climate Funds Update	LT-LEDS	long-term low emissions and development strategies
CFI	Climate Investment Funds	LULUCF	land use, land use change, forestry
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement	MDB	multilateral development bank
CO₂	carbon dioxide	MRV	measurement reporting and verification
CO₂ eq	carbon dioxide equivalent	MW	mega watt
COP	Conference of the Parties	NAMA	nationally appropriate mitigation action
CPI	Climate Policy Initiative	NAP	national adaptation plan
DFI	development finance institution, including bilateral, regional or national development banks	NAPA	national adaptation programme of action
EAC	East African Community	NBF	Needs-based Climate Finance
EBRD	European Bank for Reconstruction and Development	NC	national communication
ECA	export credit agencies	NDC	nationally determined contribution
ECOWAS	Economic Community of West African States	NDR	first report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement
EGR	Emissions Gap Report	NZE	net zero emissions by 2050 scenario of the International Energy Agency
EIB	European Investment Bank	NZFR	net zero financing roadmaps of the Glasgow Financial Alliance for Net Zero
EMDE	emerging markets and developing economies	ODI	Overseas Development Institute
EU	European Union	OECD DAC	Organisation for Economic Co-operation and Development Development Assistance Committee
EV	electric vehicle	OECD	Organisation for Economic Co-operation and Development
FDI	foreign direct investment	PES	planned energy scenario of the International Renewable Energy Agency
FOLU	Food and Land Use Coalition	PPP	public private partnership
GCF	Green Climate Fund	RE	renewable energy
GDP	gross domestic product		
GEF	Global Environment Facility		
GFANZ	Glasgow Financial Alliance for Net Zero		
GHG	greenhouse gas		
Gt	giga ton		



REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
SDR	special drawing rights
SIDS	small island developing States
SOE	stated owned enterprise
STAR	system for transparent allocation of resources of the Global Environment Facility
STEPS	stated policies scenario of the International Energy Agency
TAP	technology action plan
TNA	technology needs assessment
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WBG	World Bank Group
WEO	World Energy Outlook by the International Energy Agency
WGII	Working Group II of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change
WGIII	Working Group III of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change
WRI	World Resources Institute

1

Introduction

1.1 Background and objectives

1.1.1 Background

1. This report is mandated through decision 4/CP.26, paragraph 19, whereby the COP requested the SCF to prepare a report in 2022 on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation, taking into account the Climate Finance Delivery Plan¹ and other relevant reports, for consideration by COP 27, and to continue to contribute to assessing the achievement of the goal in the context of the preparation of its biennial assessment and overview of climate finance flows. By the same decision, COP26, invited the COP27 Presidency to organize the high-level ministerial dialogue on climate finance in 2022 on the progress and fulfilment of the goal of mobilizing jointly USD 100 billion per year by 2020.

2. At COP 16 in 2010, by decision 1/CP.16, paragraph 98, the COP recognized that, “developed country Parties commit, in the context of meaningful mitigation actions and transparency on implementation, to a goal of mobilizing jointly USD 100 billion per year by 2020 to address the needs of developing countries.”² By the same decision, Parties agreed that in accordance with paragraph 1(e) of the Bali Action Plan, funds provided to developing country Parties may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources. Parties also decided that a significant share of new multilateral funding for adaptation should flow through the Green Climate Fund.³

3. To provide context to this report, the remainder of this section outlines provisions of the Convention and the Paris Agreement in relation to climate finance in general followed by relevant decisions on the goal since COP 16.

4. The Convention provides that:

- Developed country Parties and other developed Parties included in Annex II shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1 (communication of information related to the implementation). They shall also provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the agreed full incremental costs of implementing measures that are covered by paragraph 1 of this Article (commitments) and that are agreed between a developing country Party and the international entity or entities referred to in Article 11 (financial mechanism), in accordance with that Article. The implementation of these commitments shall take into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among the developed country Parties;⁴
- The developed country Parties and other developed Parties included in Annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects;⁵
- The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies;⁶

1) See <https://ukcop26.org/wp-content/uploads/2021/10/Climate-Finance-Delivery-Plan-1.pdf>.

2) The goal was first stated in the Copenhagen Accord in 2009 agreed by 141 Parties, which was noted by COP 15 in decision 2/CP.15.

3) Decision 1/CP.16, paras 99 and 100.

4) Article 4, paragraph 3, of the Convention.

5) Article 4, paragraph 4, of the Convention.

6) Article 4, paragraph 5, of the Convention.

- The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties;⁷
 - The developed country Parties may also provide and developing country Parties avail themselves of, financial resources related to the implementation of the Convention through bilateral, regional and other multilateral channels.⁸
5. The Paris Agreement provides that:
- Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention;⁹
 - Other Parties are encouraged to provide or continue to provide such support voluntarily;¹⁰
 - As part of a global effort, developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, through a variety of actions, including supporting country-driven strategies, and taking into account the needs and priorities of developing country Parties. Such mobilization of climate finance should represent a progression beyond previous efforts;¹¹

7) Article 4, paragraph 2 of the Convention.

8) Article 11, paragraph 5, of the Convention.

9) Article 3, paragraph 1, of the Paris Agreement.

10) Article 3, paragraph 2, of the Paris Agreement.

11) Article 3, paragraph 3, of the Paris Agreement.



- The provision of scaled-up financial resources should aim to achieve a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints, such as the least developed countries and small island developing States, considering the need for public and grant-based resources for adaptation;¹²
 - Developed country Parties shall biennially communicate indicative quantitative and qualitative information related to paragraphs 1 and 3 of this Article, as applicable, including, as available, projected levels of public financial resources to be provided to developing country Parties. Other Parties providing resources are encouraged to communicate biennially such information on a voluntary basis;¹³
 - Developed country Parties shall provide transparent and consistent information on support for developing country Parties provided and mobilized through public interventions biennially in accordance with the modalities, procedures and guidelines to be adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement, at its first session, as stipulated in Article 13, paragraph 13. Other Parties are encouraged to do so.¹⁴
6. At COP 17 in 2011, Parties decided to undertake a work programme on long-term finance,¹⁵ including workshops, to progress on long-term finance in the context of the COP 16 decision (decision 1/CP.16, paragraphs 97–101). The work programme aimed to contribute to the on-going efforts to scale up the mobilization of climate change finance after 2012, including by analysing options for the mobilization of resources from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources and relevant analytical work on the climate-related financing needs of developing countries.
7. Furthermore, COP 17 adopted the biennial reporting guidelines for developed country Parties which recognized that the goal of mobilizing the financial resources referred to in decision 1/CP.16, paragraph 98, includes private financial sources, 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.¹⁶
8. At COP 18 in 2012, Parties urged developed country Parties to scale up climate finance from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources, to the joint goal of mobilizing USD 100 billion per year by 2020.
9. At COP 19 in 2013, Parties:¹⁷
- Requested developed country Parties to prepare biennial submissions on their updated strategies and approaches for scaling up climate finance from 2014 to 2020,¹⁸ including any available information on quantitative and qualitative elements of a pathway, on the following:
 - (a) Information to increase clarity on the expected levels of climate finance mobilized from different sources;
 - (b) Information on their policies, programmes and priorities;
 - (c) Information on actions and plans to mobilize additional finance;
 - (d) Information on how Parties are ensuring the balance between adaptation and mitigation, in particular the needs of developing countries that are particularly vulnerable to the adverse effects of climate change;
 - (e) Information on steps taken to enhance their enabling environments, following on from the report of the co-chairs of the extended work programme on long-term finance;

12) Article 9, paragraph 4, of the Paris Agreement.

13) Article 9, paragraph 5, of the Paris Agreement.

14) Article 9, paragraph 7, of the Paris Agreement.

15) Decision 2/CP.17, paras 127 and 130.

16) Annex to decision 2/CP.17, para 19.

17) Decision 3/CP.19.

18) Further information, including all submissions are available at <https://unfccc.int/topics/dimate-finance/workstreams/long-term-climate-finance-ltf>

- Requested the SCF, in the context of the preparation of its BAs, to consider 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, and to include the results in its annual report to the Conference of the Parties;
10. In the decision adopting the Paris Agreement, the COP:
- Decided that, in the implementation of the Agreement, financial resources provided to developing country Parties should enhance the implementation of their policies, strategies, regulations and action plans and their climate change actions with respect to both mitigation and adaptation to contribute to the achievement of the purpose of the Agreement as defined in its Article 2;¹⁹
 - Decided that, in accordance with Article 9, paragraph 3, of the Agreement, developed countries intend to continue their existing collective mobilization goal through 2025 in the context of meaningful mitigation actions and transparency on implementation; prior to 2025 the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement shall set a new collective quantified goal from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries;²⁰
 - Resolved to enhance the provision of urgent and adequate finance, technology and capacity-building support by developed country Parties in order to enhance the level of ambition of pre-2020 action by Parties, and in this regard strongly urged developed country Parties to scale up their level of financial support, with a concrete road map to achieve the goal of jointly providing USD 100 billion annually by 2020 for mitigation and adaptation while significantly increasing adaptation finance from current levels and to further provide appropriate technology and capacity-building support;²¹
11. In Katowice, at CMA1,²² Parties reiterated that developed country Parties shall biennially communicate indicative quantitative and qualitative information related to Article 9, paragraphs 1 and 3, of the Paris Agreement, as applicable, including, as available, projected levels of public financial resources to be provided to developing country Parties. Other Parties providing resources are encouraged to communicate biennially such information on a voluntary basis. In this regard, CMA1 requested developed country Parties to submit the biennial communications as specified in the annex of the same decision,²³ starting in 2020;
12. Furthermore, Parties requested the SCF to prepare, every four years, a report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement (NDR), for consideration by the COP, starting at its 26th session, and the CMA, starting at its third session. By the same decision, Parties requested the SCF, in preparing the NDR, to collaborate, as appropriate, with the operating entities of the Financial Mechanism, the subsidiary and constituted bodies, multilateral and bilateral channels, and observer organizations.²⁴
13. At COP 26 in 2021, Parties:²⁵
- Noted the continued efforts of developed country Parties towards reaching the goal of mobilizing jointly USD 100 billion per year by 2020, in the context of meaningful mitigation action and transparency on implementation, in accordance with decision 1/CP.16;
 - Noted with serious concern the gap in relation to the fulfilment of the goal of developed country Parties to mobilize jointly USD 100 billion per year by 2020, including due to challenges in mobilizing finance from private sources;

19) Decision 1/CP.21, paragraph 52.

20) Decision 1/CP.21, paragraph 53.

21) Decision 1/CP.21, paragraph 114.

22) Decision 12/CMA.1.

23) Available at https://unfccc.int/sites/default/files/resource/cma2018_3_add1_advance.pdf#page=37.

24) Decision 4/CP.24, paragraphs 13 and 14.

25) Decision 4/CP.26.

- Noted that a substantial component of climate finance from developed country Parties to developing country Parties is provided through public finance and urged developed country Parties to continue to scale up climate finance towards achieving the goal to mobilize jointly USD 100 billion per year by 2020;
- Noted recent pledges to increase climate finance, acknowledging that some developed country Parties have already doubled their provision of adaptation finance and requested other developed country Parties to significantly increase their provision of adaptation finance, including by, as appropriate, considering doubling adaptation finance with the aim of achieving a balance between mitigation and adaptation;
- Welcomed the progress of Parties' efforts to strengthen their domestic enabling environments in order to attract climate finance and requested Parties to continue to enhance their enabling environments and policy frameworks to facilitate the mobilization and effective deployment of climate finance in accordance with decision 3/CP.19;
- Emphasised the importance of an effective and coherent climate finance landscape in maximizing access to climate finance in meeting the needs and priorities of developing country Parties.

14. Furthermore, Parties recognized the fact that there is no multilaterally agreed definition of climate finance, noted the submissions received in response to decisions 11/CP.25 and 5/CMA.2, which highlighted that some Parties noted how the lack of a common definition impacts the ability to track and assess climate finance, while other Parties mentioned that a single definition would not be useful, and also notes that the operational definitions in use generally reflect a common understanding of what is considered mitigation and adaptation finance.²⁶

1.1.2 Objectives

15. In responding to the mandate set out in decision 4/CP.26, this report aims to assess progress towards achieving the goal of mobilizing jointly

USD 100 billion per year by 2020 to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation.

1.2 Scope

16. This report responds to decision 4/CP.26, paragraph 19 to report on progress on the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation. It does so by using available backward-looking information and data available for the period 2010 to 2020 and forward-looking information and data, particularly for the period 2021 to 2025.²⁷

17. Implementing the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries, in the context of meaningful mitigation action and transparency on implementation, on its own cannot achieve the goals and objectives of the Convention, and the Paris Agreement. The USD 100 billion goal is important and essential but only one element of means of implementation. To address the global climate crisis, it will take the full implementation of all elements of the Convention and the Paris Agreement at all levels and by all actors to achieve the objectives.

1.3 Challenges and limitations

18. Recognizing the fact that there is no multilaterally agreed definition of climate finance, COP 26 and CMA 3²⁸ requested the SCF to continue its work on definitions of climate finance, taking into account the submissions received from Parties on this matter, with a view to providing input for consideration by the COP 27.²⁹ The work on definitions of climate finance is taken forward in another workstream of the SCF and is not the focus of this report.³⁰

26) Decision 5/CP.26, para. 6.

27) It should be noted that the time frames of available information and data on needs and priorities of developing countries vary depending on the sources of information (e.g. NDCs, BURs), reporting guidelines (or lack thereof), granularity (e.g. overall estimate versus annual amounts), theme, and other factors.

28) See decisions 5/CP.26, para. 7 and 10/CMA.3 para. 3.

29) Reference to the input on work on climate finance definitions.

30) See document FCCC/CP/2022/8/Add.3–FCCC/PA/CMA/2022/7/Add.2.

19. This report takes an agnostic approach to the issue of progress, basing itself in Parties own reporting to the UNFCCC but also analysing other relevant contributions. In addition, a number of challenges and limitations were encountered in the preparation of the report related to data availability and consistency. There is also a lack of clarity of methodologies and definitions applied in some of the sources of information upon which this report draws:

(a) **Methodological challenges:** The Convention and Paris Agreement provide a framework for a bottom-up approach whereby countries can take a self-determined methodological approach to track, measure and report climate finance provided and received, and to define climate finance. This results in challenges in aggregating data on climate finance. Moreover, the decision language on the goal does not provide detailed guidance regarding how to measure and track progress towards achieving it, including accounting approaches and how to contextualize the finance flows in relation to addressing the needs of developing countries or measuring meaningful mitigation action and transparency on implementation. Furthermore, the decision language does not clarify whether nominal or real value in 2009 currency or 2020 currency is relevant to track progress towards the goal. Therefore, all data is presented as reported in current USD in sources of information. Finally, the report covers three different, albeit closely related issues that have been taken forward in different ways, have developed at different speeds over the period since the goal was set, and have different evidence bases. This prevents this report from making quantitative assessments about the nature and extent of causal linkages between different components, e.g., between increases in finance, addressed needs, and enhanced action or increased transparency, though it provides a qualitative picture of how these components have evolved over time;

(b) **Data availability and consistency:** Gaps in the availability and issues of consistency of relevant and robust data and information on progress towards achieving the USD 100 billion goal, especially in developing countries, in the context of data related to support received, pose challenges. Data availability on the coverage of the needs of developing countries on an annual basis is another significant challenge. As most reports present needs over a long timeframe (mostly until 2030 or 2050) instead of on an annual basis, challenges arise in presenting needs for the timeframe 2020 to 2025 which is the scope of the report.

1.4 Approach used in preparing the report

20. The report presents information from a wide variety of sources relevant to the three dimensions of the goal, namely:

- (a) The mobilization, jointly, of USD 100 billion per year by 2020 through to 2025;
- (b) Addressing the needs of developing countries; and
- (c) The context of meaningful mitigation action and transparency on implementation.

21. The report provides quantitative and qualitative information on each of the dimensions, as well as analysing the inter-linkages between them as a whole, to understand overall progress towards achieving the goal. This includes sources of information from Parties' national reports and submissions to the UNFCCC, technical reports by the secretariat, as well as reports from stakeholders with specific relevance to the goal. Where possible, disaggregated information on themes, instruments, sectors, and geographical distribution of finance including for LDCs and SIDs, as well as impacts and outcomes of climate finance, are reflected in the report.

22. In addition to collecting available information and data from various reports and conducting a literature review, the SCF issued a call for inputs³¹ to gather information and data for the preparation of the report,³² with a view to gathering further inputs to assess progress towards achieving the goal. Additionally, the SCF invited Annex II Parties to provide preliminary information and data on financial support provided to developing countries in forthcoming fifth biennial reports due by 31 December 2022, in order to aid the development of the report.

23. **Table 1.1** provides an overview of the sources of information outlined in Chapter 2 and 3 of the report. For each dimension of the goal, the sources reflect the most relevant information under the reporting processes of the UNFCCC, as well as other relevant reports outside the UNFCCC process.

(a) For the first dimension, the biennial assessment and overview of climate finance flows is a primary source of information for the report based on guidance from the SCF.³³ The BA consists of a meta-analysis of data on climate finance flows globally and from developed to developing countries. Other relevant reports and studies are outlined for those with a stated objective of tracking or assessing progress towards achieving the goal of jointly mobilizing USD 100 billion per year. For sources of information on climate finance without explicit references to the goal, such as data from the joint MDB reports on climate finance, CPI's Global Landscape of Climate Finance, Climate Funds Update, the OECD DAC climate-related development finance database, and reports from the multilateral climate funds, these data sources are captured through the meta-data analysis of the BA;

(b) For the second dimension, the first report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement (NDR1) is a primary source of information for the report based on guidance from the SCF. Relevant updates on needs from national and synthesis reports under the UNFCCC processes are also referred to along with updates to global or developing country investment need estimates since the publication of the NDR1;

(c) For the third dimension, sources of information on mitigation action based on Parties' submissions since the goal was recognized are a primary source of information, in addition to other reports that provide an overview of mitigation action such as the IPCC, UNEP and the IEA.

31) Available at https://unfccc.int/sites/default/files/resource/Call%20for%20inputs_ProgressReport.pdf.

32) As of 31 August 2022, two submissions were received which are available at <https://unfccc.int/topics/dimate-finance/resources/standing-committee-on-finance-info-repository#report-on-progress-towards-achieving-the-goal-of-mobilizing-jointly-usd-100-billion-per-year-by-2020-through-to-2025>.

33) In accordance with decision 4/CP.26, paragraph 19, the BA will continue to contribute to assessing the achievement of the goal in the period beyond this report.

Table 1.1

Sources of information used in the report by each dimension

	Dimension 1	Dimension 2	Dimension 3
	Mobilizing jointly USD 100 billion per year by 2020 and through to 2025	Addressing the needs of developing countries	The context of meaningful mitigation action and transparency on implementation
Sources of information under the UNFCCC	<p>SCF Biennial Assessment and Overview of Climate Finance Flows</p> <p>Preliminary information from fifth biennial reports of Annex II Parties</p> <p>Latest information from biennial update reports of non-Annex I Parties</p>	<p>SCF Needs determination report (2021)</p> <p>Latest information on needs from NDCs, ACs, NCs, BURs, NAPs</p> <p>NDC and INDC synthesis reports (2016, 2021)</p> <p>Information from the NBF</p> <p>Information from the technical assessment of the Global Stocktake</p>	<p>NDC synthesis report (2021)</p> <p>Information from the technical assessment of the Global Stocktake</p> <p>NAMA registry</p> <p>SCF Biennial Assessment and Overview of Climate Finance Flows</p>
	<p>LTF work programme documents including in-session workshop reports, HLMD summaries and submissions by developed country Parties on their strategies and approaches for scaling up climate finance</p> <p>Information related to Article 9.5 of the Paris Agreement, including biennial communications by developed country Parties on indicative quantitative and qualitative information, in-session workshop reports and HLMD summaries</p>		
Other relevant reports	<p>Climate Finance Delivery Plan (2021)</p> <p>2016 Roadmap to USD 100 billion</p> <p>OECD report series on Climate Finance and the USD 100 billion goal (2022)</p> <p>Oxfam Climate Finance Shadow Report (2020, 2022) and climate finance pledges analysis (2021)</p> <p>Ministry of Finance, India Discussion Paper on climate change finance (2015)</p> <p>Independent Expert Group on Climate Finance – Delivering on the USD 100 billion climate finance commitment and transforming climate finance (Bhattacharya et al, 2020)</p> <p>WRI A breakdown of developed countries public climate finance contributions towards the USD 100 billion goal (Bos and Thwaites, 2021)</p> <p>ODI A fair share of climate finance: apportioning responsibility for the \$100 billion climate finance goal (Colenbrander et al, 2021)</p> <p>ODI A fair share of climate finance? An appraisal of past performance, future pledges and prospective contributors (Colenbrander et al, 2022)</p>	<p>IPCC AR6 WGII and WGIII (2022a, 2022b)</p> <p>IEA World Energy Investment 2021</p> <p>Race to Zero/GFANZ Net Zero Financing Roadmaps</p> <p>IRENA World Energy Transitions (2022)</p> <p>UNEP Adaptation Gap Reports (2016 and 2021)</p>	<p>IPCC AR6 WGII and WGIII (2022a, 2022b)</p> <p>UNEP Emissions Gap Report (2010–2021)</p> <p>UNEP Adaptation Gap Report 2021</p> <p>IEA World Energy Investment 2022</p> <p>NAMA Facility</p>

1.5 Structure of the report

24. The report is structured following the general outline agreed by the SCF at its 27th meeting.³⁴

25. Chapter 2 provides an overview of the underlying approaches and methodologies used in sources of information for each of the three dimensions of the goal. The chapter focuses on *how* information relevant to assessing progress in each dimension is developed and presented by each source of information.

26. Chapter 3 provides the quantitative and qualitative information from the sources of information for each of the three dimensions of the goal. The chapter focuses on *what* is the information that is relevant to assessing progress in each dimension.

27. Both chapters 2 and 3 include sources of information from within the UNFCCC process as well as other relevant reports outside the UNFCCC that are relevant to the three dimensions. Each source of information is presented in turn in order to allow the specific methodological choices and scope of the data and information from the source to be presented in its own context.

28. Chapter 4 provides an overview of progress achieved on the goal including trends, challenges, lessons learned and possible recommendations for consideration by the COP:

- (a) The trends section focuses on *whether* there has been the progress over time since 2010 according to the information captured in Chapter 3, and how the trends inform the forward-looking progress on the goal out to 2025. The trends also assess progress overall through examining any interlinkages between the dimensions, for example *whether and how* finance mobilized has addressed needs and if finance mobilized has impacted the overall context of meaningful mitigation action and transparency on implementation;
- (b) The challenges and lessons learned section considers the challenges experienced in implementing the goal, including efforts to provide and mobilize financial resources and to address the needs of developing countries. It also identifies lessons learned in the goal;
- (c) The recommendations section highlights specific areas for consideration by the COP to inform further assessments of progress on the achievement of the goal.

³⁴ See Annex I of the SCF 27 Meeting report, available at: https://unfccc.int/sites/default/files/resource/SCF27_Report_0.pdf

2

Approaches used in sources of information

2.1 Approaches used in sources of information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year

29. This section provides an overview on the approaches used in different sources of information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year. Quantitative and qualitative information from the corresponding sources is outlined in section 3.1. The section first covers backward looking, and subsequently, forward-looking sources of information.

2.1.1 Backward looking sources of information

30. This section presents approaches used in biennial reports, biennial update reports and the biennial assessments and overviews of climate finance flows by the SCF. Approaches are outlined for other relevant reports and studies that have an explicit objective of, or make reference to, assessing progress towards achieving the USD 100 billion per year goal.

Biennial Assessment and Overview of Climate Finance Flows by the SCF

31. The BA consists of a meta-analysis of data from a wide range of sources of information, including but not limited to BRs and BURs, supplemented by other data from the OECD, international financial institutions, United Nations organizations, academia, NGOs, think-tanks, and the private sector (see figure 2.1). The approach taken in the BA aims to enhance comprehensiveness while seeking to avoid overlap or duplication of the underlying data and information. The BA also benefits from qualitative information from various sources, including responses to calls for evidence issued by the SCF and a wide range of reports that explore topics related to climate finance.

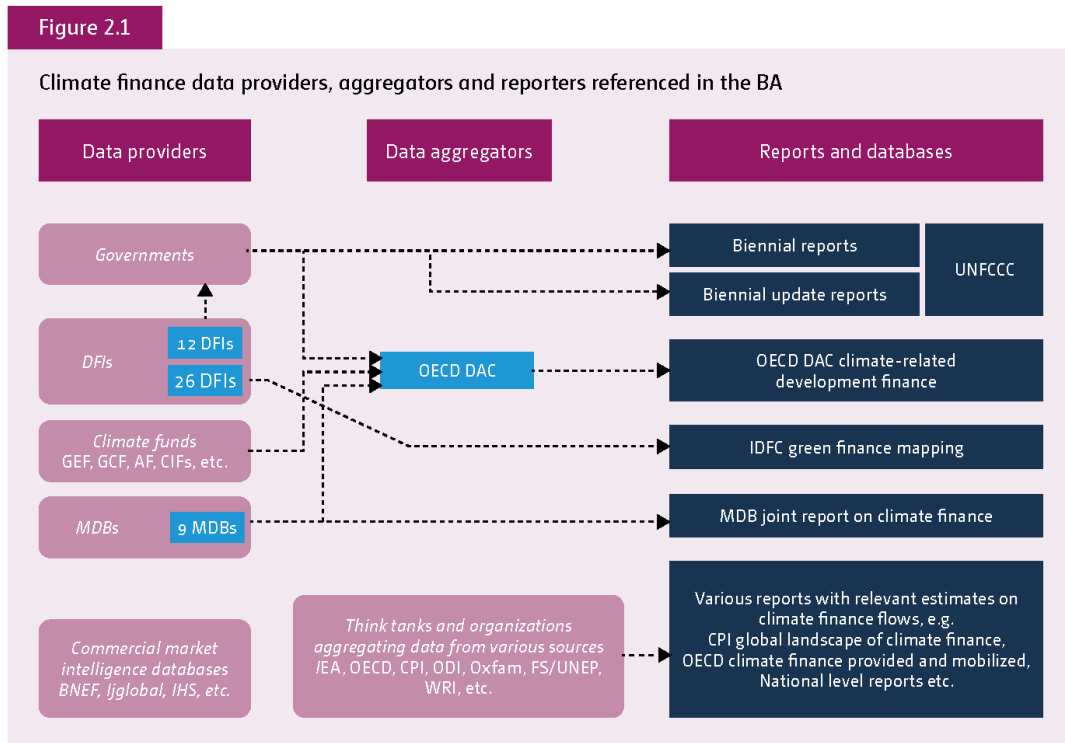
32. Since the first edition of the BA by the SCF in 2014, the technical report has provided insights into climate finance flows from developed to developing countries, from both public and private sources of finance, including on scale, composition and purpose. Chapter 1 of the technical report³⁵ provides an overview of methodologies for tracking, reporting and verifying climate finance flows used by Parties and international organizations.

33. In relation to flows from developed to developing countries, the BA compiles relative sources of information and marks data sources by completeness and quality markers for particular sub-flows and channels, in an overview diagram (see Chapter 3 table 3.1 for quantitative data, data quality markers and sources for relevant data from each BA).

34. For climate finance flows through multilateral climate funds, including the operating entities of the Financial Mechanism, the BA reports both inflows and outflows. The BA highlights outflows to represent finance flows to projects in developing countries within the biennium of the reporting period. In addition, financial commitments to projects are highlighted due to lack of data completeness on disbursements across multilateral climate funds. For bilateral climate finance flows, the BA highlights aggregated data on climate finance support provided through bilateral, regional and other channels by Annex II Parties and does not include support provided through multilateral channels to avoid overlaps with other segments.

35. The BA reflects the range of potential methodologies and assumptions used in attributing MDB climate finance from developed to developing countries. Two different approaches are highlighted (1) based on the ownership shares held by developed countries in each MDB (CPI, 2019a), and (2) based on replenishments of concessional finance and grant windows in different funding rounds) and, for institutions raising additional funds from the capital markets, further considerations of paid-in and on-call capital, the latter being the amounts that shareholders have committed to provide in exceptional circumstances (OECD, 2020a) (see para. 53 below and Annex A.2 for quantified data for the two approaches).

35) Available at: <https://unfccc.int/topics/climate-finance/resources/biennial-assessment-and-overview-of-climate-finance-flows>.



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

36. The BA gathers data on private climate finance either from developed to developing countries or mobilized for projects in developing countries. These include estimates reported jointly by MDBs in measuring direct and indirect mobilization of their climate finance;³⁶ estimates on private finance mobilized by public interventions and attributed to developed countries through both bilateral and multilateral channels, as reported through the OECD report series on progress towards the USD 100 billion goal (see para. 54 below); and data on foreign direct investment in climate mitigation or adaptation projects as reported by CPI.

countries mentioned above are referred to in Chapter 3 and 4 under the guidance of the SCF. However, given differences in data collection and reporting methods across sources of information, as well as the absence of a mandate to assess progress against the USD 100 billion a year climate finance goal, the BAs prepared to date have not aggregated datapoints on flows from developed to developing countries. Nevertheless, the BAs, along with other sources, provide a basis/starting point for framing and consideration of progress on the USD 100 billion goal, particularly as future BAs will contribute to assessing the achievement of the goal in accordance with decision 4/CP.26, para. 19.

37. For the purposes of this report, datapoints from the latest BA on flows from developed to developing

36) Private direct mobilization is defined as 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 private financiers. Private direct mobilization does not include sponsor financing. Private indirect mobilization is defined as financing from private entities supplied in connection with a specific activity for which an MDB is providing financing, where no MDB is playing an active or direct role that leads to the commitment of the private entity's finance. Private indirect mobilization includes sponsor financing if the sponsor qualifies as a private entity.

Box 2.1

Climate finance data from MDBs and DFIs

The BA gathers data from multiple sources on climate finance flows. In particular, relevant data on flows from developed to developing countries is derived from the Joint MDBs climate finance report series as well as the IDFC Green Finance Mapping report series. These reports are not treated as a separate source of information in this report as the data is not explicitly applicable to assessing progress on the USD 100 billion per year goal.

Since 2011, six MDBs – AfDB, ADB, EBRD, EIB, IDBG, and WBG – have reported on climate finance flows to developing countries. The IsDB and AIIB joined the reporting in 2018 and 2020 respectively. The report includes data on total climate finance flows from each MDB from its own resources as well as external resources managed by the MDB, its share in total lending as well as breakdowns by instruments, regions, sectors and themes (e.g. adaptation and mitigation). Since 2015, the report has included estimates on climate co-finance and private finance mobilized (see para 1.1.1.36 below). The scope of the MDB report has evolved over the years, with a geographic focus on outflows to developing and emerging economies (see fourth (2020) BA, Annex A) up and until data reporting on 2018 flows, followed

by a focus on all countries globally for reporting on 2019 flows onwards. Data on climate finance flows in the reports are not attributed to developed countries. The reports since 2019 have included the breakdowns on climate finance flows, themes, instruments and sectors by income group of low-income, middle-income and high-income. The Joint MDB Climate Finance reports provide country level data on total climate finance flows from 2015. The activity-level data underlying the joint report is not published. However, four MDBs – ADB, IDBG, EBRD and two institutions under the WBG, the IDA and IBRD – publish activity level data on their websites.

The IDFC – a club of 26 national, regional and bilateral DFIs based in developed and developing countries – has published a Green Finance Mapping report since 2011 including categories for green energy and mitigation, and adaptation finance. The report includes institutional level climate finance commitments by theme and aggregate level flows by sector, sub-sectoral technologies, financial instrument and regional distribution as well as estimates on private finance mobilized from those DFIs who report such information. In terms of geographic analysis, the report includes aggregate data on flows from institutions based in OECD member countries to project activities in non-OECD member-countries and vice-versa.

Biennial reports of Annex II Parties

38. Under the Convention, 24 Annex II Parties are required to provide information on financial support provided to non-Annex I Parties. The biennial reports capture this including CTF tables 7, 7(a) and 7(b). The other 19 Annex I Parties are required to submit NCs and BRs, but not required to provide information in CTF tables 7, 7(a) and 7(b) on the financial resources provided to non-Annex I Parties. However, many do voluntarily provide such information. An international assessment and review process is conducted with regard to the BRs of Annex I Parties. As a first step, technical expert review teams are established to assess the completeness, transparency and timeliness of BRs in accordance with the reporting guidelines, and a technical review report is prepared for each BR, taking into account the comments of the Annex I Party.

39. COP 17 and COP 18 agreed the reporting guidelines and CTF tables for reporting financial support provided, respectively while COP 21 further revised the CTF tables to improve specific reporting parameters.³⁷ As per the

reporting guidelines, the reporting period covered in biennial reports is three and two years before the reporting year i.e., fourth biennial reports submitted in 2020 covered information on financial support provided in the years 2017 and 2018.

40. CTF table 7(a) includes information on financial support provided through multilateral channels, either as climate-specific financial amounts or as core-general support to multilateral institutions that Parties may not be able to specify as climate-specific. CTF table 7(b) includes information on public financial support provided through bilateral, regional and other channels. CTF Table 7 provides a summary of the information from the two underlying tables. Parties' reporting of quantitative data in the CTFs is accompanied by qualitative information on the underlying assumptions and methodologies used in the reporting process, either in a documentation box within the CTF or in the text of the BR itself. The CTF tables facilitate the reporting of financial information by amounts, status (committed or disbursed), funding source (ODA, OOF or other), financial

³⁷ Decision 2/CP.17, decision 19/CP.18, and decision 9/CP.21.

instrument (grants, concessional loans, non-concessional loans, equity and other), type of support (mitigation, adaptation or cross-cutting), and sector (energy, transport, industry, agriculture, forestry, water and sanitation, cross-cutting and other).

41. As of November 2021, all 24 Annex II Parties had submitted CTF tables on financial support provided in their fourth biennial reports covering the period 2017 and 2018. Of the 19 other Annex I Parties that may voluntarily submit information, 13 had provided data on financial support in their CTFs. In their reporting, Parties follow different approaches while fulfilling the reporting requirements. Issues that particularly affect the aggregation of quantitative data include:³⁸

- (a) Many Annex II Parties base their reporting of climate-specific finance through bilateral, regional and other channels on their use of the OECD DAC Rio Markers where reporters identify activities targeting climate mitigation and/or adaptation objectives as being either a “principal” or “significant” objective. Many Annex II Parties apply a fixed coefficient approach to deduce climate-specific amounts from Rio-marked activities, with 85 per cent to 100 per cent applied to financing amounts of activities marked as principal and from 0 per cent to 100 per cent applied to activities marked as significant.³⁹ Other Annex II Parties apply a case-by-case methodology to identify climate-specific amounts per activity;
- (b) Some Parties report amounts as financial commitments (approved amounts for a given activity over its lifetime) while other Parties report on disbursements (financial transfers for a given activity in the calendar or fiscal year);
- (c) Parties report on core-general support through multilateral channels in different ways. Some report total general contributions to an institution. Others report only their imputed climate-specific share, based on the proportion of the multilateral institutions’ outflows to climate mitigation and/or adaptation projects multiplied by their general contribution. Some opt not to report under this parameter at all. One Party also reports total bilateral development finance as a core-general contribution provided through bilateral channels.

42. As noted above, data on climate finance provided through multilateral channels in biennial reports primarily represents data on inflows to multilateral organizations and entities, while the BA and other reports highlight outflows from these organizations in assessing flows to developing countries. There can be significant differences between the two, reflecting the extent to which multilateral organizations mobilize additional resources from capital markets, based on the strength of their balance sheets. This is separate and additional to any private finance mobilized by a multilateral institution’s activities. As noted in section 1.1, the reporting guidelines also recognized that the goal of mobilizing financial resources in decision 1/CP.16, paragraph 98, includes private financial resources, and that 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.

43. In their fourth BRs, a few Parties reported private finance mobilized through bilateral, regional and other channels in the CTF, and a further nine Parties included estimates in the text of the BR. Several Parties noted that there is presently no internationally agreed standard for tracking private climate finance, with the exception of an OECD standard for instrument-specific methods to measure private finance flows mobilized by development finance while avoiding double-counting. As a consequence, a range of approaches to tracking private climate finance was reported: some adopted conservative approaches to assessment; some provided values only where agreed OECD reporting methods were available (i.e. for guarantees, syndicated loans, equity shares, direct investment, credit lines and co-financing); some noted that multilateral contributions could not be calculated owing to the complexity of actors and the efforts involved; and some reported no estimates, noting either a lack of reporting systems to capture this information or concerns about confidentiality.

44. In accordance with decision 6/CP.25, the submission cycle deadline for the fifth biennial reports, with data on 2019-2020 climate finance flows, was altered to the end of 2022. Therefore, in preparation of the fifth BA, as well as this report, the SCF invited Annex II Parties to provide

38) An in-depth overview of the methodological approaches taken by Parties in submitting information on financial support provided is included in the fourth BA, as well as in the compilation and synthesis of the fourth BRs.

39) For further detail on how Annex II Parties apply coefficients to Rio Marker data for quantitative reporting to UNFCCC see: [https://www.oecd.org/b/officialdocuments/publicdisplaydocumentpdf/?cote=D/C/DAC/STAT\(2022\)24&docLanguage=en](https://www.oecd.org/b/officialdocuments/publicdisplaydocumentpdf/?cote=D/C/DAC/STAT(2022)24&docLanguage=en).

preliminary data if available on climate finance provided in 2019 and 2020. Seventeen Annex II Parties and one other Annex I Party provided this information (see Annex A.1). Proxy data on climate finance flows was publicly available from another six Annex II Parties, while no data was available for one Annex II Party at the time of the preparation of the report.⁴⁰ Such data should be considered as preliminary as several Parties reported that the final data officially submitted as part of fifth biennial reports may change.

Biennial update reports of non-Annex I Parties

45. The biennial update reports submitted by non-Annex I Parties may include information on climate finance received. The “UNFCCC biennial update reporting guidelines for Parties not included in Annex I of the Convention” state that non-Annex I Parties should provide updated information on financial resources, technology transfer, capacity-building and technical support received from the GEF, Annex II Parties and other Parties that provide support, the GCF and multilateral institutions for activities relating to climate change, including for the preparation of BURs. However, there is no associated common reporting format, and the guidelines do not require information on the underlying assumptions, definitions and methodologies used to generate the information. Limited institutional capacity and resources to track climate finance received, as well as a lack of data, can pose challenges for non-Annex I Parties in reporting this information.

46. Processes to review the quality of information on climate finance in BURs are included in the ICA cycles.⁴¹ While the primary objective of the ICA process is to enhance the transparency of mitigation actions, it is also expected to potentially contribute to improving 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. As at December 2020, 52 non-Annex I Parties had undergone at least one round of ICA.⁴²

47. According to the fourth BA, out of a total of 63 non-Annex I Parties submitting 106 BURs as of December 2020,⁴³ 55 Parties have reported on finance received across 86 BURs. Information included in BURs on financial support received varies in the degree of detail

included.⁴⁴ Many Parties indicate that they were only able to report finance received by national governments and that the financial information was partial and represented best efforts to present accurate information while avoiding double counting. The reporting periods used varied across BURs, ranging from annual or biennial time frames to multi-year periods. In some cases, BURs included financial information associated with activity or project duration and/or years of commitment or disbursement.

48. The most common elements reported include information on project or programme titles, amounts received and time periods, although time periods range from support received to date, to new projects initiated since the previous BUR. Many of the Parties reporting information in tabular format provided information on type of support (mitigation, adaptation or cross-cutting), sectors or financial instruments. Only several Parties provided information on the status of activities supported, as well as information on the impact and results of the finance received.

Other relevant reports

49. Since 2015, the OECD report series on climate finance provided and mobilized has assessed progress against achieving the USD 100 billion goal (OECD, 2022). The analysis captures and aggregates activity-level data for four components:

- (a) Bilateral public climate finance;
- (b) Multilateral public climate finance (attributable to developed countries);
- (c) Private finance mobilized by bilateral and multilateral public climate finance (attributed); and
- (d) Climate-related export credits.

50. Data are sourced from a variety of sources: bilateral climate finance reported in the BRs of Parties to the UNFCCC, statistical data from the OECD DAC reporting system on multilateral climate finance outflows and private climate finance mobilized, and climate-related export credits in the OECD Export Credit Group database.

40) The fifth BA uses available data on climate finance flows for 2019–2020 for six EU member-states reported in euro, applying OECD exchange rates for the years 2019 and 2020 to derive USD denominated data.

41) See decision 1/CP.16, paras. 63–64.

42) 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 at <https://cap23.unfccc.int/ICA-cycle1>.

43) 31 Parties had submitted a second BUR and 12 Parties had submitted a third BUR.

44) An in-depth overview of the scope and coverage of reporting on finance received in BURs is available in the fourth BA.

Box 2.2

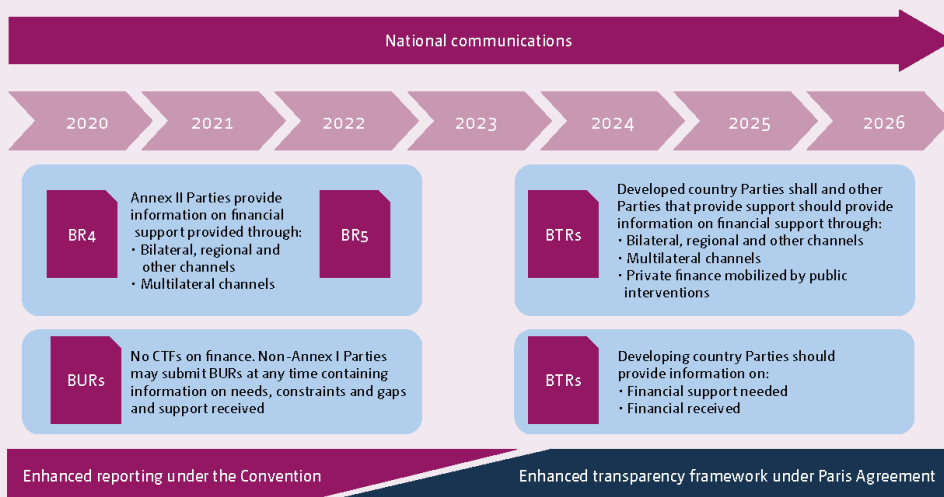
Reporting of public and private financial support provided and mobilized and received under the enhanced transparency framework from 2024

In 2018, CMA 1 adopted the modalities, procedures and guidelines for developed country Parties to report on the financial support they provide and mobilize and for developing country Parties to report on their finance needs and finance

received (see figure 2.2). Other Parties which provide support should also provide such information and are encouraged to use the same modalities, procedures and guidelines. In 2021, CMA 3 adopted the CTFs, as applicable, for use when Parties are due to submit their first BTRs under the Paris Agreement in 2024, as well as the definitions of underlying concepts and methodologies used in the reports.

Figure 2.2

Climate finance reporting with common tabular formats under the Convention and the enhanced transparency framework of the Paris Agreement



Note: The fifth biennial reports are due to be submitted by 31 December 2022 at the latest and the first biennial transparency reports are due to be submitted by 31 December 2024.

51. The report adopts a classification of developed countries as Annex II Parties plus EU member-states not included in Annex II, Liechtenstein and Monaco. Developing countries are classified as non-Annex I Parties and/or those on the DAC list of ODA-eligible recipients.⁴⁵

52. For the bilateral public climate finance component, the OECD report uses climate-specific data as reported by Parties in table 7b (climate finance through bilateral, regional and other channels) of their BRs to the UNFCCC. As such, and because climate finance reporting to the UNFCCC varies across countries, this data includes a mix

of commitments and disbursements. Data on export credits reported in BRs are excluded to avoid double-counting, as well as coal-related financing. Climate-specific outflows from multilateral institutions are reported through the OECD DAC CRS system, including MDBs and multilateral climate funds. For specific multilateral bodies that do not report, the climate-related inflows to those bodies reported by Parties in their BRs are included. Public finance instruments covered in the analysis include grants, loans and equity investments.

45) Countries listed as developing countries beyond non-Annex I Parties to the UNCCC include Belarus, Kosovo, Montserrat, Saint Helena, Tokelau, Turkey, Ukraine, and Wallis and Futuna.

One Party also includes developmental guarantees in its Biennial Reports, which are also included and taken into account in the OECD report series.

53. To attribute climate finance outflows from multilateral institutions to developed countries, the OECD employs a methodology that takes account of the institution-specific share of developed countries paid-in recent and historical contributions for multilateral climate funds and the concessional windows of MDBs. For climate finance from non-concessional windows, the methodology sums the share of total paid-in capital contributions to institutions' accounts, and the share of callable capital, which may be called upon in exceptional circumstances, from developed countries with a credit rating of "A" or above during the analytical period. However, to reflect the higher value of paid-in capital in contributing to climate finance flows, to developing countries, its portion of the calculation is weighted at 90 per cent with 10 per cent weighting applied to the callable capital portion.⁴⁶ The application of the methodology results in institution-specific attributions ranging from 4.8 per cent to close to 100 per cent depending on the institution (OECD, 2022).

54. The report applies the OECD DAC international standard for measuring private finance mobilized by official development finance interventions. The standard consists of a set of instrument-specific methodologies for syndicated loans, developmental guarantees, shares in collective investment vehicles, direct investment in companies, credit lines, simple co-financing and project finance schemes. Each methodology aims to address issues related to accounting boundaries, causality and attribution to public finance actors to avoid double-counting. Editions of the report series since 2019 have availed of the greater accuracy for the wider adoption of the methodologies, resulting in a data break between the reporting years 2013-2014 and from 2016-2019.

55. A discussion paper published by the Ministry of Finance, Government of India in 2015, in a critique on the initial OECD report in 2015 on climate finance provided and mobilized, instead adopted an approach, based data from climate funds updated in June 2015, on disbursements from bilateral, multilateral and MDB operated climate funds. The critique highlighted four specific issues: 1) measuring disbursements as cross-

border flows rather than commitments; 2) classifying new and additional climate finance as finance flows from specific climate change funds dedicated to delivering climate finance in order to not confuse it with other development finance flows; 3) correcting for overreporting due to mis-incentives to rely on self-reporting as a key data source, and 4) only accounting for grant-equivalent elements of any climate finance rather than the face value of loans, guarantees and private finance to reflect the additionality of risks and costs of climate externalities as agreed under the Convention.

56. Oxfam's climate finance shadow report provides an estimate of "climate-specific net assistance" in assessing progress towards the USD 100 billion commitment. Since 2016, the report series has provided annual average estimates for the 2013-2014, 2015-2016, and 2017-2018 reporting periods respectively. The report classifies developed countries as Annex II Parties only and uses activity-level data reported to the OECD DAC CRS by bilateral and multilateral finance providers where the Rio marker method is applied. In this system, reporters identify activities targeting climate mitigation and/or adaptation objectives as being either a "principal" or "significant" objective. The use of this data source means mobilized private finance is excluded from the estimate.

(a) Climate-specific net assistance consists of discounting the climate-related development finance reported by bilateral and multilateral providers to the OECD DAC in two ways. First, it measures only grants, equity and grant-equivalent values of concessional loans provided by bilateral and multilateral climate finance institutions. Non-concessional loans, guarantees, export credits and other instruments, as well as finance for coal-related projects, are excluded. The 2020 report calculates the proportion of grant-equivalent values to the face values of climate-related loan disbursements available from OECD DAC statistics.⁴⁷ Seven countries reported this data for 2018 flows. The country-level proportions are applied to the face value of concessional loan commitments from the OECD climate-related development finance database. As grant equivalency data on climate-related ODA loan disbursements were only available for 2018, each country's average grant equivalency for 2018 was applied to 2017 data. For developed countries in

46) In 2019, the OECD conducted sensitivity analyses on eleven different approaches to calculating the attribution from multilateral institutions, finding estimates could range 6 percentage points less or 5 percentage points more from the methodology calculation based on callable capital rates of 0 per cent to 100 per cent. For concessional windows, different approaches for considering current and/or historical contributions yield almost identical results. For non-concessional specific windows, different approaches ranged from 17 per cent less to 11 per cent more than the methodology calculation (OECD 2019a).

47) Available through downloading total flows to individual project datasets in the creditor reporting system (CRS) at <https://stats.oecd.org/>. Table 20: Financial terms of ODA Commitments. <https://www.oecd.org/dac/financing-sustainable-development/development-finance-data/statistics/consresourceflowstodevelopingcountries.htm>.

the scope of the report without grant-equivalent averages on climate-related loans (17 countries), and for multilateral providers such as MDBs and multilateral climate funds, the average percentage for all DAC countries (49.8 per cent) was applied. The availability of disbursement data on climate-related loans was first made available for 2018 data. Previous editions of the Oxfam report series used the country-level proportion of grant-equivalents for total ODA loan commitments, both climate and non-climate related, and applied this to climate-related loan commitments (Oxfam 2018) or applied a range of 25 per cent to 67 per cent of concessional loan face values (Oxfam, 2016);

- (b) In addition, activity-level data marked as “significant” in the OECD climate-related development database was discounted to 30 per cent of project values for the low-end estimate and to 50 per cent for the high-end estimate, unless the country applies a lower percentage themselves to these projects in reporting to the UNFCCC. These country-level coefficients for reporting on “significant” marked projects are available through a survey published by the OECD (OECD, 2020, 2022). The discount applied to low end estimates has evolved from earlier iterations of the report from 10 per cent (Oxfam, 2016), 20 per cent (Oxfam, 2018) and 30 per cent (Oxfam, 2020) impacting on the consistency of a trend analysis across the series.

57. Other relevant reports cover different aspects related to the delivery of the USD 100 billion per year goal but refrain from assessing overall progress towards the target. In 2021, both WRI and ODI published reports on potential appropriate “fair share” or “burden-sharing” approaches for the climate finance goal among individual developed country Parties. Both reports take Annex II Parties as their classification of developed countries and derive aggregates of public climate finance flows to developing countries as a first step in order to undertake the fair share analysis per individual developed country.

58. WRI (Bos and Thwaites, 2021) arrives at an aggregate for public climate finance to developed countries through bilateral channels, outflows of MDBs and inflows to other multilateral entities. For bilateral climate finance, data from Annex II Party BRs climate-specific finance through bilateral, regional and other channels, and reflected in the BRs, is used. WRI adjusts the data to omit any private finance mobilized reported by Parties, as well as attributing reported finance provided by the EU to individual EU member-states based

on their share of the EU budget. This reduces the total EU climate finance reported as some EU member-states are not Annex II Parties. For multilateral climate finance inflows to institutions other than MDBs, climate-specific finance through multilateral channels is used from Annex II Party BRs, deducting any finance through MDBs that report to the OECD DAC CRS. Again, the attribution of EU climate finance to EU member-states reduces the EU reported amount. For MDB climate finance outflows, the report applies the data reported by MDBs to the OECD DAC CRS and applies the shareholder methodology (see para 35) to attribute to Annex II Parties.

59. In its analysis, ODI (Colenbradner et al 2021, 2022) uses public climate finance provided through bilateral and multilateral channels from the OECD DAC CRS provider perspective database. This excludes outflows from multilateral institutions including MDBs and instead imputed climate share of multilateral contributions (inflows) are used. Similar to the WRI study, EU climate finance is attributed to member states. See methodology sections of both reports for further information on the approach adopted.

60. The report of the **Independent Expert Group on Climate Finance** (Bhattacharya et al, 2020) released by the UN in 2020, draws on available sources of data listed above to provide a review of the information available and a critique of assessments of progress towards meeting the goal but does not provide its own approach in assessing progress.

2.1.2 Forward-looking information on progress towards achieving the goal of jointly mobilizing USD 100 billion per year

61. This section provided an overview on approaches used in different sources of forward-looking information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year by 2020 and through to 2025. It first outlines approaches in reports under the UNFCCC, including from the biennial submissions of developed country Parties on their updated strategies and approaches for scaling up climate finance from 2014 to 2020, under the Long-term Climate Finance work programme. It then outlines approaches used in forward-looking information from other relevant reports, including the Roadmap to USD 100 billion published in 2016 and the Climate Finance Delivery Plan published before COP 26.

Biennial submissions by developed country Parties**62. Biennial submissions on approaches and strategies under the long-term finance work programme:**

Pursuant to decision 3/CP.19, developed country Parties were requested to prepare biennial submissions on their updated strategies and approaches for scaling up climate finance from 2014 to 2020, including any available information on quantitative and qualitative elements of a pathway, on the following:

- (a) Information to increase clarity on the expected levels of climate finance mobilized from different sources;
- (b) Information on their policies, programmes and priorities;
- (c) Information on actions and plans to mobilize additional finance;
- (d) Information on how Parties are ensuring the balance between adaptation and mitigation, in particular the needs of developing countries that are particularly vulnerable to the adverse effects of climate change;
- (e) Information on steps taken to enhance their enabling environments, following on from the report of the co-chairs of the extended work programme on long-term finance.

63. Three rounds of biennial submissions were received in 2014, 2016 and 2018 with compilation and synthesis reports published by the Secretariat in the consequent year to inform the activities of the Long-term finance work programme.⁴⁸ The compilation and synthesis of biennial submissions in 2019 outlined the changes in the extent of information provided on expected levels of climate finance. It noted that while very few submissions included quantitative information on expected levels of climate finance in the first round of submissions (2014), many submissions contained detailed quantitative information on multi-year programmes by the third round of submission, with some going beyond the years of the submission (see in annex B). While most submissions included quantitative information, the format of the information varied across multi-year commitments or included detailed information on contributions to specific institutions and initiatives. (See section 3.1.2 for further information)

64. Biennial communications under the arrangements related to Article 9, paragraph 5, of the Paris Agreement:

The Paris Agreement requires developed country Parties, and encourages other Parties providing resources, to biennially communicate indicative quantitative and qualitative information related to the provision and mobilization of climate finance, as applicable, including, as available, projected levels of public financial resources. In 2018, the CMA outlined the types of information to be provided by Parties including:

- (a) Enhanced information to increase clarity on the projected levels of public financial resources to be provided to developing countries, as available;
- (b) Indicative quantitative and qualitative information on programmes, including projected levels, channels and instruments, as available;
- (c) Information on action and plans to mobilize additional climate finance as part of the global effort to mobilize climate finance from a wide variety of sources, including on the relationship between the public interventions to be used and the private finance mobilized.

65. In their communications, Parties⁴⁹ used different methodologies for projecting their future levels of climate finance, including (1) developing multi-year allocation and disbursement scenarios under which politically committed financial targets could be achieved, (2) allocating a percentage, which would increase in the future, of their annual budget for ODA to climate finance, (3) basing them on their financial commitments to multi-year programmes and initiatives, (4) using the OECD DAC Rio markers to account for climate finance provided in the past and (5) using OECD DAC methodologies for measuring and tracking private finance mobilized.

66. Future levels of climate finance were projected on the basis of several assumptions, such as that committed multi-year public climate finance will be annually approved for disbursement by parliament, and that disbursement may be affected by socioeconomic challenges faced by developed countries and/or changing needs and priorities of recipient countries, for example as a result of the COVID-19 pandemic.

48) Canada, EU, Japan, New Zealand and Norway provided submissions to all three rounds, the United States to first two rounds, Switzerland to the first and third round, and Australia to the last two rounds.

49) Submissions were received from Australia, Canada, EU, Japan, Monaco, New Zealand, Norway, Switzerland, UK, and the US.

Other relevant reports

67. **2016 Roadmap to USD 100 billion:** In 2016, developed countries issued a Roadmap to USD 100 billion with forward-looking projections of climate finance in 2020.⁵⁰ The Roadmap was developed in response to decision 1/CP.21, paragraph 114 which strongly urged developed country Parties to scale up their level of financial support, with a concrete roadmap to achieve the goal of jointly providing USD 100 billion annually by 2020 for mitigation and adaptation, while significantly increasing adaptation finance from current levels and to further provide appropriate technology and capacity-building support.

68. The Roadmap bases its projections on a technical note developed by the OECD (2016) in 2016, which adopts as a starting point the accounting framework set out in the OECD report series on climate finance provided and mobilized to assess progress against the USD 100 billion goal. The four components are bilateral climate finance, multilateral climate finance attributed to developed countries, export credits, and private climate finance mobilized and attributed to developed countries.

69. For bilateral climate finance, developed country pledges on 2020 climate finance as of September 2016 were used. Where a country had not pledged specified amounts by 2020, the value of the last year of the pledge was used. For multi-year pledges, a pro-rata value for 2020 is used. For countries without official pledges, the average of climate finance provided in 2013-2014 was used, based on estimates reported in the first OECD report on climate finance provided and mobilized in the report series (OECD, 2015). For countries with pledges including export credits or private finance mobilized, discounts using the relative shares of these components in their 2013-2014 average estimates were used to avoid double-counting projections with other components of the framework. Furthermore, in order to avoid double-counting with multilateral climate finance projections, any bilateral pledges to 2020 including contributions to multilateral institutions were discounted using the imputed climate-share of the country's core contributions to the multilateral institution in 2013-2014.

70. For multilateral climate finance, the approach applied 2020 targets set out by MDBs at that time, as well as expected outflows from climate funds (specifically the AF, GEF, CIFs and Nordic Development Fund). Where an

MDB target represented a proportion of total financial commitments, for example 30 per cent of total financial commitments to be climate finance by 2020, then the 2013-2014 average total financial commitments of the MDB was used to apply the target. In addition, MDB targets were discounted for any inclusion of externally managed funds on behalf of others such as GEF and CIFs, by applying the relative share of outflows from the MDBs own resources in 2013-2014 to the 2020 target. Furthermore, MDB targets by 2020 were discounted to the share of outflows to developing country projects in the 2013-2014 average, and the attribution of MDB targets by 2020 to developed countries followed the same institution-specific approach set out in the OECD report series.

71. As outflows for the GCF and UN specialised bodies were not possible to project at that time, the annual equivalent of announced pledges to the GCF by countries was included in bilateral climate finance projections. Over 90 per cent of the projection of public climate finance in 2020 was based on countries or multilateral institutions that specified pledges in 2020.

72. For climate-related export credits, the average annual estimate for 2013-2014 was used for the projected value in 2020. For private finance mobilized by public interventions, the OECD projected a range of outcomes since it is inherently uncertain, subject to many factors both within and outside the control of the developed countries. The range is a function of the share of projects with direct private finance mobilization potential in public finance portfolios, in addition to the ratio of private finance mobilized by a dollar of public finance in such projects. Based on the average public-private finance ratio estimated for 2013-2014 (0.36), total climate finance in 2020 was projected to fall below USD 100 billion; however, efforts by developed countries to shape the overall share of projects with a mobilization potential or to increase the effectiveness with which such projects are able to mobilize private climate finance could result in higher levels of climate finance in 2020 and the achievement of the USD 100 billion a year by 2020 commitment. All things being equal, the OECD noted that a higher level of public climate finance (both bilateral and multilateral) in 2020 would increase the range of conditions in which the commitment could be achieved.

50) The countries involved in producing the Roadmap were Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, European Commission, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and United States.

73. The Roadmap to USD 100 billion (2016) produced by developed country partners, based on this OECD analysis, noted that the projections for public climate finance should be considered, “conservative, indicative aggregation of public climate finance levels in 2020, rather than a firm prediction”. It judged that “modest assumptions about increased leverage ratios would lead to projected overall finance levels in 2020 above USD 100 billion.” Additionally, it set out a range of actions to achieve their reaffirmed commitment to the USD 100 billion a year by 2020 goal.

74. **Climate Finance Delivery Plan:** The Climate Finance Delivery Plan prepared by Minister Wilkinson of Canada and State Secretary Flasbarth of Germany, on the invitation of the COP26 President, provides a forward-looking estimate on how and when the USD 100 billion goal would be met. The Delivery Plan was based on analysis of forward-looking pledges from developed countries and MDBs as of October 20, 2021, by the OECD, using the same accounting framework as the OECD report series on the USD 100 billion goal and the 2016 Roadmap.

75. Information and data on pledges were gathered through a dedicated questionnaire, returned by 25 countries, the EU, as well as 8 MDBs. Similar assumptions and methods were used to estimate the projected annual bilateral and multilateral climate finance from 2021 to 2025 inclusive, updated to use 2019 data as the latest available year to fill in gaps in pledges from countries or multilateral institutions. Differences in the approach included how projections for multilateral climate funds were estimated based on a one-year calendar delay between inflows to funds (derived from the questionnaire response) and outflows from the funds.

76. A key difference in approach to the 2016 Roadmap was that the Delivery Plan outlined two scenarios developed by the OECD to provide a range from 2021 to 2025, with differing assumptions for both public climate finance and private finance mobilized. A first scenario assumed a pro-rata ramp up of climate finance pledges as announced by both countries and MDBs and a constant ratio of private finance mobilized by public finance based on the lowest annual ratio observed over 2016-2019 analysis in the OECD report series on the USD 100 billion goal. This corresponds to a mobilization ratio of 0.22.

77. The second scenario assumes delays in scaling up of public climate finance, particularly due to near-term uncertainty caused by the ongoing COVID-19 pandemic, macroeconomic conditions and capacity constraints. The assumption used for estimating the delays in rolling out climate finance pledges are double the standard error for the starting value from a regression analysis of 2013-2019 public finance values over time. The ratio of private finance mobilized in the second scenario is assumed to decrease over time as the public finance portfolio shifts to a greater proportion of activities with less mobilization potential e.g., grants, capacity building and adaptation activities. The ratios assumed start from 0.21 in 2021 to end with 0.177 in 2025, with the share of activities with low mobilization potential rising from 30 per cent in 2021 to 50 per cent in 2025.

78. **Oxfam pledges analysis:** In September 2021, Oxfam published forward-looking estimates for climate finance by 2025 based on pledges made by developed countries until that point.⁵¹ The approach took pledges or estimations for Annex II Parties, MDBs and multilateral climate finance to estimate climate finance flows in 2025. The approach calculates the additional finance that pledges from 11 individual countries and the MDB group for climate finance in 2025, against the pre-2020 pledges made by the same countries. The attribution of the MDB group pledge in 2025 to developed countries is based on the ratio of the 2019 estimate on MDB attributed climate finance from the OECD, to the 2019 climate finance total to low and middle-income countries in the joint MDB climate finance report. The resulting increase over pre-2020 pledges on a pro-rata annual estimate was then added to the 2019 estimate for climate finance provided and mobilized by the OECD report series on the USD 100 billion goal to establish a 2025 estimate.

79. The Oxfam approach therefore assumes that 13 countries without pledges at that time, multilateral climate funds and export credit flows would remain the same as in 2019 estimates from the OECD. The approach follows a similar methodology for estimating adaptation finance levels in 2025 based on dedicated pledges on adaptation announced and using 2019 estimates to fill in gaps. Low and high estimates are derived in the approach from assuming a pro-rata meeting of multi-year pledges or a linear extrapolation in growth from 2021 to 2025 that aggregates in total to the same pledge amount. The approach then compares these aggregated estimates

51) In advance of the Climate Finance Delivery Plan.

to compare to a cumulative finance gap based on the goal of meeting USD 100 billion in climate finance for each year from 2020 to 2025 i.e., USD 600 billion in total.

80. Finally, ODI (Colenbrander et al., 2022) assesses individual country pledges against their individual fair share approach described in para 57 above but does not aggregate these pledges against an assessment of the USD 100 billion goal.

2.1.3 Summary

81. The following table provides an overview of the approaches across sources of information based on the geographic classifications used to determine developed and developing countries, the channels and instruments in scope of the reporting, as well as further information relevant to how the source assesses progress on the USD 100 billion per year goal.

Table 2.1

Ranges of approaches used across backward-looking sources of information related to first dimension

	Biennial assessment and overview of climate finance flows	Biennial reports	Biennial update reports	OECD Report series on climate finance and USD 100 billion goal	Ministry of Finance, India (2015)	Oxfam climate finance shadow reports	WRI / ODI reports on fair share approaches (2021, 2022)
Geographic classification	Based on underlying data sources used	Annex II Parties to non-Annex I Parties	GEF, Annex II Parties and other Parties that provide support, the GCF and multilateral institutions	Developed: Annex II Parties plus EU member-states, Liechtenstein and Monaco Developing: non-Annex I Parties and/ or OECD DAC ODA eligible recipients	Unspecified	Developed: Annex II Parties Developing: Unspecified	Developed: Annex II Parties No approach applied for developing countries
Channels and data sources	Multilateral climate funds (CFU, fund reports) MDBs attributed climate finance (OECD, MDBs) Mobilized private finance (OECD, MDBs) Other private finance flows (CPI)	Bilateral, regional and other channels Multilateral channels (typically inflows to multilateral institutions) Limited information on private finance mobilized	Bilateral and multilateral channels	Bilateral public climate finance (BRs); Multilateral climate finance (outflows*), attributed (OECD DAC); Climate-related export credits (OECD ECG database); Private finance mobilized through bilateral and multilateral channels (OECD DAC)	17 multilateral climate funds (CFU, June 2015)	Bilateral and multilateral channels outflows (OECD DAC)	WRI: public bilateral finance (BRs, BA), MDB attributed to developed countries and multilateral inflows to non-MDB entities (OECD CRS) ODI: public bilateral climate finance and imputed multilateral contributions (OECD CRS)

Table 2.1 (continued)

Ranges of approaches used across backward-looking sources of information related to first dimension

	Biennial assessment and overview of climate finance flows	Biennial reports	Biennial update reports	OECD Report series on climate finance and USD 100 billion goal	Ministry of Finance, India (2015)	Oxfam climate finance shadow reports	WRI / ODI reports on fair share approaches (2021, 2022)
Instruments and point of measurement	Based on underlying data sources	Grants, concessional loans, non-concessional loans, equity, other, depending on Party reporting Commitments and/or disbursements depending on Party reporting	Grants, concessional loans, non-concessional loans, equity, other, depending on Party reporting Commitments and/or disbursements depending on Party reporting	Public finance: grants, loans, equity, (developmental guarantees by one Party only); Export credits: loans, guarantees and insurance; Private finance mobilized by grants, loans, mezzanine/ hybrid finance, equity, developmental guarantees Commitments and/or disbursements based on source	Cumulative disbursements	Climate-specific net assistance based on grants and grant-equivalent value of concessional loan Disbursements	Based on underlying data sources
Other notes	No aggregate estimate to USD 100 billion goal	No aggregate estimate to USD 100 billion goal	No aggregate estimate to USD 100 billion goal	Exclusion of coal-related financing *inflows to multilateral institutions only considered where data on outflows is unavailable	–	Exclusion of coal-related projects, non-concessional loans, guarantees, export credits and other instruments. Activities marked as "significant" under Rio Marker methodology discounted to 30 – 50 per cent of project values.	No aggregate estimate to USD 100 billion goal

Note: Information contained in this table is presented without any hierarchical order.

Table 2.2

Ranges of approaches used in forward looking sources of information related to the first dimension

	Biennial submissions by developed country Parties	2016 Roadmap to USD 100 billion	Climate Finance Delivery Plan (2021)	Oxfam pledges analysis (2021)
Geographic classification	Unspecified	Developed: Annex II Parties plus EU member-states, Liechtenstein and Monaco Developing: non-Annex I Parties and/or OECD DAC ODA eligible recipients	Developed: Annex II Parties plus EU member-states, Liechtenstein and Monaco Developing: non-Annex I Parties and/or OECD DAC ODA eligible recipients	Developed: Annex II Parties Developing: Unspecified
Channels and data sources	Range of bilateral, multilateral and private finance channels based on Party reporting	Channels as for OECD Report series Data based on 2020 pledges and targets as of September 2016 for public finance and range of possible outcomes depending on how the climate finance portfolio was constructed and the extent to which relevant projects mobilized private finance.	Channels as for OECD Report series Data based on pledges and targets as of October 20, 2021 and two scenarios for assumptions on delivery of public finance and private finance mobilized	11 Annex II Party pledges and MDB pledges as of September 2021. 13 other Parties, climate funds and export credits assumed to be same as 2019 levels reported by OECD
Other notes	No forward-looking approach to estimating against achievement of USD 100 billion goal	Export credits based on annual average 2013-2014; Private finance mobilized based on range of outcomes above and below the average 2013-2014 public-private ratio of 0.36	Export credits based on 2019; Private finance mobilized based on range of outcomes from public-private ratio of 0.22 to a declining rate of 0.21-0.177	Estimates difference in 2025 pledges to 2020 pledges. For Annex II Parties without pledges, assumes 2019 data on climate finance provided and mobilized reported by OECD

Note: Information contained in this table is presented without any hierarchical order.

2.2 Approaches used in sources of information on the needs of developing countries

82. This section provides an overview on the approaches used in different sources of information on the needs of developing country Parties. Sources of information presented in this report follow bottom-up approaches based on needs identified in national reports prepared by developing countries, and top-down approaches applied in regional and global reports that use economy-wide or sectoral models. While the sources of information presented in this report contain information on the

needs of developing countries, the scope, timeframes and purposes differ.

83. First, this section presents approaches used in reporting relevant information under the UNFCCC, such as the first report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement, the synthesis reports for the technical assessment process of the global stocktake and technical assessments under the Needs-based Finance project. Then, approaches used in other relevant reports and studies are outlined.

2.2.1 Reports under the UNFCCC

The first report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement

84. The first NDR provides the most comprehensive overview of available information, evidence and data on the needs of developing country Parties related to implementing the Convention and the Paris Agreement from reports at the national, regional and global level. Chapter 4 of the technical report⁵² introduces methodologies for determining needs and their underlying assumptions, both methodologies used by developing countries to determine their needs, including financial needs, as well as methodological approaches utilised by regional and international organizations.

85. Needs reported at the national level are compiled from nine reports prepared by developing country Parties and submitted to the UNFCCC, namely adaptation communications, BURs, LEDS, NAPAs, NAPs, NCS, NDCs, TAPs and TNAs. Information and data on the needs of developing countries are also available from regional and global reports.

86. The overall costed needs by type of report are based on the information on activities with associated costs included in the corresponding individual national reports. The needs included in national reports are identified using a top-down approach (i.e., needs that are typically estimated using economy-wide or sectoral modelling techniques) or a bottom-up approach (i.e., needs that are typically identified from a project pipeline). Unless otherwise specified in national reports, the NDR considered that reported costs reflected full costs for stated needs, rather than the incremental cost for climate change actions. Furthermore, as there are no guidelines under the Convention on reporting the financial needs of developing countries, the quantified needs were estimated by developing countries using different time frames, different assumptions for the evolution of technology costs, and countries often did not state whether the amounts were in current or constant prices. Developing country Parties periodically

update their national reports submitted to the UNFCCC, reflecting changing circumstances and improvements in their data-collection processes and analysis. Therefore, data and information on needs may not be exhaustive, as the needs are dynamically changing.

87. The time frames used in the first NDR are based on the information developing countries presented in their national reports. They vary from short-term (less than five years, e.g., project- or programme-level data) to medium-term (5 to 10 years, e.g., in NCS) and long-term (more than 10 years, e.g., in NDCs). In some cases, national reports to the UNFCCC contain information and data on needs with time frames up until 2030 (e.g., in NDCs) or beyond (e.g., LTS) whereas the scope of this report is until 2025. Therefore, information and data on needs presented in the first NDR should be considered in this context. The first NDR considers data and information from the nine national reports up until 31 May 2021. Time frames based on information from regional or global reports are reflected as per the underlying reports. National reports submitted after the cut-off date are analysed and presented in chapter III of this report.

88. Some challenges were encountered in preparing the first NDR in relation to collecting, categorising, aggregating and presenting data on needs. At the multilateral level, under the current measurement, reporting and verification (MRV) system under the Convention, developing countries report information on support needed and received on a voluntary basis via NCS and BURs. Reporting of information on support needed and received is however not standardised in the current MRV system. Therefore, the coverage, scope and level of detail of information on support needed varies in the BURs that include such information. As noted in box 2.2 above, the enhanced transparency framework under the Paris Agreement presents an opportunity for standardised reporting of information on financial support, technology development and transfer and capacity-building support needed and received by developing countries, starting in 2023.⁵³

52) Available at: https://unfccc.int/sites/default/files/resource/54307_29%20-%20UNFCCC%20First%20NDR%20technical%20report%20-%20web%20%2804%29.pdf

53) Decision 5/CMA.3.

89. At the national level, typically, when submitting information on needs via NCs and BURs, little information is provided on the approaches and processes undertaken and key assumptions made. Furthermore, the level of granularity of data and information on needs varies. Many countries that have provided quantified information provide such information according to thematic scope (mitigation, adaptation, cross-cutting), and only some countries provide quantitative information on needs according to sectors, sub-sectors or activities, depending on their capabilities. Furthermore, countries have used various approaches to assess their climate finance, making it difficult to compare and aggregate quantitative information.

90. To give some examples:

- (a) **NDCs:** Approaches used in communicating financial needs in NDCs are nationally determined and therefore differ. In many cases, cost values identified were lower bound estimates of potential costs. The amount of detail on methodologies for estimating costs presented in NDCs also varies significantly across NDCs, making a full overview difficult to aggregate;
- (b) **BURs:** For BURs, no common reporting format exists, and the current guidelines do not require information on underlying assumptions, definitions and methodologies used in generating the information. Additionally, reporting periods follow different approaches, ranging from annual or biennial timeframes to totals over multiple years. In some BURs, Parties include financial information associated with activity or project duration and/or years of commitment or disbursement. In other cases, Parties do not make a clear distinction between the type of support for thematic areas and sectors. While the majority of developing countries report on the support received, a limited number of countries also report on their finance needs and compare finance received with the financing needs they had set out;
- (c) **NAPs:** While there are guidelines to assist developing countries in undertaking national adaptation plans, there is no common approach by countries in assessing and costing their needs to enable adaptation actions in the context of NAPs.

91. **TNAs:** The TNA process involves, amongst others, understanding of a country's development priorities, discussing climate change implications, identifying priority sectors and sub-sectors for mitigation and priority technologies within them. It further involves preparing a strategy and action plan for prioritised technologies, and synthesising technology needs assessment in a report in the form of a TAP which in most cases includes costs estimated for the identified technology needs. Approximately 77 per cent of Parties provided cost estimates for the actions identified in their TAPs, including 60 per cent of Parties in phase I (2009–2013) and all Parties in phase II (2014–2017). The increase in estimated costed needs is most likely a result of new TAP guidance that was released prior to the second phase of the TNA process. Reporting structure and outline are made available to facilitate comparability among TNAs and TAPs. In terms of timeframes, participating developing countries identified technology needs with an implementation period of less than five years, 5–10 years and more than 10 years. Except in certain sectors, data and information on needs of developing countries relating to implementation of the Convention and the Paris Agreement have not been collected systematically at the national, regional and global levels. Consequently, there is no comprehensive overview of what information is available, as well as the gaps and limitations associated with the figures.

- (a) **Data gaps** are particularly evident for adaptation needs, which, compared with cost estimates for mitigation, remain limited. Furthermore, the needs are dynamic and may depend on different factors such as temperature scenarios, mitigation pathways and adaptive capacity and approaches, and extreme weather events. Most reports, however, provide a snapshot of a Party's needs;
- (b) **Data inconsistencies** as the classification of sectors and subsectors is not uniform across data sources, including in different sources of information and reports submitted by the same Party. Varying definitions of needs also introduce data inconsistencies because needs are referred to as qualitative needs, investment needs or costs;
- (c) **Data interpretation.** When collecting and analysing the amounts of needs as reported by developing countries in their national reports, different Parties apply their respective definitions and interpretations of needs. Needs may be reported as needs or activities needed to take climate action.

Synthesis reports for the technical assessment process of the global stocktake

92. CMA 1 requested the secretariat to prepare, for the technical assessment process of the global stocktake under the Paris Agreement, synthesis reports that provide qualitative information on the needs of developing countries for mitigation and adaptation actions. As such, information contained in the synthesis reports complement the quantitative information on the needs of developing countries identified in the first NDR:

- (a) **The state of GHG emissions by sources and removals by sinks and mitigation efforts undertaken by Parties,**⁵⁴ including the information referred to in Article 13, paragraph 7(a), and Article 4, paragraphs 7, 15 and 19, of the Paris Agreement. Chapter IV of the synthesis report focusing primarily on the needs of developing countries to enable mitigation actions by type, scope, coverage and status, as presented in their NCs and BURs. The chapter also presents information on the needs of developing countries as identified in the LT-LEDS to reach net zero emissions. As at 31 December 2021, 50 Parties submitted an LT-LEDS;
- (b) **The state of adaptation efforts, experiences and priorities,**⁵⁵ summarising information on adaptation needs from 40 recently submitted adaptation communications, 34 NAPs, 196 NCs, 151 NDCs, reports of the IPCC and other relevant scientific bodies;
- (c) **The overall effect of the NDCs,**⁵⁶ summarising information from the 166 latest available NDCs submitted as of 31 December 2021, on the overall effect of NDCs and progress made by Parties towards the implementation of their NDCs, including the information necessary to track progress made in implementing and achieving its NDCs under Article 4 of the Paris Agreement (Article 13, paragraph 7(b), of the Paris Agreement). The report summarises needs identified by developing countries to implement their NDCs, particularly needs related to climate finance.

Technical assessments under the Needs-based Climate Finance project

93. The NBF⁵⁷ project launched by the UNFCCC secretariat in response to the COP 23⁵⁸ mandate in 2017 to explore, in collaboration with the operating entities of the Financial Mechanism, bilateral, regional or multilateral channels, ways and means to assist developing country Parties in assessing their needs and priorities, in a country-driven manner, including technological and capacity-building needs, and in translating climate finance needs into action. The objective of the project is to facilitate access to, and mobilization of, climate finance for the implementation of priority mitigation and adaptation projects that address needs identified by developing countries. It covers all finance sources, channels and instruments. NBF project activities have four main outputs:

- (a) A technical assessment of current needs and finance flows that will support the development of a Climate Finance Mobilization and Access Strategy with actions, recommendations and an implementation roadmap to implement identified project priorities;
- (b) A strategy for mobilizing and facilitating access to climate finance;
- (c) A pipeline of priority projects, initiatives, investments, funds, facilities and programmes; and
- (d) An implementation plan, including required support.

94. The project is currently active in 12 regions covering over 100 countries.

95. The technical assessments involve desk-based research, complemented with inputs from national and regional stakeholders. Data on the needs and priorities of the regions are primarily sourced from the latest available national reports submitted to the UNFCCC such as adaptation communications, BURs, NAPs, NCs, NDCs, and TNAs, complemented with information contained in the country programmes under the multilateral climate funds and as provided by authorities, national, regional and international experts and other

54) https://unfccc.int/sites/default/files/resource/GST_SR_36a_1.pdf

55) <https://unfccc.int/sites/default/files/resource/Synthesis%20report%20on%20the%20state%20of%20adaptation%20efforts%20%20experiences%20and%20priorities.pdf>

56) https://unfccc.int/sites/default/files/resource/GST_SR_23c_30Mar.pdf

57) More information is available at https://unfccc.int/NBF_Project.

58) Decision 6/CP.23, paragraph 10.

relevant stakeholders. To determine whether existing climate-related finance meets the regions' needs and is delivered to priority areas, information on bilateral and multilateral climate-related finance flows is derived from the OECD DAC climate-related development finance database owing to the availability of standardised activity-level data, which gives insight into detailed sector and subsector applications of climate finance flows.⁵⁹

2.2.2 Other relevant reports

96. Chapter IV of the first NDR presents available methodologies and approaches of regional and global reports applied in identifying needs. For the mitigation needs of developing countries, these reports use a mix of climate multi-model comparison study for scenarios of below 2°C, investment opportunities based on stated national plans and targets including and beyond NDCs, and investment estimates for achieving conditional NDC targets using carbon prices. Reports based on energy-economy models note that developing country regions have the largest investment gaps compared with historical trends to achieving climate scenarios in line with the Paris Agreement.

97. **The World Energy Outlook 2021 by the International Energy Agency** uses the World Energy Model, a simulation model covering energy supply, energy transformation and energy demand. Specific costs play an important role in determining the share of technologies in meeting energy demand under different scenarios. These include investment costs, operation and maintenance costs, fuel costs and in some cases, costs for emitting CO₂. Calculation of the investment requirements is based on assessing incremental capacity needs multiplied by unit capital cost estimates compiled for each component in the energy supply chain. Investment is measured as the ongoing capital expenditure in energy supply capacity, excluding spending that is usually classified as operation and maintenance. The IEA World Energy Model includes COVID-19 recovery packages and commitments announced as of mid-2021.

For the first time, the IEA World Energy Outlook introduces the Announced Pledges Scenario (APS) and New Zero Emissions by 2050 (NZE) scenarios. The NZE sets out a pathway for the global energy sector to achieve net zero CO₂ emissions by 2050. This scenario is consistent with limiting the global temperature rise to 1.5°C and meets energy-related United Nations Sustainable Development Goals (SDGs), in particular achieving universal energy access by 2030. The NZE scenario does not include emissions reductions from other than the energy sector but assumes that non-energy emissions will be reduced in the same proportion as energy emissions.

98. **The Glasgow Financial Alliance for New Zero (GFANZ) financing roadmap** uses an investment trajectories model which provides estimates for the investment needs of the net-zero transition over the period 2021–2050. The main source is the IEA 'Net Zero by 2050' report, from which global energy-related investment projections are downscaled to specific geographic areas, sectors, and technologies. Energy-related sectors cover electricity, fossil fuels, low emission fuel supply, industry, transport, and buildings. To downscale the investment projections, various sources, primarily from the IEA, have been used. For the AFOLU sector, the model applies data from the "Growing Better" report by the FOLU, which provides technology-level investment needs to 2030 across ten critical transitions for sustainable food and land use systems.⁶⁰

99. In its World Energy Transitions Outlook 1.5°C Pathways,⁶¹ the IRENA developed a 1.5°C scenario which describes an energy transition pathway aligned with the 1.5°C temperature goal outlined in the Paris Agreement by 2050. The scenario focuses on readily available technology solutions that can be scaled up rapidly.

59) Further information on the approaches applied in each region can be viewed in the respective technical assessments available at <https://unfccc.int/topics/dimate-finance/workstreams/needs-based-finance-nbf-project/nbf-documents>.

60) Further details on the methodology applied, including definitions applied, uncertainties and assumptions is available at <https://www.gfanzero.com/netzerofinancing/about>.

61) Available at: <https://irena.org/publications/2022/mar/world-energy-transitions-outlook-2022#:~:text=By%20laying%20out%20a%20map,use%20sectors%3A%20electrification%20and%20bioenergy>.

100. In the case of adaptation, there is no consensus on methodologies for assessing adaptation needs, or on the extent to which adaptation planning is adequate and effective in achieving its targets and objectives, including due to differences in hazards experienced, societies and geographies. Methodologies and approaches based on bottom-up national and sector-based studies, measuring impacts to GDP, and the incremental investment needed to upgrade or retrofit infrastructure stock are most prevalent.

101. Estimates of global, regional, or national finance needs for adaptation and resilience vary depending on the approach, the level of projected temperature increases, the types of risks and hazards and the geographic and sectoral scope of analysis. Approaches to estimate adaptation needs and costs range from:

- (a) Aggregation of individual case studies, along with scaling to generate global or regional costs;
- (b) Analysis of NDC adaptation cost estimates;
- (c) Integrated assessment model simulation of impacts and adaptation costs.

102. The UNEP 2016 **Adaptation Gap Report** assessed estimated increases in adaptation costs using a World Bank study of 2010 combined with in-depth and bottom-up reviews of national- and sector-level cost estimates. The adaptation finance gap is defined as the gap between the costs of meeting a given adaptation target and the amount of finance available. The report highlights that cost estimates vary strongly with the level of global warming, the methods used to estimate them, the ethical choices made, the economic framework applied, and the assumptions made. Subsequent Adaptation Gap Reports assessed progress on adaptation planning, both quantitatively and qualitatively, based on the number of subnational and sectoral adaptation plans and strategies. Nevertheless, all approaches are associated with certain limitations that can result in over- and underestimates of adaptation costs.⁶²

103. Combining case studies with costing models, the World Bank report on **Lifelines by Hallegatte et al. (2019)** assess the incremental costs of making infrastructure resilient to climate impacts. The report uses estimates on infrastructure needs based on the preferred scenario identified in the World Bank's *Beyond the Gap* report (Rozenberg and Fay, 2019). Technical options to reduce hazard risk exposure to specific infrastructure assets are assumed to be used to arrive at aggregate cost estimates.

104. **The Sixth Assessment Report of the IPCC, in Chapter 17 of the Working Group II report on decision-making options for managing risk⁶³** assesses options, processes and enabling conditions for climate risk management as well as the governance and applicability of adaptation options in various contexts. The chapter presents various cost estimates for adaptation action that use bottom-up and top-down approaches. Bottom-up approaches are based on national plans such as NAPs or NDCs. Top-down approaches refer to economy-wide or sectoral modelling techniques. Although reports using top-down approaches predominately present cost estimates for medium-term (2030) to long-term (2050) scenarios, only the cost estimates out to 2030 are reported here, noting that a 2030 timeframe is beyond the scope of this report

2.2.3 Summary

105. The following table provides an overview of the approaches used in national reports that contain information related to the second dimension.

62) https://www.ipcc.ch/report/ar6/wg2/downloads/eport/IPCC_AR6_WGII_FinalDraft_Chapter17.pdf
63) https://www.ipcc.ch/report/ar6/wg2/downloads/eport/IPCC_AR6_WGII_FinalDraft_Chapter17.pdf

Table 2.3

Ranges of approaches used in national reports that contain information related to the second dimension

Report	ACs	BURs	NDCs	NAPAs	NCs	NAPs	TNAs	TAP	LEDS
Description	<ul style="list-style-type: none"> Adaptation priorities, implementation and support needs, plans and actions, ACs are presented independently or in conjunction with NDCs, NAPs or other reports (Art. 7, para. 10–11 of the Paris Agreement) 	<ul style="list-style-type: none"> Submitted by non-Annex I Parties Updates of national GHG inventories, Information on mitigation actions, needs and support received, and information on "constraints and gaps, and related financial, technical and capacity needs, including a description of support needed" (dec. 2/CP.17, paras. 14–16) 	<ul style="list-style-type: none"> Each Party to prepare, communicate and maintain successive NDCs that it intends to achieve (Art. 4, para. 2 of the Paris Agreement) Contain various types of targets Contain conditional and/or unconditional components; conditional components are implemented subject to the provision of finance, technology or capacity-building support. 	<ul style="list-style-type: none"> LDCs to identify priority activities that respond to their urgent and immediate adaptation needs⁶⁴ Guidelines for preparing NAPAs contained in the annex to decision 28/CP.7 	<ul style="list-style-type: none"> Submitted by non-Annex I Parties National circumstances; GHG inventories; vulnerability and adaptation assessment; mitigation assessment; financial resources and transfer of technology education, training and public awareness. 	<ul style="list-style-type: none"> Objectives: reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience integrate adaptation into new and existing policies and programmes, especially development strategies. 	<ul style="list-style-type: none"> Determine climate technology priorities. Map out long-term development priorities Identify technologies to realize these with lower emissions and stronger climate resilience. 	<ul style="list-style-type: none"> Plan for the uptake and diffusion of prioritized technologies for adaptation and mitigation actions 	<ul style="list-style-type: none"> Communicate, by 2020 mid-century, long-term low GHG emission development strategies in accordance with Article 4, paragraph 19, of the Paris Agreement LEDS to take into account common but differentiated responsibilities and respective capabilities in the light of different national circumstances, as well as best available science
General guidance available	Yes, as specified in decision 9/ CMA.1	Yes	Yes, as specified in decision 4/ CMA.1	Yes	Yes, as contained in decision 17/ CP.8	Yes, as contained in decision 5/ CP.17	Yes	Yes	Yes

64) Urgent and immediate needs refer to needs for which further delay could increase vulnerability or lead to increased costs later

Table 2.3 (continued)

Ranges of approaches used in national reports that contain information related to the second dimension

Report	ACs	BURs	NDCs	NAPAs	NCs	NAPs	TNAs	TAP	LEDS
Detailed guidance⁶⁵ available	To be considered at CMA 4	No	No	Yes	Yes	Yes	Yes	Yes	–
Whether guidance makes explicit reference to needs	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Periodicity	Should be submitted to inform each global stocktake	Biennially, with flexibility for LDCs and SIDS	Every 5 years	Not specified	Every four years, with flexibility for LDCs and SIDS	Not specified	Not specified	Not specified	Not specified
Timeframe covered	Not specified	Not specified	10 years	Short-term and immediate	Not specified	Medium- and long-term adaptation needs	Long-term needs and priorities	Range from 5, 10 or beyond 10 years	In most cases until 2050

Notes: Adopted from the first report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement.

65) E.g., methodologies, methods, approaches.

2.3 Approaches used in sources of information on meaningful mitigation actions and transparency on implementation

106. This section provides an overview of approaches used in sources of information on meaningful mitigation actions and transparency on implementation. Relevant quantitative and qualitative information from these sources is outlined in section 3. The section first presents approaches used in reporting relevant information through the UNFCCC in biennial update reports. Approaches used in other relevant reports and studies are outlined.

2.3.1 National reporting on mitigation action under the UNFCCC

107. Parties have communicated information on mitigation actions through several types of national submissions to the UNFCCC. In 2010, these included quantified emission reduction targets by 2020 for Annex I Parties and nationally appropriate mitigation actions by non-Annex I Parties. In 2015 and 2016, with the advent of the Paris Agreement, INDCs were submitted, followed by NDCs and updated NDCs in 2020 and 2021. Throughout this period, NCS, BRs of Annex I Parties and BURs of non-Annex I Parties provide further means to communicate mitigation action as well as transparency on implementation on climate action and support. The approaches used in developing these types of national submissions are outlined below.

108. **Quantified economy-wide emission reduction targets of Annex I Parties:** In 2010, Parties who wished to provide information on quantified economy-wide emission reduction targets were invited to do so in the format of indicating emission reductions in 2020 and a base year against which the reduction is measured e.g. 20 per cent below 1990 levels by 2020. Parties that did communicate such information did so along with context, conditions and considerations which were noted by COP in 2010.⁶⁶

109. **NAMAs:** Through the same process, non-Annex I Parties were invited to submit NAMAs in 2010 that were noted by COP in 2010. NAMAs refer to any action that reduces emissions in developing countries

and is prepared under the umbrella of a national governmental initiative. They can be policies directed at transformational change within an economic sector, or actions across sectors for a broader national focus. NAMAs are supported and enabled by technology, financing, and capacity-building and are aimed at achieving a reduction in emissions relative to 'business as usual' emissions in 2020. NAMAs are defined in two contexts: at the national level and at the individual action level. At the national level as a formal submission by Parties declaring intent to mitigate greenhouse gas emissions in a manner commensurate with their capacity and in line with their national development goals. At the individual action level, a detailed action or groups of actions designed to help a country meet their mitigation objectives within the context of national development goals. These individual action NAMAs are diverse, ranging from project-based mitigation actions to sectoral programmes or policies.

110. Through decision 1/CP.16, para 53, the COP decided to establish a NAMA registry to "*record nationally appropriate mitigation actions seeking international support and to facilitate matching of finance, technology and capacity-building support for these actions.*" Parties were invited to submit information on the NAMA action along with estimated costs, emission reductions and timeframes for implementation. National focal points are appointed to approve NAMAs that are submitted to the registry for their country. Developed country Parties, public and private organizations with programmes of support relevant to NAMAs may be granted editor access to the registry.⁶⁷ The Secretariat provides an annual report on the NAMA registry to COP each year which covers their volume, scope and content.

111. **INDCs/NDCs:** In 2013, the COP invited Parties to communicate intended nationally determined contributions by the first quarter of 2015 in the context of its determination to adopt a protocol, another legal instrument or an agreed outcome with legal force at its 21st session in 2015, which became known as the Paris Agreement.⁶⁸ In 2014, the COP agreed that, in order to facilitate clarity, transparency and understanding, INDCs may include, as appropriate, inter alia, quantifiable information on the reference point (including, as appropriate, a base year), time frames and/or periods for implementation, scope and coverage, planning processes, assumptions and methodological approaches including

66) See FCCC/SBSTA/2014/INF.6 for more information on Annex I Party quantified economy-wide emission reduction targets.

67) More information is available at <https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions/nama-registry#eq-2>.

68) See decision 1/CP.19, para 2.

those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals, and how the Party considers that its intended nationally determined contribution is fair and ambitious, in light of its national circumstances, and how it contributes towards achieving the objective of the Convention as set out in its Article 2.⁶⁹

112. Article 4 of the Paris Agreement later transitioned the use of INDCs to NDCs with its requirement that Parties communicate NDCs every five years to the Secretariat and that each NDC would present a progression compared to the previous NDC and reflect its highest possible ambition. In 2018, further guidance on the nature of information to facilitate clarity, transparency and understanding of NDCs was agreed that elaborated on the information agreed at the COP in 2014 such as the reference point, timeframes, scope and coverage etc.⁷⁰

113. **NCs/BRs/BURs:** All Parties submit national communications (NCs) which include information on domestic mitigation actions. Annex I Parties are required to prepare NCs every four years against an agreed outline including policies and measures related to mitigation, their effects and projections as well as financial resources and transfer of technology. Non-Annex I Parties NCs are submitted within three years of entering the Convention and every four years thereafter. They do not follow an agreed outline but are encouraged to include information based on national circumstances and capacities, information on programmes and measures which contribute to mitigating climate change. As noted in section 2.1.1, Annex II Parties submit information in biennial reports on climate financial support provided. Annex I Parties (not only those also in Annex II) submit BRs that include information on domestic mitigation actions. Similarly, non-Annex I Parties submit biennial update reports (BURs) that include information on domestic mitigation actions in addition to communicating their needs for international support and the support received to date.⁷¹

114. Future approaches in national reporting:
As outlined in box 2.2, the enhanced transparency

framework will introduce further refinements and granularity to information available in national reporting. In addition to information on climate finance provided and mobilized, needed and received, information on mitigation actions and policies and measures will also be enhanced. In particular, all Parties are required to track progress against their NDCs through common tabular formats that will support clarity on mitigation actions and if they are being achieved, with flexibility provisions afforded to developing country Parties in their reporting.⁷²

2.3.2 Aggregate level reports on mitigation action

115. UNFCCC: Since 2014, the COP has mandated the Secretariat to prepare synthesis reports, firstly on INDCs in anticipation of the culmination of negotiations on the Paris Agreement in 2015, and later updated to include all INDCs submitted by 4 April 2016.⁷³ COP 21 and CMA 2 in 2019 also provided the mandates for the Secretariat to prepare synthesis reports on NDCs submitted by Parties. An initial version was published in February 2021 on NDCs submitted by 31 December 2020, followed by a full version in September 2021, on NDCs submitted as of 30 July 2021 including an addendum outlining the approach and methods for estimating emission levels based on the NDCs. An updated version was published ahead of COP 26 on October 25, 2021, considering all NDCs submitted as of 12 October 2021.⁷⁴

116. As noted in section 2.2.1, in 2022, the secretariat has prepared synthesis reports in accordance with the mandates for the technical assessment components of the global stocktake. This has included a synthesis report on the overall effect of NDCs as submitted by 31 December 2021 (UNFCCC, 2022b). In addition, a synthesis report on the state of GHG emissions by sources and removals by sinks and mitigation efforts undertaken by Parties includes descriptions of national mitigation planning, implementation and MRV of mitigation actions based on the most recent BRs of developed country Parties and NCs and BURs of developing country Parties as of 31 January 2022.⁷⁵

69) See decision 1/CP.20, para 14.

70) Further information on the ICTU guidelines may be found in Annex I to decision 4/CMA.1.

71) Guidelines for Annex I Parties NCs are outlined in the annex to decision 5/CP.25, and BRs in the annex to decision 2/CP.17. Further information is available at <https://unfccc.int/preparation-of-ncs-and-brs#eq-2>. For non-Annex I Parties NCs, guidelines are outlined in the annex to decision 17/CP.8 and BURs in the annex to decision 2/CP.17. Further information is available at <https://unfccc.int/non-annex-i-ncs> and <https://unfccc.int/BURs>.

72) The modalities, procedures and guidelines for reporting under the enhanced transparency framework are outlined in the annex to decision 18/CMA.1 and the common tabular formats in decision 5/CMA.3. Further information is available in the ETF reference manual available at <https://unfccc.int/sites/default/files/resource/v2 ETFReferenceManual.pdf>.

73) Available at <https://unfccc.int/process/the-paris-agreement/nationally-determined-contributions/synthesis-report-on-the-aggregate-effect-of-intended-nationally-determined-contributions>.

74) Available at <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs/ndc-synthesis-report#eq-1>.

75) The report is available at <https://unfccc.int/documents/461466>.

117. The approach in estimating the aggregate effect of emission levels based on NDCs included separately estimating unconditional only emission reduction levels and the combined effect of unconditional and conditional emission reduction levels. For countries, sectors and gases not covered by the NDCs, estimates derived from the IPCC reference scenario (see below) were used. Where a target for 2025 was not specified, the report applies linear interpolation between the latest historical emission level available and the estimated level of emissions in 2030 resulting from the implementation of its NDC. Further information is available in document FCCC/PA/CMA/2021/8/Add.3.⁷⁶

118. **IPCC AR6 information on emission trends:** The IPCC AR6 WGIII reports on the total and regional distribution of GHG emissions in tonnes CO₂-equivalent over the time period 1990 to 2019, as well as on the per capita distribution of GHG emissions for the year 2019 only. The WGIII employs information on total anthropogenic GHG emissions as reported in the AR6 WGI based on the EDGAR database using updated Global Warming Potentials with a 100-year time horizon from the same report, as GWP100 are commonly used in the literature and to ensure consistency with the Paris Rulebook as they are required for reporting Parties' emissions under the UNFCCC. GHG emissions are categorised into: CO₂ Fossil fuel and industry (CO₂-FFI), CO₂ Land use, land use change, forestry (CO₂-LULUCF) and other GHG emissions (CH₄, nitrous oxide, F-gas, expressed in CO₂-eq using GWP100). Further detail on the methodology and assumptions applied can be retrieved from AR6 WGII Chapter 2 Emissions Trends and Drivers, as well as AR6 WGI.

119. **UNEP Emissions Gap Report series:** The UNEP EGR series assess the global emission trends and nationally communicated emission reduction ambition against estimated emission pathways consistent with limiting global warming to below 2°C and pursuing 1.5°C, drawing on information provided in quantified economy-wide emission reduction targets and NAMAs (since 2010) and NDCs (since 2015). Emission pathways employed in the 2010 report provide a likely (greater than 66 per cent) chance of staying within the 2°C boundary, and all ranges in the report represent the 20th and 80th percentiles of results.

Conditional pledges are defined as contingent on the ability of national legislatures to enact the necessary laws, ambitious action from other countries, realisation of finance and technical support, or other factors, while unconditional pledges are defined as without conditions for implementation attached. The EGR 2021 considers new or updated NDCs as well as officially announced mitigation pledges for 2030 that are not yet formally submitted as NDCs, with a cut-off date of 30 September 2021. The quantification of the impact of new or updated NDCs and announcement as compared to previous NDCs is conducted through a range of five model groups and two open source tools that provide NDC emissions projections.⁷⁷ As compared to the UNFCCC Synthesis Report 2021, the UNEP EGR 2021 results in a lower projection of global GHG in 2030 of about 6-7 Gt CO₂, due to, amongst others, different assumptions on GWP values, LULUCF GHG emissions and the incorporation of political announcements versus NDC reporting only. For a technical explanation of arising differences in projected emissions between the UNEP EGR 2021 and the NDC Synthesis Report, see the Joint Technical Note by the UNFCCC and UNEP.⁷⁸

120. **IEA/IRENA information on clean energy:** The IEA, through its World Energy Investment report series, provides information on global energy investment by region and by breakdown of advanced economies (defined as OECD member states plus Bulgaria, Croatia, Cyprus, Malta and Romania), China, and emerging markets and developing economies (EMDEs defined as all other countries). The report provides aggregate totals for clean energy investment as well as fossil fuels without carbon capture and storage across both the supply side (upstream and downstream including power generation) and demand-side (end-use activities and energy efficiency). Clean energy includes renewable power, nuclear, EVs, low-carbon fuels and CCUS, grids and storage, energy efficiency and other end uses. Energy efficiency and other end-uses includes spending on energy efficiency, renewables for end use and electrification in the buildings, transport and industry sectors. Low carbon fuels include modern liquid and gaseous bioenergy, low-carbon hydrogen, as well as hydrogen-based fuels that do not emit any CO₂ from fossil fuels directly when used and also emit very little when being produced.

76) Available at <https://unfccc.int/documents/306872>.

77) Further information on the UNEP EGR methodology is available at: <https://www.unep.org/resources/emissions-gap-report-2021>, in particular Chapter 2.

78) Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/37351/UNEP-UNFCCC_EGR.pdf?sequence=1&isAllowed=y.

Investment is measured as the ongoing capital spending on assets. For energy efficiency, the measurement includes the incremental spending by companies, governments or individuals to acquire a piece of equipment that is more efficient than the local market average.⁷⁹

121. IRENA provides country level statistics on renewable energy power generation and installed capacity represented as the maximum net generating capacity of power plants and other installations that use renewable energy sources to produce electricity. For most countries and technologies, the data reflects the capacity installed and connected at the end of the calendar year. Data is collected through questionnaires; official statistics; industry association reports; and other reports and news articles.⁸⁰

122. The **IPCC AR6 WGIII** also provides information on fossil fuel related and transition finance from the OCI Shift the Subsidies database that monitors energy finance from public financial institutions (MDBs, Development Finance Institutions and public Export Credit Agencies)

at the project and transaction level, covering grants, loans, guarantees and equity finance (Tucker and DeAngelis, 2020, 2021). The underlying financial data is sourced mainly from government and institutions' own reporting and complemented with the Infrastructure Journal (IJ) Global Database and Boston University Global Economic Governance Initiative's China Global Energy Database. Fossil fuels include up-, mid- and downstream financing for oil, gas and coal sectors, renewable energies include low-carbon energy sources solar, wind, tidal, geothermal, small-scale hydropower, and energy efficiency projects where power sources are not primarily fossil fuels.

2.3.3 Summary

123. The following tables provides an overview of the approaches used in reports that contain information related to the third dimension from national reports submitted to the UNFCCC as well as aggregate level reports.

79) Further information on the IEA methodology is available at <https://www.iea.org/pressroom/2022/04/2022-04-20-Methodology-Annex.pdf>.
80) Further information is available at <https://www.irena.org/publications/2022/04/2022-04-20-Methodology-Annex.pdf>.



© Unsplash/Rabih Shasha

Table 2.4

Ranges of approaches used in select sources of information related to meaningful mitigation and transparency on implementation

Reports	Quantified economy-wide emission reduction targets of Annex I Parties	NAMAs	INDCs/NDCs	NCs/BRs/BURs
Description	<ul style="list-style-type: none"> Voluntary submission by Annex I Parties on emission reduction targets against a baseline May include context, conditions and considerations 	<ul style="list-style-type: none"> Voluntary submission of information on nationally appropriate mitigation action by developing countries to seek international support May include estimated costs, emission reductions and timeframes for implementation 	<ul style="list-style-type: none"> Each Party to prepare, communicate and maintain successive NDCs that it intends to achieve (Art. 4, para. 2 of the Paris Agreement) Contain various types of targets Contain conditional and/or unconditional components; conditional components are implemented subject to the provision of finance, technology or capacity-building support. 	See table 2.3 above
General guidance available	Yes, as contained in decision 1/CP.16	Yes, as contained in decision 1/CP.16	Yes, as specified in decision 4/CMA.1	<ul style="list-style-type: none"> NCs: Yes, as contained in decision 17/CP.8 BRs/BURs: Yes
Detailed guidance ⁸¹ available	Not specified	Not specified	Not specified	<ul style="list-style-type: none"> NCs: Yes BRs/BURs: No
Whether guidance makes explicit reference to mitigation actions	Not specified	Yes	Yes	Yes
Periodicity	Not specified	Not specified	Every 5 years	<ul style="list-style-type: none"> NCs: Every four years with flexibility for LDCs and SIDS BRs/BURs: Biennially, with flexibility for LDCs and SIDS
Timeframe covered	2010 to 2020	2010 to 2020	10 years	Not specified

81) E.g., methodologies, methods, approaches.

Table 2.4 (continued)

Ranges of approaches used in select sources of information related to meaningful mitigation and transparency on implementation

Aggregate Reports						
	NDC Synthesis	IPCC		UNEP Emissions Gap Report	IEA	IRENA
Relevant area covered	Emissions	Emissions	Investment (fossil-fuel specific)	Emissions	Installed capacity Investment	Installed capacity
Timeframe covered (in this report)	2010 - 2025	1990 - 2019	2016 – 2020	2010 - 2030	(2010) 2015 - 2021	–
Data sources	Parties' reporting under the UNFCCC	GHG inventory from EDGAR (Emissions Database for Global Atmospheric Research; (Crippa et al., 2021)	OCI Shift the Subsidies database	Parties' reporting under the UNFCCC, Parties announcements, Third-party model providers	Own research and country contributions	Own research and country contributions

3

Quantitative and qualitative information

3.1 Available quantitative and qualitative information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year

3.1.1 Current status on finance flows towards achieving the goal of mobilizing jointly USD 100 billion per year

124. This section provides an overview of available qualitative and quantitative information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year. The section first presents relevant information from the biennial assessments and overviews of climate finance flows of the SCF (aggregate-level report, encompassing multilateral, bilateral and mobilized private climate finance) as well as information as reported to the UNFCCC through biennial reports of Annex II Parties (national-level reports, mainly encompassing bilateral and some multilateral climate finance) and biennial update reports of non-Annex I Parties (national-level reports, mainly encompassing public finance received from multilateral and bilateral channels). Other relevant aggregate-level reports and studies included are those with explicit objectives or make reference to assessing progress towards achieving the USD 100 billion per year commitment. For each source of information, relevant quantitative data is presented first, followed by qualitative information focusing the thematic and instrument breakdowns if available. It's important to note that these aggregate-level reports and studies draw the underlying data from national reports to UNFCCC and reports of multilateral channels, with differences in aggregation accounting methodologies and choices made (see chapter 2). Further information where relevant, such as data by channel and sectors and consolidation of the different sources, is presented in Chapter 4 on trends.

Biennial assessment and overview of climate finance flows

125. Since the first edition of the biennial assessment and overview of climate finance flows by the SCF in 2014, the BA has provided an overview of the available data on finance flows from developed to developing countries, from both public and private sources of finance. The BA draws on data from the biennial reports of Annex II Parties and operating entities of the Financial Mechanism as well as other external sources of information including MDBs, OECD and other organizations aggregating data on climate finance, as discussed in section 2.1.1.

126. Table 3.1 below provides an overview of the quantitative information on flows from developed to developing countries in each BA, including the source of each datapoint and indicators for data quality or completeness. Data related to flows from multilateral climate funds, including UNFCCC funds, and MDB climate finance attributed to developed countries are of high levels of completeness since the first BA, while climate-specific finance through bilateral, regional and other channels is noted as medium levels of completeness due to differences in methodologies and approaches. In recent years, improvements have been observed in data quality on mobilized finance through multilateral channels. Given differences in data collection and reporting methods across sources of information, as well as the absence of a mandate to assess progress against climate finance commitments, the BA has not aggregated datapoints on flows from developed to developing countries.

Table 3.1

Flows from developed to developing countries reported in biennial assessments and overviews of climate finance flows by the SCF (billions of USD)

Channel	First (2014) BA			Second (2016) BA				Third (2018) BA				Fourth (2020) BA			
	2011–2012	Source	Quality of measurement and reporting	2013	2014	Source	Completeness of data	2015	2016	Source	Level of completeness	2017	2018	Source	Level of completeness
UNFCCC funds	0.6	CFU	Relatively certain	0.6	0.8	Fund reports, CFU	High	0.6	1.6	Fund reports, CFU	High	1.5	2.4	Fund reports, CFU	High
Multilateral climate funds (including UNFCCC funds)	1.5	CFU	Relatively certain	1.9	2.5	Fund reports, CFU	High	1.4	2.4	Fund reports, CFU	High	2.2	3.1	Fund reports, CFU	High
Climate-specific finance through bilateral, regional and other channels	19.5–23.0 1.4–1.5	Climate-related ODA, Other official flows, OECD DAC	Relatively certain Medium certainty	23.1 11.7 ^b	23.9 12.4 ^b	Annex II Party BRs	Medium	29.9	33.6	Annex II Party BRs	Medium	28.1	31.8	Annex II Party BRs	Medium
MDB climate finance attributed to developed countries	15.0–23.0	CPI based on MDB climate finance ^c	Relatively certain	14.9	16.6	Authors based on MDB climate finance	High	17.4	19.7	Authors based on MDB climate finance	High	24.1	25.8	OECD	High

Table 3.1 (continued)

Flows from developed to developing countries reported in biennial assessments and overviews of climate finance flows by the SCF (billions of USD)

Channel	First (2014) BA			Second (2016) BA				Third (2018) BA				Fourth (2020) BA			
	2011–2012	Source	Quality of measurement and reporting	2013	2014	Source	Completeness of data	2015	2016	Source	Level of completeness	2017	2018	Source	Level of completeness
Mobilized private finance	–	–	–	12.8	16.7	OECD CPI report 2015	Low	10.9	15.7	Mobilized by MDB, MDB reports	Low	10.8	10.8	Mobilized through multilateral channels, OECD	Medium
	–	–	–	–	–	–	–	2.3	–	Mobilized by bilateral institutions, OECD	Low	3.7	3.8	Mobilized by bilateral institutions, OECD	Low
Other private finance flows	–	–	–	1.8	2.1	RE projects CPI	Low	2.4	1.5	RE projects, CPI	Low	5.3	11.0	Other private finance projects, CPI	Low
	–	–	–	26.4	21.6	FDI in greenfield projects, CPI	Low	–	–	–	–	–	–	–	–

Notes: CFU=Climate funds update, CPI=Climate Policy Initiative, FDI=foreign direct investment, RE=renewable energy
^a Lower estimate based on attribution of MDB climate finance to developed countries ownership shares.
^b Total grants and concessional loans of climate-specific finance through bilateral, regional and other channels

Source: UNFCCC, 2014, 2016, 2018, 2021.

127. The fourth BA reports that MDBs provided USD 34 billion and USD 42 billion in climate finance from their own resources to developing and emerging economies in 2017 and 2018, respectively. The annual average (USD 36.6 billion) across these two years represents a 50 per cent increase since 2015–2016.

128. As discussed in section 2, the attribution of MDB climate finance to developed country Parties can follow a range of methodologies and assumptions. The BA provides estimates based on two different approaches as shown in Annex A.2: (1) based on the ownership shares held by developed countries in each MDB (CPI, 2019a), resulting in an aggregate share of 77 per cent and 76 per cent of the total climate finance outflows from MDBs to developing countries in 2017–2018 attributed to Annex II Parties, and (2) based on replenishments of concessional finance and grant windows in different funding rounds, paid-in capital (historical and most recent contributions) and, for institutions raising additional funds from the capital markets, further considerations of on-call capital, which shareholders have committed to provide in exceptional circumstances (OECD, 2020a) with 75 per cent and 72 per cent of finance to developing countries attributed to “developed countries” (Annex II Parties and all EU member States, Lichtenstein and Monaco) in 2017 and 2018. The attribution of these flows to developed countries is calculated as being between USD 23.3–24.1 billion in 2017 and USD 25.8–28.0 billion in 2018 (see annex A.2).

129. For data on private finance flows to developing countries, the BA provides information on both mobilized private finance and other private finance flows. In the area of mobilized private finance, the fourth BA uses OECD estimates that private climate finance mobilized by developed countries through bilateral and multilateral channels amounted to USD 14.5 billion in 2017 and USD 14.6 billion in 2018. During 2016–2018, direct investments in companies and special purpose vehicles mobilized the most private finance (33 per cent of the total), followed by guarantees (31 per cent) and loan syndications (19 per cent). Credit lines, simple co-financing arrangements and investment in funds together accounted for the remaining 20 per cent.

130. The fourth BA also reports that other private finance flows from developed to developing countries were USD 5.3 billion in 2017 and USD 11 billion in 2018 in infrastructure projects, including renewable energy.

These projects did not include participation of public finance institutions and therefore may not be included in calculations on mobilized private finance through multilateral or bilateral institutions (CPI, 2020).

Biennial reports of Annex II Parties

131. Annex II Parties to the Convention have reported four rounds of biennial reports since 2014 on financial support provided to developing country Parties. Climate-specific financial support reported by Annex II Parties in their fourth BRs (as at November 2021) amounted to USD 35.5 billion in 2017 and USD 40.0 billion in 2018. The annual average (USD 37.8 billion) represents an increase of 8 per cent from the annual average reported for 2015–2016. Most climate-specific financial support was reported through bilateral, regional and other channels, with USD 29.5 billion in 2017 and USD 33.3 billion in 2018.

132. The fifth biennial reports are due to be submitted by the end of 2022. Preliminary data collected from Annex II Parties in the course of preparing the fifth BA indicates an increase of 6 per cent in 2019–2020 climate-specific financial support and an annual average of USD 40.2 billion (see figure 3.1).

133. Mitigation finance constitutes the largest share of climate-specific financial support through bilateral channels at 57 per cent of the annual average 2019–2020. However, the share of adaptation finance increased from 21 per cent in 2017–2018 to 28 per cent in 2019–2020, particularly due to a stark increase in 2020 flows (see figure 3.1). In the 2019–2020 period, adaptation finance through bilateral, regional and other channels grew 40 per cent while mitigation finance decreased by 13 per cent.

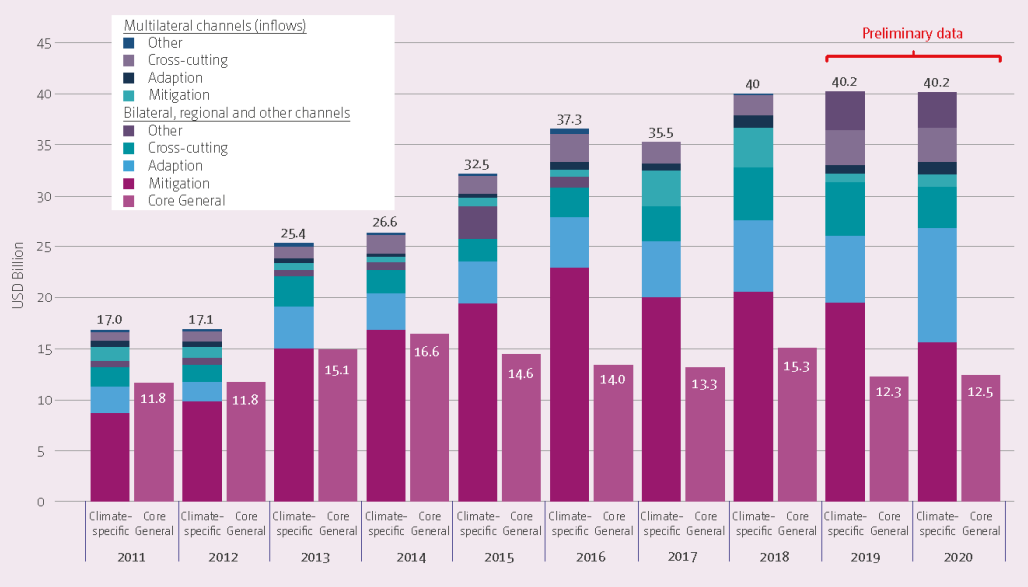
134. According to the data in the fourth biennial reports (2017–2018), concessional loans constituted the largest form of financial instrument used in providing climate-specific financial support through bilateral channels (43.8 per cent, amounting to an annual average of USD 13.8 billion in 2017–2018), followed by grants (32.8 per cent, USD 10.3 billion), non-concessional loans (13.5 per cent, USD 4.2 billion), other (9.3 per cent, USD 2.9 billion) and equity (0.7 per cent, USD 223 million). Where specified, other instruments included capital subscriptions, shares, interest grants and subsidies, equity acquisitions and shares, guarantees, in-kind contributions, membership fees, scholarships and export credits.

135. Other Annex I Parties not included in Annex II voluntarily report on financial support provided through their biennial reports. In the fourth BRs, thirteen Parties reported a further USD 44 million in climate-specific

finance and USD 22 million in core-general funding in 2017, and in 2018 a further USD 79 million in climate-specific finance and USD 58 million in core-general funding.

Figure 3.1

Financial support provided by Annex II Parties to developing countries, 2011–2020, as reported in their biennial reports (billions of USD)



Note: Data for 2019 and 2020 based on preliminary information reported by 17 Annex II Parties to the Secretariat in preparation of the fifth BA and is subject to change due to official submitted fifth biennial reports. Proxy information for 6 Annex II Parties is used based on publicly available information. No information was available for 1 Annex II Party.

Biennial update reports of non-Annex I Parties

136. The latest biennial update reports (BUR) of non-Annex I Parties increasingly include more information on climate finance received. Time lags in data availability for reporting, however, make it difficult to provide updated or complete information on finance received up to and including 2020. Of the 79 Parties that have submitted BURs by 30 June 2022, 26 included some information on climate finance received in 2019 or 2020. USD 10 billion was reported as received for projects starting in 2019 and USD 2.2 billion for projects starting in 2020. Of the USD 10 billion in 2019, USD 8.1 billion was derived from international bilateral sources from developed countries or multilateral institutions, while USD 1.5 billion was from other developing countries. Of the USD 8.1 billion in international sources, USD 2.5 billion was derived

from bilateral sources, USD 4.9 billion from multilateral sources and the remaining amounts were from unspecified sources.

Other aggregate-level relevant reports

137. In the 2022 update of the report series on climate finance and the USD 100 billion goal, the OECD estimates climate finance provided and mobilized by developed countries for developing countries was USD 83.3 billion in 2020, an increase of 4 per cent from 2019, highlighting a gap of USD 16.7 billion required to meet the goal (see table 3.2).

138. The report series includes data provided and mobilized by components and sub-components, noting they are consistent with the outcome of CMA1 as regards the modalities, procedures and guidelines for the reporting of information on financial support provided

and mobilized under the enhanced transparency framework of the Paris Agreement. As shown in table 3.2, the four distinct components include bilateral public climate finance, multilateral public climate finance attributed to developed countries, climate-related officially supported export credits, and private finance mobilized by bilateral and multilateral public climate

finance, attributed to developed countries (see section 2.1.2 for an overview on the methodological approach). All components show a gradual rising trend except for private finance mobilized by public finance and attributed to developed countries, which dropped by 2 per cent in 2019 compared to 2018 and by a further 9 per cent in 2020 relative to 2019.

Table 3.2

Four components of climate finance provided and mobilized, as estimated by OECD (billions of USD)

	2013	2014	2015	2016	2017	2018	2019	2020
Bilateral public finance (1)	22.5	23.1	25.9	28.0	27.0	32.0	28.7	31.4
Multilateral public climate finance attributable to developed countries (2)	15.5	20.4	16.2	18.9	27.1	30.5	34.7	36.9
Multilateral development banks	13.0	18.0	14.4	15.7	23.8	26.7	30.5	33.2
Multilateral climate funds	2.2	2.0	1.4	2.6	2.9	3.5	3.8	3.5
Inflows to multilateral institutions (where outflows unavailable)	0.3	0.4	0.4	0.6	0.5	0.3	0.3	0.2
Subtotal (1+2)	38.0	43.5	42.1	46.9	54.1	62.1	63.4	68.3
Climate-related officially-supported export credits (3)	1.6	1.6	2.5	1.5	3.0	2.7	2.6	1.9
Subtotal (1+2+3)	39.5	45.1	44.6	48.5	57.1	64.8	66.0	70.2
Mobilized private climate finance (4)	13.0	18.0	14.4	15.7	23.8	26.7	30.5	33.2
By bilateral public climate finance	6.5	8.1	N/A	4.9	10.5	11.0	8.5	8.0
By multilateral public climate finance attributable to developed countries	6.2	8.5	N/A	4.9	10.5	11.0	8.6	8.0
Grand Total (1+2+3+4)	52.4	61.8	N/A	58.5	71.6	79.9	80.4	83.3

Source: OECD, 2022.

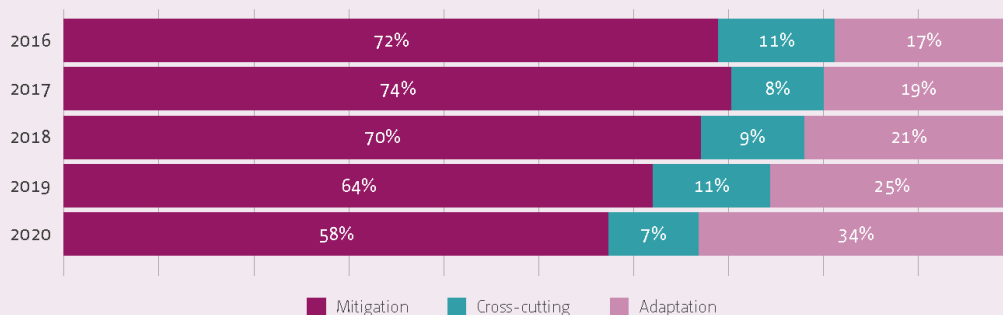
Notes: The sum of components may not add up total due to rounding. The gap in time series in 2015 for mobilized private finance results from the implementation of enhanced measurement methods. As a result, grand total in 2016–20 and in 2013–14 are not directly comparable.

139. Mitigation finance represented 58 per cent of the climate finance provided and mobilized, with adaptation finance capturing a greater share over time at 34 per cent in 2020 (see figure 3.2). This is significantly lower than the 72 per cent share for mitigation seen in 2016. The OECD notes the larger share for mitigation finance is driven by energy and transport sector activities, which together represents close to half of the total climate finance provided and mobilized.

140. Finance provided through the public finance components comprised of 26 per cent of grants and 71 per cent for loans (both concessional and non-concessional) in 2020. Most private climate finance mobilized by public finance, attributed to developed countries, is through direct investments in companies and special purpose vehicles and through guarantees (43 per cent and 19 per cent in 2020, respectively). Syndicated loans, credit lines, simple co-financing arrangements and shares in collective investment vehicles consist of the other mechanisms.

Figure 3.2

Share of thematic split of climate finance provided and mobilized, as reported by OECD



Source: OECD, 2022.

141. A discussion paper published by the Ministry of Finance, Government of India in 2015 estimated climate finance flows to developing countries at USD 2.2 billion based on actual disbursements from 17 dedicated climate funds as of June 2015. In following its critique of factors related to the methodology adopted by the OECD in 2015 on climate finance provided and mobilized, the paper highlights further aspects:

- The approach on attributing finance from MDBs to developed countries does not account for the role of borrowers including the provision guarantees, status of preferred creditors, as well as repayment history in supporting the credit rating of the institution;
- The diversion of ODA flows to climate financing, based on a flat total ODA flows in the same time period as increases in climate-related bilateral finance;
- Accounting for private finance flows from domestic or national sources in developing countries is not in line with the USD 100 billion goal.

142. The paper further asserted that the reported USD 62 billion for 2014 could be discounted by:

- Half to USD 31 billion account for overreporting by bilateral and multilateral agencies;
- Further to USD 5.2 billion on the basis of grant-equivalent values;
- Further to USD 3 billion as credible new and additional resources once the diversion of aid money from other priorities is taken in to account;

- Finally, to less than USD 1 billion to account for annual disbursements of finance flows given typical five to seven-year standard project cycles represented by commitments.

143. Oxfam's climate finance shadow report provides an estimate of climate-specific net assistance in assessing progress towards the USD 100 billion commitment. The report estimates a total annual average of USD 59.5 billion per year for 2017–2018 of public climate finance, comprised of USD 31 billion in bilateral funds, derived from fourth biennial reports of Annex II Parties, USD 24.9 billion of MDB finance attributed to developed countries, and USD 3.7 billion of finance from other multilateral climate funds and institutions. Accounting only for grants and grant-equivalent values of concessional loans, as well as adjusting the climate-specific share of climate-related development finance with climate change as a significant, rather than principal objective (see chapter 2.1), the report calculates a climate-specific net assistance total of USD 19 billion–USD 22.5 billion per year on average over 2017–2018. This represents a 15–27 per cent increase over the previous 2015–2016 estimate. Approximately 31 to 32 per cent of climate-specific net assistance is estimated to go to adaptation specific activities.

Table 3.3

Breakdown of climate-specific net assistance by instrument and source (billions of USD)

Instrument	Bilateral	MDBs	Other multilateral institutions	Total
Grants	9.5–11.6	0.4	1.1–1.3	11.1–13.4
Grant-equivalent of non-grant instruments	3.7–4.8	3.9	0.3–0.4	7.9–9.1
Total	13.2–16.5	4.3	1.5–1.7	18.9–22.5

Notes: Rounding errors mean numbers may not equal totals.
Source: Oxfam, 2022.

144. Approximately 70–73 per cent of the estimate is provided through bilateral sources, 19–23 per cent through MDBs, and 8 per cent by multilateral climate funds (see table 3.3).⁸² Grant finance consists of 60 per cent and the grant-equivalent value of other instruments at 40 per cent. Although grant-equivalent values are similar in size between bilateral sources and MDBs, they consist of 28–29 per cent of the flows of the former compared to 90 per cent of the flows from the latter.

145. The report of the **Independent Expert Group on Climate Finance** released by the UN in 2020 (Bhattacharya et al., 2020), draws on available sources of data listed above to provide a review of the information available and a critique of assessments of progress towards meeting the goal. The authors estimate, based on trends, that climate finance flows fell short of the USD 100 billion target in 2020 and highlighted numerous challenges related to the goal (see section 4.2).

146. As noted in Chapter 2, both WRI and ODI published reports on potential burden-sharing approaches for the climate finance goal among developed country Parties that refrain from assessing overall progress towards the target. WRI (Bos and Thwaites, 2021) estimates of bilateral climate finance, MDB climate finance outflows and inflows to non-MDB multilateral entities amounted to USD 54.8 billion in 2018 or USD 51.6 billion on average from 2016-2018. ODI (Colenbrander et al., 2022) applies

data on bilateral and multilateral inflows reported by developed countries to the OECD DAC, with imputed contributions to multilateral organizations, amounting to USD 37.8 billion per year for 2017/2018, USD 40.5 billion for 2019 and USD 51.3 billion for 2020.

3.1.2 Forward-looking information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year

147. This section provides an overview of quantitative and qualitative forward-looking information on progress towards achieving the goal of mobilizing jointly USD 100 billion per year by 2020 and through to 2025. It first outlines information on projected levels of climate finance submitted to the UNFCCC including from the biennial submissions of developed country Parties on their *Biennial submissions on updated strategies and approaches for scaling up climate finance from 2014 to 2020* under the Long-term climate finance work programme and Biennial Communications in accordance with Article 9, paragraph 5, of the Paris Agreement. It then outlines forward-looking information from other relevant reports, including the *Roadmap to USD 100 Billion* and *Climate Finance Delivery Plan: Delivering the USD 100 Billion Goal* published during COP 26.

82) T. Carty, J. Kowalzig, C. Roy, email communication with report authors.

Biennial submissions by developed country Parties

148. As discussed in section 2.1.2, the **information submitted by developed country Parties in their biennial submission on updated strategies and approaches for scaling up climate finance** improved through each round of the biennial submissions in 2014, 2016 and 2018. The information below focuses on that included in the 2018 submissions as the most relevant for providing forward-looking information on progress towards achieving the goal.⁸³

149. The type and scope of the information included in the submissions on expected levels of climate finance varied (see Annex 1 of the compilation and synthesis by the Secretariat for a table summarising the quantitative information provided on expected levels of climate finance).⁸⁴ For example, many contain information on the climate finance announcements made by developed countries prior to and at COP 21, which often set out quantitative targets to be met within a certain time frame (typically in 2016–2020). Some submissions presented information on expected levels of climate finance based on multi-year budget appropriation. Furthermore, several submissions presented information on multi-year contributions to programmes and initiatives supported by bilateral and multilateral channels as a way of enhancing the predictability of levels of climate finance up until and beyond 2020. For example, many submissions referred to contributions to GEF-7, which had a quadrennial programming period from 2018 to 2022.

150. Most developed country Parties stressed the importance of balancing climate finance support between adaptation and mitigation and provided information on their policies and programming that prioritise adaptation support for the most vulnerable countries, such as the LDCs and SIDS. Some Parties indicated that they had already achieved a 50:50 balance in their provision of climate-related support within climate-related grant portfolios, while others indicated they were still striving for such a balance. Some submissions included targets, scales and timelines for the adaptation support that the developed country Parties would provide in the coming years in order to fulfil their commitments.

152. Most submissions highlighted the key role of the private sector in reaching the investment level required to shift the world towards a low-GHG emissions, climate-resilient pathway, and the importance of leveraging private finance using limited public finance. In this context, several submissions included information on Parties' financial commitments to multilateral funds and initiatives with the specific objective of leveraging private sector investment. Many mentioned that their public funding is being used to address market failures and perceived climate change investment risk and gave examples of elements of enabling environments required for scaling up private climate finance, such as political stability, functioning financial markets and policies conducive to attracting private climate investment.

152. In their first **biennial communications under the arrangements related to Article 9, paragraph 5, of the Paris Agreement** (covering the period 2021–2022), many Parties presented projected levels of public climate finance that they will provide to developing countries beyond 2020, based on their multi-year finance commitments and plans to allocate and disburse financial resources through bilateral and multilateral channels.⁸⁵ Some Parties reported multi-year climate finance commitments, and others commitments for one or two years, with many mentioning finance committed for GCF-1 (2020–2023) and/or GEF-7 (2018–2022) and contributions to the core budgets of MDBs. Many Parties highlighted the increasing trend in their annual climate finance flows over the past years and their commitment to scale up, or at least maintain at a specific annual level, their provision of climate finance in the future.

153. Many of the communications include the Parties' actions and plans for mobilizing private climate finance and referred to the crucial role of public intervention in unlocking finance at the scale required for achieving the Paris Agreement goals and meeting the climate investment needs of developing countries. Parties reported on the private climate finance they have mobilized (or plan to mobilize) through public climate finance and provided examples of programmes and initiatives for leveraging scaled-up private sector investment.

83) Available at https://unfccc.int/sites/default/files/resource/cp2019_inf1_0.pdf

84) Available at <https://unfccc.int/topics/dimate-finance/workstreams/long-term-dimate-finance-ltf>

85) Available at <https://unfccc.int/topics/dimate-finance/workstreams/ec-ante-dimate-finance-information-post-2020-article-95-of-the-paris-agreement>.

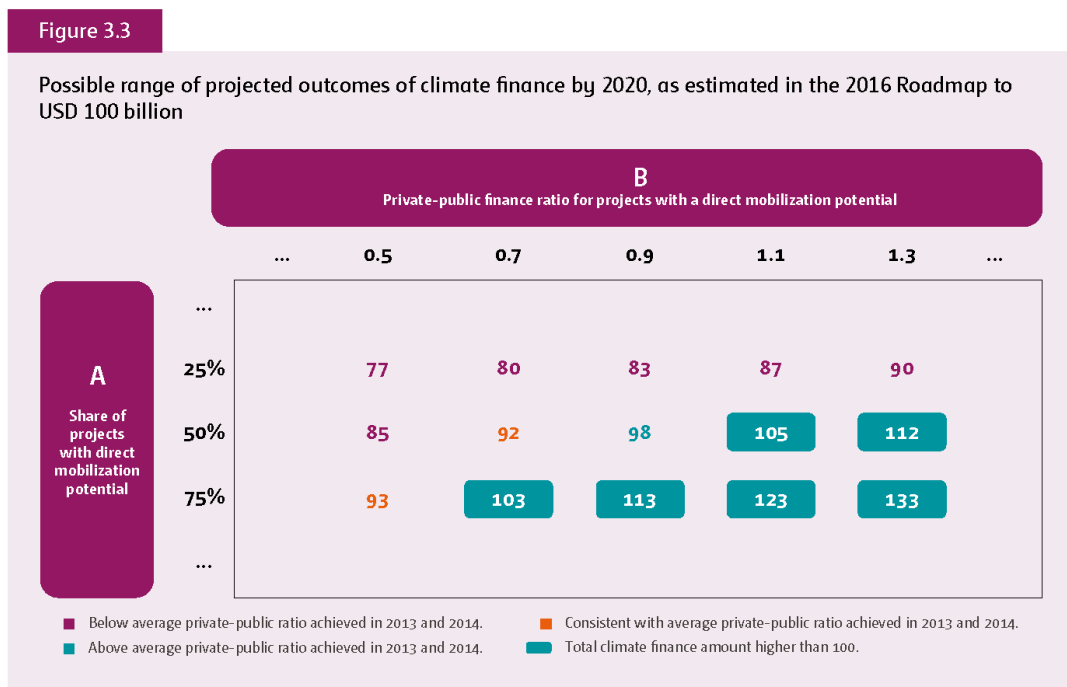
Other relevant reports

154. In 2016, developed countries issued a **Roadmap to USD 100 billion** with forward-looking projections of climate finance in 2020.⁸⁶ The Roadmap was developed in response to decision 1/CP.21, paragraph 114 which strongly urged developed country Parties to scale up their level of financial support, with a concrete roadmap to achieve the goal of jointly providing USD 100 billion annually by 2020 for mitigation and adaptation, while significantly increasing adaptation finance from current levels and to further provide appropriate technology and capacity-building support.

155. Referring to an OECD analysis undertaken at the time, the Roadmap estimated that pledges in climate finance announcements made by developed countries prior and during COP21 in 2015 (also communicated via biennial submissions by developed country Parties on their strategies and approaches for scaling up climate finance from 2014 to 2020) would result in USD 66.8 billion in public climate finance by 2020. USD 37.3 billion would be derived from bilateral public

finance including contributions to the GCF and UN specialised bodies, while USD 29.5 billion would derive from multilateral public finance attributed to developed countries based on pledges made by MDBs at the time. It further estimated a doubling in public adaptation finance in 2020, from bilateral and multilateral channels attributed to developed countries, against 2013–2014 volumes.

156. The underlying OECD analysis estimated that if the level of private finance mobilized per public finance dollar in 2020 was equal to that observed in 2013–2014, USD 24.2 billion in private finance would be mobilized, leading to overall finance levels of USD 92 billion–USD 93 billion. Developed countries noted that modest assumptions about increased leverage ratios would lead to overall finance levels above USD 100 billion in 2020. Increases or decreases in the proportion of projects mobilizing private finance and the ratio of mobilization per public finance dollar, suggested a possible range of outcomes from USD 77 billion to USD 133 billion in overall levels by 2020 (see figure 3.3).



86) The countries involved in producing the Roadmap were Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, European Commission, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and United States.

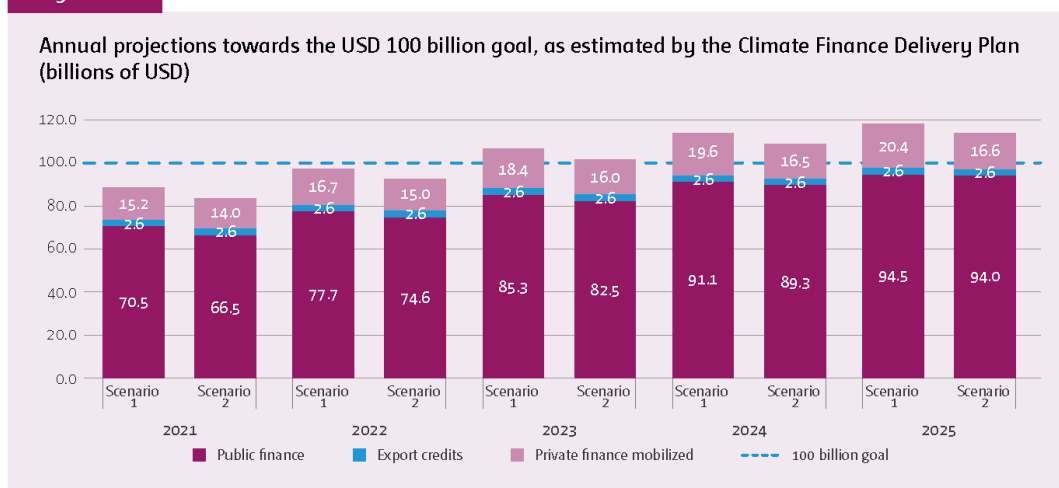
157. The Roadmap also highlighted a finding of the underlying OECD analysis that public adaptation finance was expected to double from 2013-2014 levels to USD 16 billion by 2020.

158. The 2021 **Climate Finance Delivery Plan**, prepared under the co-leadership of Minister Wilkinson of Canada and State Secretary Flasbarth of Germany on the invitation of the COP 26 President, provides forward-looking annual estimates on how and when the USD 100 billion goal would be met. The Delivery Plan states that, based on latest analysis of climate finance

provided and mobilized in 2019 by the OECD, the goal would most likely be shown to not have been achieved in 2020 once data would become available. Based on analysis of forward-looking pledges from developed countries and MDBs as of October 20, 2021, by the OECD, the Delivery Plan states it is confident the goal would be met in 2023 and that more than USD 100 billion per year would be mobilized thereafter (see figure 3.4).

159. The Delivery Plan draws on the analysis of forward-looking pledges and the development of two scenarios by the OECD to provide a range of estimates (see chapter 2).

Figure 3.4



Note: Total annual estimates are derived from the Climate Finance Delivery Plan. Component estimates of public finance, export credits and private finance mobilized are derived from the OECD Technical Note on forward-looking scenarios of climate finance provided and mobilized by developed countries in 2021–2025.

160. The Delivery Plan noted there was insufficient data to project shares of mitigation and adaptation finance while noting qualitatively that many developed countries and MDBs had set targets for adaptation finance within their pledges. It also noted that additional pledges were expected in 2021 but not included in the analysis. It further stated a number of factors that affect the collective ability to reach the goal, including: the performance of climate funds, developing country demand and absorptive capacity, policy interventions, robust pipelines of bankable projects, and indirect global and economic factors.

161. Looking ahead, the Delivery Plan outlined ten guiding principles for collective actions, namely: increasing the scale of climate finance; increasing finance for adaptation; prioritising grant-based finance

for the poorest and most vulnerable; addressing barriers in accessing climate finance; strengthening the Financial Mechanism of the UNFCCC and the Paris Agreement; working with MDBs to increase and improve climate finance; improving the effectiveness of private finance mobilized; reporting on collective progress transparently; assessing and building on lessons learned; and, taking into account the broader financial transition needed to implement Article 2, paragraph 1(c) of the Paris Agreement.

162. In September 2021, Oxfam published forward-looking estimates for climate finance out to 2025 based on pledges made by developed countries until that point. The study estimated that USD 93 billion to USD 95 billion per year would be mobilized by 2025, with approximately

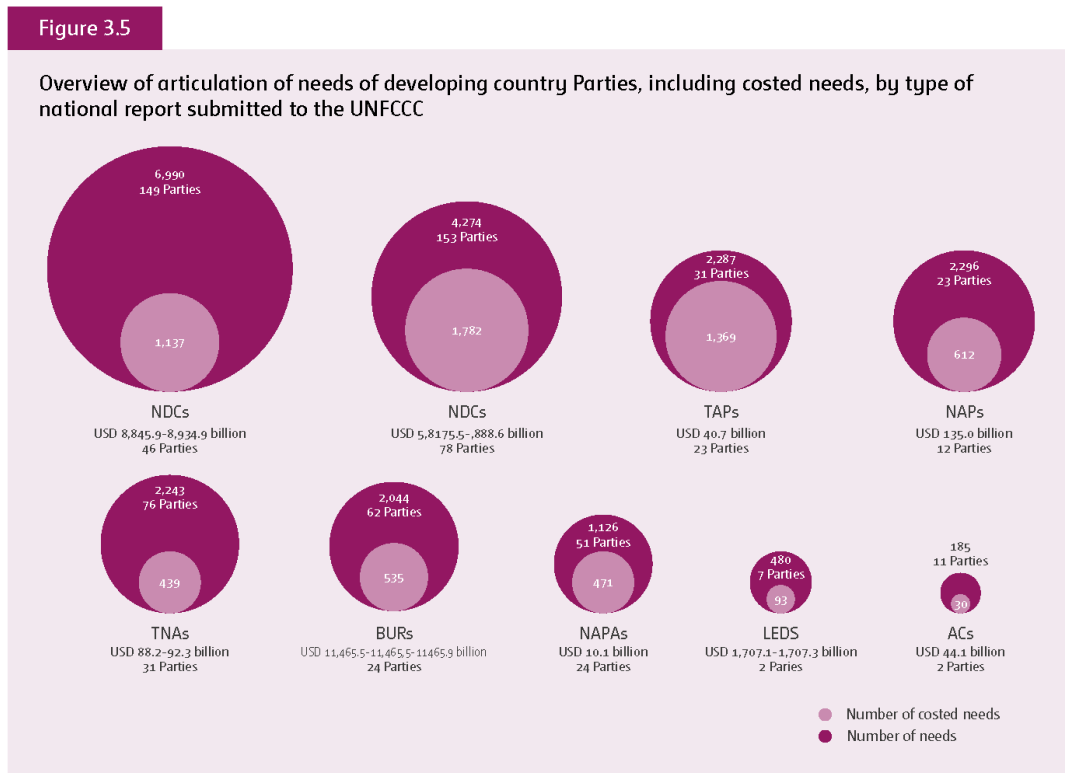
27 per cent allocated to adaptation. It further estimated an aggregate shortfall of USD 68 billion to USD 75 billion in total when considering the six-year period from the original goal by 2020 through to 2025.

3.2 Available quantitative and qualitative information on the needs of developing countries

163. This section provides an overview of available qualitative and quantitative information on the needs of developing countries. First, this section presents an overview of quantitative information on the needs of developing countries from the *First report on the*

determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement and an update of needs identified in national reports submitted to the UNFCCC after the cut-off date of resource of information considered for the first NDR. Section 3.2.2 provides an overview of available information of how the needs of developing countries have been addressed both from the perspectives of developing and developed countries.

3.2.1 Current status on the needs of developing countries



Source: SCF, 2021.
Note: Ranges of costs included where available.

The first report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement

164. The first NDR presents insights from quantitative data on needs from national, regional and global reports.

Figure 3.5 above provides an overview of the articulation of the needs of developing country Parties (outer circles), including overall costed needs (inner circles), across the nine types of national report. The difference between the numbers in the outer and inner circles indicates the

number of needs that are not costed. As of 31 May 2021, NDCs from 153 Parties included 4,274 needs, with 1,782 costed needs identified across 78 NDCs, cumulatively amounting to USD 5.8–5.9 trillion up until 2030. Of this amount, USD 502 billion is identified as needs requiring international sources of finance and USD 112 billion as sourced from domestic finance. For 89 per cent of the costed needs (USD 5.2 trillion), information was not provided on possible sources of finance.

165. Among the national reports, NCs from 149 Parties present the highest number (6,990) of identified needs, of which 1,137 costed needs cumulatively amount to USD 8.8–8.9 trillion, with 5 per cent of the costed needs distributed across 45 NCs and 95 per cent in 1 NC. BURs from 62 Parties indicated 2,044 needs, of which 535 needs are costed, cumulatively amounting to USD 11.5 trillion, with 5 per cent distributed across

60 BURs and 95 per cent across 2 BURs, thereby representing the highest amount of costed needs identified across the nine types of national report (see figure 3.5 above). These figures should be viewed in the light of the size and nature of the economies of developing country Parties and the scale of climate impacts.⁸⁷

166. Furthermore, it should be noted that, except in the cases of NDCs, the time frames of available information and data on the needs of developing countries as identified in their national report varies and is not always indicated. As noted in section 2.2, in some cases, national reports to the UNFCCC contain information and data on needs with time frames up until 2030 or beyond whereas the scope of this report is until 2025. As needs are not presented on an annual basis, it is not possible to limit presentation of the needs until 2025.

Table 3.4

Reported costed needs of developing countries by type of national report submitted to the UNFCCC

Report	Costed needs (USD billion)				
	Total	Mitigation	Adaptation	Cross-cutting	Other
Adaptation communication	44.10 (100%)	–	44.10 (100%)	–	–
BUR	11 465.53–11 465.90 (100%)	5 286.94–5 287.31 (46%)	3 628.81 (32%)	2 550.01 (22%)	–
LEDS	1 707.15–1 707.35 (100%)	1 407.15–1 407.34 (82%)	300.00 (18%)	–	–
NAP	135.02–135.03 (100%)	–	135.02 (100%)	–	–
NAPA	10.05 (100%)	–	10.05 (100%)	–	–
NC	8 845.85–8 934.94 (100%)	5 019.30–5 033.83 (56–57%)	3 812.06–3 882.07 (43%)	2.23 (>0%)	12.25–16.81 (>0%)
NDC	5 817.48–5 888.56 (100%)	2 156.05–2 156.13 (37%)	764.24–835.24 (13–14%)	2 893.39 (49–50%)	3.81 (>0%)
TAP	40.74 (100%)	21.97 (54%)	18.76 (46%)	–	0.01 (>0%)
TNA	88.24–92.33 (100%)	30.33–34.33 (34–37%)	57.9–57.98 (63–68%)	0.01 (>0%)	–

Notes: (1) Ranges of costs included where available. (2) The percentages given are the percentages of the type of costed need for each report type. (3) Costed needs communicated via national reports cover different time segments for the period up until 2030 and up until 2050 in LEDS.

87) The information provided here is derived from the fourth BA and the first NDR. See UNFCCC SCF, 2021b and UNFCCC SCF, 2021a.

167. Cumulatively, identified costed mitigation needs tend to be larger than costed adaptation needs across the reports that cover all thematic areas such as BURs, NCs and NDCs (see table 3.4 above). The overall amount of costed adaptation needs is comparable with the overall amount of costed mitigation needs expressed in NCs (43 and 56–57 per cent, respectively). Although developing country Parties identified more adaptation than mitigation needs, larger costs were identified for the latter. This may not imply that mitigation needs are greater, but rather be due to a lack of available data, tools and capacity for assessing adaptation needs.

168. Although some developing countries provided information on costed needs for mitigation and adaptation by sector and subsector, this information was not provided across all reports, except in the case of NDCs, where the first NDR presents costed needs for energy efficiency and renewable energy projects, estimated at USD 377.22 billion and USD 198.08 billion, respectively). Therefore, it was not possible to provide a comprehensive and accurate overall amount of costed needs by sector and subsector in the first NDR.

169. In their national reports, some Parties reported information on potential needs related to averting, minimizing and addressing loss and damage, either through specific adaptation activities that include objectives related to averting, minimizing and addressing loss and damage; referred to damage incurred owing to recent climate-related events such as droughts and severe weather; or modelled potential future impacts of climate on GDP or economic losses in a given year (e.g. 2030 or 2050). The information was also reported in the context of national circumstances, climate impacts and/or needs, depending on the reporting Party.

170. LDCs have expressed their needs in more detail in certain reporting types than in others. For example, the NDCs included more information relating to mitigation (52 per cent). 13 per cent of expressed needs in BURs come from the LDCs, while in NCs, 34 per cent of expressed needs come from the LDCs, of which 13 per cent include financial information.

171. SIDS express their needs mainly in NCs, NDCs, NAPs and TNAs. Half of the expressed needs with financial information in NAPs were from SIDS. However, the monetary value of these needs is about 1 per cent of the total monetary value of requested needs. In NDCs and

BURs, the needs expressed by SIDS for mitigation and adaptation were fairly equal although in NCs needs for adaptation were almost double the needs for mitigation.

172. Needs expressed in national reports are dynamically changing and may depend on different factors, such as temperature scenarios, mitigation pathways and adaptive capacity, extreme weather events, adverse effects of trade and economic barriers, and social factors such as poverty. Therefore, data and information thereon may not be exhaustive. The first NDR found that while the number of needs and costed needs communicated in national reports is lower for some regions than others, this does not mean that those regions have no or fewer needs. Rather, this may be due to a lack of available data, tools and capacity for determining and costing needs. Therefore, the number of needs and costed needs compiled from national reports available at the time of preparation of the first NDR should not be used to draw comparisons of the actual needs across regions.

173. With respect to qualitative data on needs, overall, needs related to adaptation are mentioned more often than those related to mitigation in all report types except BURs and LEDS, indicating greater attention to supporting the expressed adaptation needs of developing countries.

174. Across the nine national report types, energy is the lead sector for climate change mitigation actions, followed by land use and forestry, transport, agriculture, and waste and sanitation. Most needs in the energy sector related to requests for support for the energy efficiency and renewable energy subsectors, albeit with some variation between them. In NDCs, needs for renewable energy development were identified almost twice as frequently as those for energy efficiency (399 and 261, respectively) but the total nominal value of energy efficiency projects was 1.5 times larger than that of renewable energy projects (USD 377.22 billion and USD 198.08 billion, respectively). In BURs and NCs, more needs related to renewable energy than to energy efficiency were identified. TNAs included a larger variation of needs among energy subsectors, including the development of natural gas, the phasing-out of inefficient subsidies, the exploration of carbon capture and storage, and the development of the efficient use of coal.

Figure 3.6

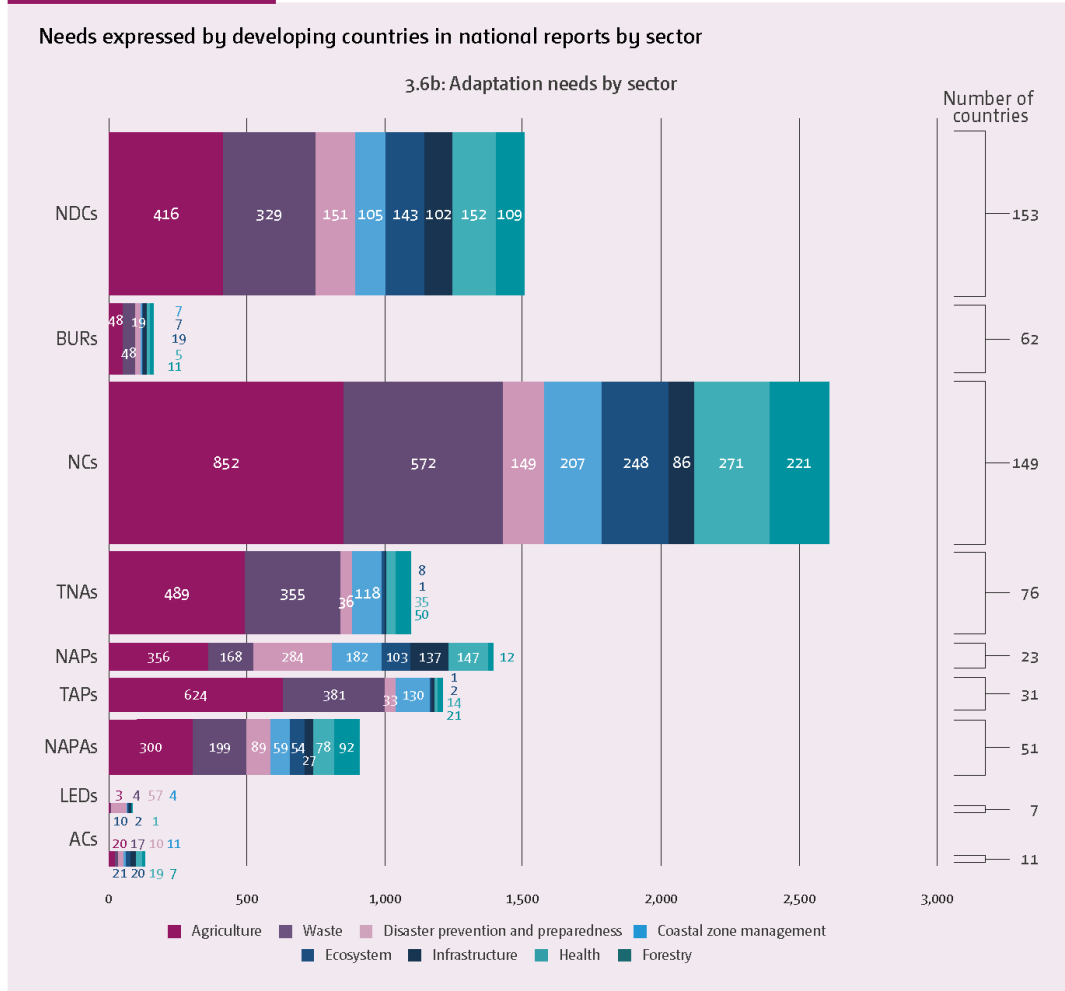


Source: National reports submitted by developing country Parties as part of the UNFCCC process.

175. Across the nine national report types, agriculture and water are the two lead sectors for climate change adaptation actions, followed by disaster prevention and preparedness, coastal zone management and health. Adaptation needs in the agriculture sector covered a wide variety of land uses that overlap with other key sectors. Needs related to agroforestry and irrigation, for example, also touch on areas or land managed under the forestry and water sectors. Needs related to the agriculture sector relate to crop diversification, development of resistant crops, land and soil management, livestock management, and fisheries and aquaculture.

176. Adaptation needs in the water sector are dominated by the need for water distribution infrastructure, water harvesting and irrigation. In NDCs, about 38 per cent of expressed needs in the water sector included financial information. Water distribution infrastructure, including wastewater treatment, was the largest need in financial terms across all types of report.

Figure 3.6 (continued)



Source: National reports submitted by developing country Parties as part of the UNFCCC process.

177. Developing country Parties also communicated other areas of needs that involved issues such as gender, indigenous peoples and vulnerable groups. However, across the nine national report types, less than 10 per cent of required activities referred to gender or specific communities. Where these topics are included in national reports, information tends to relate to commitments, policies and/or strategies.

178. Some reports that expressed needs for policy development were linked to the SDGs and the Addis Ababa Action Agenda. In general, the implementation of climate actions is mainstreamed in SDG-related actions.

However, a few reports expressed needs focusing on institution-building and policy development, aiming to link climate commitments with the SDGs.

Synthesis reports prepared for the global stocktake

179. The synthesis reports prepared for the technical assessment component of the first global stocktake present information on adaptation and mitigation related needs from national, regional and global reports, including reports made available after the cut-off date of the first NDR.

180. The synthesis report on the overall effect of Parties' NDCs and overall progress made by Parties towards the implementation of their NDCs, including the information referred to in Article 13, paragraph 7(b), of the Paris Agreement,⁸⁸ presents key findings of 166 NDCs communicated by 193 Parties as at 31 December 2021, including needs related to climate finance. Accordingly, almost all Parties (93 per cent) provided information on finance needed to implement their NDCs, although the structure and depth of that information varied significantly. While some Parties included a dedicated section on means of implementation or separate sections on finance, technology and/or capacity-building, many mentioned or referred to aspects of means of implementation in other sections of their NDCs. 71 per cent determined finance needs from international sources, while 22 per cent identified domestic sources.

181. Many Parties (44 per cent) provided quantitative estimates of financial support needed, most of which differentiated quantitative estimates for conditional actions reliant on international support (82 per cent) from those for unconditional actions that may be financed from domestic sources. Some of those Parties provided estimates for conditional actions only and some others did not specify which actions the estimates were for.

182. Some Parties (38 per cent) provided disaggregated information on financial resources needed across mitigation and adaptation themes or sectors, while a few countries provided total estimates. For mitigation, financial support was mostly identified for renewable energy, energy efficiency, transport and forestry. Finance needs for adaptation were identified for water, agriculture, coastal protection and resilience.

183. Additional mitigation sectors identified by developing countries in BURs and NCs include industrial processes and product use, agriculture, LULUCF, waste and other sectors, with energy needs being the most frequently identified needs identified by almost all developing country Parties. Energy needs are also most frequently identified in the LEDS. While LEDS cover a long-term timeframe (in most cases until 2050), the below information provides an indication of the needs of Parties, notwithstanding that the timeline is beyond the scope of this report. Most LEDS identified needs related to:⁸⁹

- (a) Increasing the use of renewable energy;
- (b) Strengthening electricity grid networks;
- (c) Expanding energy storage capacity in order to reduce emissions from energy supply;
- (d) Enhance energy efficiency improvement;
- (e) Increase the electrification of end-use sectors such as transport, buildings and heat production for industrial processes;
- (f) Shifting to low- or zero-carbon fuels such as biofuel, synthetic fuel and hydrogen;
- (g) Reducing energy demand, including by promoting use of public transport, cycling and walking.

184. Non-energy related needs identified in LT-LEDS predominantly relate to policies and measures targeting non-energy emissions in industry and waste and agriculture. Needs related to the industry sector include phasing down use of hydrofluorocarbons. Needs identified in the waste sector relate to reducing waste, including by improving resource and material efficiency (product recycling and reuse) and through promotion of a circular economy approach. Needs in the agriculture sector include reducing enteric fermentation through feed adjustment and genetic selection, reducing nitrogen fertilizer use for crop management through precision farming and use of organic fertiliser, and agroforestry.

185. 98 per cent of submitted LT-LEDS, identified needs related to GHG removals in the LULUCF sector. These include:

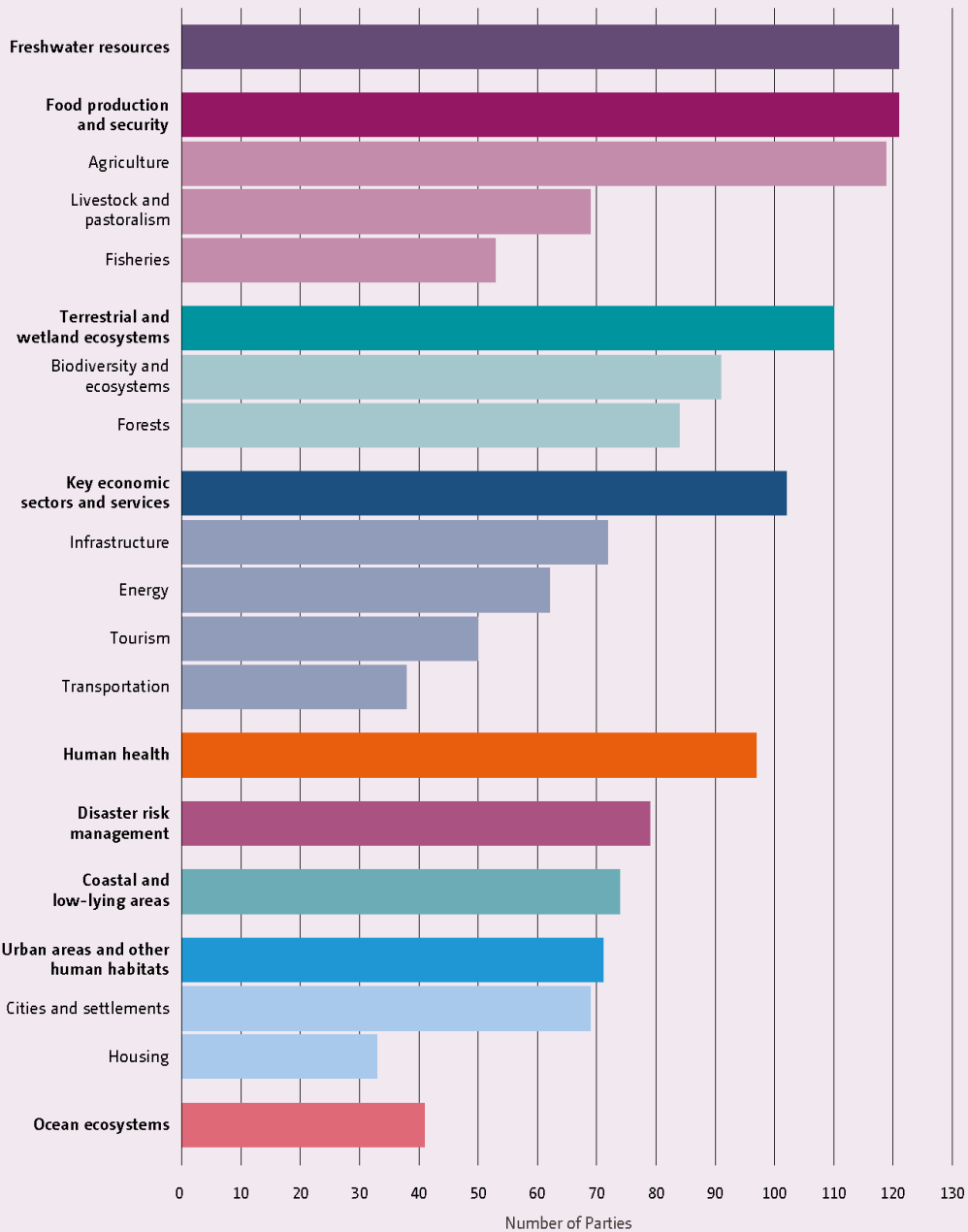
- (a) Increasing the sink capacity of forests, including through afforestation, sustainable forest management and promoting use of harvested wood products;
- (b) Protecting sinks, including by reducing deforestation and forest degradation, mitigating natural disturbances such as forest fires, and preserving soil carbon in agricultural land;
- (c) Protecting and exploring blue carbon;
- (d) Application of CO₂ removal technologies, such as bioenergy with CO₂ capture and storage and direct air carbon dioxide capture and storage.

⁸⁸ https://unfccc.int/sites/default/files/resource/GST_SR_23c_30Mar.pdf

⁸⁹ https://unfccc.int/sites/default/files/resource/GST_SR_36a_1.pdf

Figure 3.7

Adaptation priorities identified by developing country Parties in their Adaptation Communications, NCs, NDCs and NAPs



186. Adaptation needs as identified by developing countries in their national reports are summarised in the State of adaptation efforts, experiences and priorities synthesis report⁹⁰ as presented in figure 3.6b. Accordingly, adaptation needs identified in national reports are distinguished by conditional and unconditional adaptation measures. Identified conditional needs predominantly refer to food production and security, key economic sectors and services such as infrastructure, waste, tourism, and freshwater resources. Unconditional measures rely on international sources of finance and encompass:

- (a) Enhancing research on climate change risks, impacts and vulnerabilities in agriculture, fisheries, settlements, coastal and marine areas, water resources and health;
- (b) Enhancing or developing policies, regulations, laws and mechanisms for adaptation and disaster risk reduction in various sectors;
- (c) Strengthening multilevel finance, technology and institutional capacities;
- (d) Mainstreaming adaptation considerations in sectoral plans and strategies and improving regulatory frameworks for disaster risk reduction.

187. According to the synthesis report, thirty-seven per cent of the NDCs with adaptation components provided information related to costs, losses and/or damage associated with climate impacts. Twenty-three per cent of the NDCs considered, provided information on incurred or projected costs, losses and/or damage across socioeconomic and natural systems, and 28 per cent referred to undertaken or planned measures for addressing such costs, losses and/or damage.

188. The first NDR does not provide insights on needs by financial instruments due to limited availability of information provided by developing countries thereon. Previous in-session workshops and biennial HLMDs under the **long-term finance process** provided space for developing countries to discuss needs by financial instruments. Accordingly, high levels of debt of many developing countries that have been exacerbated by disasters and the coronavirus 19 pandemic, create significant challenges in developing and implementing climate projects. Applications of loans could increase the debt burden on them and further slowdown climate action. Recognizing the need to significantly

scale up climate finance, participants recognized the opportunity of mobilizing climate finance from a variety of instruments and blending grants with other forms of finance including loans, guarantees, equity, payments for environmental services and carbon finance.⁹¹

189. During the HLMDs, several Ministers reiterated the importance of increasing grant-based support for adaptation. Some Ministers emphasised the need for grants for the least developed countries and small island developing States due to the difficulties in attracting private finance support for adaptation and in SIDS and LDCs.⁹²

190. **INDC synthesis report:** The updated INDC synthesis report provides aggregate estimates of the 161 INDCs communicated by 189 Parties by 4 April 2016, including with respect to climate finance needed. Several countries identified financial needs to support achieving the upper level of their conditional adaptation and mitigation targets.

191. In this context, some Parties indicated overall cost estimates, while others included figures at the sectoral level or provided in tabular format a detailed list of intended actions and costs. Several Parties noted that they are still in the process of quantifying their financial needs or refining their current analysis. Financial needs for adaptation were quantified by some Parties, with individual needs ranging from USD 100 million to over 200 billion for the whole INDC period (2020–2030) to around USD 10 million to 3 billion per year. A few Parties provided projected adaptation costs for different mitigation scenarios, thus clearly indicating that the need for adaptation depends on mitigation ambition.

192. Costs, losses and/or damage associated with past and projected impacts of climate variability and change were reported by several Parties, some of which provided quantified projections of such costs, losses and/or damage, for example in the form of absolute costs, annual loss of GDP or percentage of land or agricultural production lost by a certain year or a particular threshold, for example a specific rise in sea level. A few Parties provided details on projected costs of climate change impacts and how intended adaptation measures are expected to reduce them while leaving some residual damage, making an economic case for investing in adaptation and disaster risk reduction.

90) <https://unfccc.int/sites/default/files/resource/Synthesereport%20on%20the%20state%20of%20adaptation%20efforts%20and%20priorities.pdf>

91) See <https://unfccc.int/documents/278070>.

92) See <https://unfccc.int/documents/611318>.

193. With regard to international support, several Parties noted the need for enhancing existing institutional arrangements for delivering international financial, technology and capacity-building support, including mechanisms under the Convention, such as the Green Climate Fund, the Global Environment Facility, the Adaptation Fund and the Technology Mechanism, and for increasing the scale of, and expanding access to, financial support for climate change action from bilateral and multilateral sources.

194. Several Parties reported on how they are or will be addressing their identified finance needs through a variety of sources, including international sources of finance from international finance institutions, funds under the Convention and bilateral and multilateral institutions, as well as the national budget; insurance; contingent credit and catastrophe bonds; income credits of the domestic market; allocations from valued-added tax; as well as environmental fees, taxes and levies; soft and low-interest loans; and the domestic private sector.

Information on needs derived from global assessments of needs

195. The IPCC AR6, working group III chapter on investment compares current climate finance flows between 2017 and 2020 as reported by CPI and IEA to needs, ignoring the difference in timeframes used in the two studies. Accordingly, to meet the needs for rapid deployment of mitigation options, global mitigation investments need to increase by a factor of 3 to 6. This factor varies and is projected to increase by a factor of 4 to 8, depending on the sector under consideration and country groups with limited access to-, and high costs of-, climate finance, such as LDCs. Further, the report identifies critical factors to scale up climate finance, including the actual size of sectoral and regional climate financing gaps, financial and economic viability, access to capital markets, appropriate regulatory frameworks and institutional capacity to attract and facilitate investments. Financing needs for the creation and strengthening of regulatory environment and institutional capacity, upstream financing needs as well as R&D and venture capital for development of new technologies and business models are often overlooked despite their critical role to facilitate the deployment of scaled-up climate finance.

196. The International Energy Agency (IEA) World Energy Outlook (2021) estimates global energy investment needs under three scenarios, the STEPS, the APS and the NZE. The STEPS is based on current policies and considered aspirational targets. The APS is based on the assumption that climate commitments and pledges,

including net zero targets will be fully met and on time. The NZE Scenario assumes a pathway towards achieving net zero emissions by 2050, thereby focusing on the global energy sector. Achieving the NZE scenario requires increased investments needs from current investments to around USD 4 trillion annually by 2030 to enable clean energy transition. The level of investment required in the NZE scenario is three-quarters higher than in the APS scenario. This increase is driven by a USD 1.1 trillion increase, relative to the APS, in annual investment in clean power generation and electricity infrastructure (two-thirds for generation and one-third for networks) and a USD 0.5 trillion increase in investment in energy efficiency and end-use decarbonization in the buildings, industry and transport sectors. It is also driven by a rapid scaling up from a low base of low emissions fuels based on hydrogen or bioenergy.

197. With respect to energy investment needs by region, the WEO report estimates a large increase in investment needs, particularly in emerging market and developing economies. The large increase in capital investment in the NZE is partly compensated for by the lower operating expenditure that follow the shift away from upstream fuel supply and fossil fuel generation projects towards capital-intensive clean technologies. Keeping upfront financing costs low nevertheless is critical to the speed and affordability of this transformation.

198. Capital remains up to seven-times more expensive in emerging market and developing economies than in advanced economies, while fiscal expansions and inflationary pressures around the world increase the risk of growing debt burdens and higher borrowing costs in the future. The 2021 WEO does not only estimate investment needs but also the sources and types of finance. The report estimates that around 70 per cent of clean energy investments will need to be mobilized by private developers, consumers and financiers, catalysed by public sources of finance.

199. On the basis of the IEA transition scenario and its regional carbon prices, the Race to Zero and Glasgow Financial Alliance for New Zero (GFANZ) developed Net Zero Financing Roadmaps which project USD 125 trillion of investment needs by 2050 to put the world on a path to net zero. From 2021 to 2030, the roadmap estimates USD 32 trillion of investment needs and presents disaggregated levels of how such investments needs can be leveraged by region, sector and type of actor.

200. Accordingly, the private sector could provide an average of 70% of the USD 32 trillion global investments

needed, ranging from 50 per cent to 95 per cent across regions with different levels of market maturity. To unlock private investments, increased and well-targeted public support will be needed, such as policy and regulations targeting net zero, market building, direct investment and blended finance.

201. The annualized investment needs for 2021–2025 amount to USD 2.6 trillion in primary financing globally with a similar aforementioned split of 30 per cent from public sources and 70 per cent from private debt and equity investors and households. In terms of instruments, the public finance sources of USD 790 billion per year would require 25 per cent in grant finance (USD 200 billion), 46 per cent in debt finance (USD 360 billion, 29 per cent in project debt and 16 per cent in balance sheet debt), and 29 per cent in equity finance (USD 230 billion, 13 per cent in project equity and 16 per cent in balance sheet equity). Private finance of up to USD 1.8 trillion per year would largely derive from corporations at 53 per cent, commercial financial institutions at 25 per cent, household consumer finance at 15 per cent and the remaining 7 per cent provided by PE/VC funds, institutional investors and infrastructure funds. Debt instruments would consist of approximately 51 per cent, with equity and consumer finance contributing the remainder.

202. Annualized investment needs for emerging markets and developing economies provided through the Race to Zero/GFANZ net zero financing roadmaps amounted to USD 1.24 trillion for mitigation actions, of which 58 per cent is in the electricity sector, 17 per cent in transport, 10 per cent in buildings, 7 per cent in industry, 5 per cent in AFOLU and 3 per cent in low emission fuels.⁹³

203. Analysis as part of the report focused on SIDS, which identified USD 14 billion in annualized 2021–2025 investment needs in mitigation and USD 12 billion in annual 2030 costs in adaptation. Mitigation investments are expected to be sourced equally from public and private sources, while adaptation costs would be predominantly borne by the public sector at 80 per cent, reflecting the large share of coastal infrastructure needed which is often inaccessible to private investors.

204. Furthermore, the roadmaps explore 17 investment opportunities across four types of categories (market creation opportunities, early technology bets, established

investment opportunities and maturing technologies in emerging regions), identifying annual investments needed from public and private sources, region, technology, sector, as well as barriers to investments and enabling policies.

205. In its *World Energy Transitions Outlook 1.5°C Pathways*,⁹⁴ the **International Renewable Energy Agency (IRENA)** developed a 1.5°C Scenario which describes an energy transition pathway by 2050, which is aligned with the 1.5°C temperature goal outlined in the Paris Agreement. The 1.5°C Scenario outlines priority areas and actions that are based on available technologies that must be realised by 2030 to achieve a net-zero target by 2050. The agency estimated investment needs of almost USD 98 trillion in energy systems in its PES over the period 2021–2050. The PES provides a perspective on energy system developments based on governments' current energy plans and other planned targets and policies, including those outlined in NDCs. IRENA's 1.5°C Scenario could be achieved with additional investments of USD 33 trillion over the period 2021–2050, i.e. an average of USD 4.4 trillion annually. In other words, the study suggests that an additional annual investment of USD 1.1 trillion is required to transition from the PES to the 1.5 C Scenario. Accordingly, more than 80% of the total investment needs to achieve the 1.5°C Scenario – USD 116 trillion through 2050 – needs to be invested in energy transition technologies (excluding fossil fuels and nuclear) such as renewable energy, energy efficiency, end-use electrification, power grids, flexibility innovation (hydrogen) and carbon removal measures. Cumulative investments of more than USD 24 trillion should be redirected from fossil fuels to these energy transition technologies over the period to 2050. While the report estimates investment needs by 2050 which is beyond the scope of this report, it also outlines the actions required by 2030 to achieve a net zero emission target by 2050.

206. For adaptation, the **2016 UNEP Adaptation Gap report** identifies that the global costs of adaptation could range from USD 140 to 300 billion per year by 2030, and USD 280 to 500 billion by 2050. Adaptation in coastal areas, water management, agriculture and the built environment were sectors highlighted in the literature on cost estimates. The wide range in estimates reflects differences in future scenarios, coverage and assumptions across national and sector-level studies. These figures

93) Emerging market and developing economies (EMDEs) follow the IEA classification excluding OECD members states (such as Chile, Colombia, Costa Rica and Mexico).

94) IRENA (2022), *World Energy Transitions Outlook 2022: 1.5°C Pathway*, International Renewable Energy Agency, Abu Dhabi. Available at: <https://irena.org/publications/2022/mar/world-energy-transitions-outlook-2022#:~:text=By%20laying%20out%20a%20map,use%20sector%3A%20electrification%20and%20bioenergy>

also focus on the cost of planned adaptation, mainly by the public sector, and do not include consideration of household or private adaptation or account for information gaps regarding adaptation in industry, biodiversity and ecosystem services. The 2018 and 2020 updates to the Adaptation Gap Reports noted additional studies on adaptation costs that reinforced the findings of the 2016 report but were not possible to aggregate into new global assessments. Cost estimates also tend to not include the programming and implementation costs of adaptation. For example, the 2018 report noted that in road infrastructure the additional costs for adaptation can range from 0.5 to 10 per cent of total investment costs and for projects implemented by climate funds, additional costs of design and implementation typically range between 10 and 20 per cent of the total costs (UNEP, 2016).

207. The 2021 Adaptation Gap Report⁹⁵ estimates that the projected adaptation costs are higher than the estimates published in the 2016 Adaptation Gap Report. This is due to a) higher temperature scenarios which are expected to result in increased adaptation needs and costs; b) based on a literature review of available sources published since the 2016 AGR that estimate adaptation costs to be in the upper range of the 2016 Adaptation Gap Report estimate; and c) based on an update of adaptation costs analysed in updated NDCs and NAPs which indicate that adaptation needs are increasing, including due to the increase of cost estimates by sector. The 2021 Adaptation Gap Report concludes that the adaptation finance gap continues to grow and is larger than indicated in the 2020 Adaptation Gap Report. Comparing estimated adaptation needs with global finance flows to adaptation to developing countries based on data for 2019 and 2020, the report suggests adaptation finance flows are projected to stabilise or decline despite recent trends of increasing international public finance flowing to adaptation projects. This is particularly as a result of the impacts of the COVID-19 pandemic which forces financial institutions and governments which provide the majority of international funding for adaptation, to divert sources away to spending on health care and economic recovery packages to address the socio-economic impacts of the pandemic.

208. The incremental costs of making infrastructure resilient was also assessed by the World Bank (Hallegatte et al., 2019) for low- and middle-income countries between 2015 and 2030. It found that the costs of making

power, transport, and water and sanitation infrastructure resilient can range from 8 to 45 per cent (USD 120 to 670 billion a year) of all infrastructure investments to the amount of USD 1.5 trillion a year (based on the preferred scenario identified in the World Bank's Beyond the Gap report). However, the study also noted the costs determined if the degree of exposure of infrastructure to natural hazards, related to their location, intensity and level of risk, were known and incorporated, rather than the costs being determined by applying uniform measures across all assets. This method reduced the incremental cost to 3 per cent of total investment (USD 11 to 65 billion per year). As an example, the World Bank conducted a study analysing the impact of climate risks on the planned energy system expansion in Bangladesh. Using a two-stage stochastic planning model to analyse the impact of climate risks on the power system expansion, the study found that accounting for climate change in the design increases capital requirements by USD 560 million for additional flood protection but could save up to USD 1.6 billion.

209. The IPCC AR6, WG II,⁹⁶ chapter on decision-making options for managing risk presents various cost estimates for adaptation using bottom-up (based on national plans such as NAPs or NDCs) and top-down (based on economy-wide or sectoral modelling techniques) approaches. Chapagain et al. (2020) assessed various estimates of adaptation for developing countries, under different emissions scenarios for 2030 and 2050, where the median estimates and range are USD 127 (15–411) and USD 295 (47–1088) billion per year for climate change impacts out to 2030 and 2050, respectively. Using integrated assessment models, Baarsch et al. (2015), estimate annual adaptation costs (2012 prices) in 2030 (and 2050) as USD 272 (660) billion globally and USD 205 (521) in developing countries only under the RCP2.6 scenario. While international and public adaptation finance remains the main source of finance for adaptation and resilience in developing countries, private finance could scale up additional climate finance needed to meet estimated adaptation costs. Public finance can contribute to leveraging private finance for adaptation by addressing regulatory, cost and market barriers through blended finance approaches, public-private partnerships or innovative financial instruments (Ellis and Pillay, 2017; Miller et al., 2019). Private finance for adaptation generally targets infrastructure, agriculture or water management sectors through contingency finance or insurance. The chapter further estimates that the gap

95) Available at <https://www.unep.org/resources/adaptation-gap-report-2021>.

96) https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_Chapter17.pdf

between the costs of adaptation and climate finance flows to adaptation has widened. The report cites various reports that estimate global adaptation costs to range from USD 15 to 411 billion per year out to 2030, with the majority of reports reviewed estimating more than USD 100 billion out to 2030.

210. The IPCC AR6, WGII report also recognized with high confidence that, with increasing global warming, human and natural systems will reach adaptation limits and that some limits have already been reached (IPCC, 2022a). Further, the IPCC found that 'soft' limits to some human adaptation efforts have already been reached but can be overcome by addressing the underlying constraints, and that 'hard' limits in some ecosystems have also been reached (IPCC, 2022a). Looking ahead to different warming scenarios, the IPCC projects that above 1.5°C of global warming, some ecosystems will reach hard limits, thereby causing ecosystem-based adaptation measures to lose their effectiveness, and limited freshwater resources will pose hard limits for SIDS and regions that depend on glacial and snow melt; 2°C of warming can see soft limits reached for multiple staple crops, especially in tropical regions; and 3°C of warming can lead to soft limits being reached for some water management measures in various regions, as well as hard limits for these measures being reached in parts of Europe (IPCC, 2022a). These findings suggest that limits to adaptation will likely be a growing concern moving forward, particularly when juxtaposed against the suggestion that full implementation of current NDCs will lead to an emission level in 2030 that is higher than the well below 2°C scenarios of the IPCC.

3.2.2 Information on how the needs of developing countries have been addressed

211. In their BURs, developing countries can provide information on support needed, received and additional support needed, the latter of which constitutes the difference between support needed and received. Of 61 submitted BURs submitted by 2020, 15 BURs compared financial needs with financial support received and identified additional financial resources. Of the 15 BURs that make such a comparison, 10 BURs provide a comparison in quantitative terms, ranging from USD 0.15 billion to USD 1.3 billion.

212. Some BURs reflect on the alignment of climate finance provided with their identified needs in terms of whether or not finance provided meets the scale of costed needs identified, either by identifying total

additional costed needs or additional costed needs by activity and in tabular format. Some BURs determine alignment of climate finance provided against identified needs in priority thematic areas, sectors and through favourable instruments such as grants and low-concessional loans. One BUR highlighted that only 8 per cent of identified project ideas under its NAP received full financial support, without specifying the cost estimates to implement the projects, while 11 per cent of identified projects are partially supported, indicating that climate finance provided has not been aligned with national priorities and actions. Another BUR highlighted that the country's STAR allocation under the climate change focal area under the GEF was reduced, resulting in additional finance needed to cover the gap. One BUR compared the alignment of finance received with finance needs in qualitative terms by identifying which needs identified in the country's previous BUR have been addressed and which needs remain valid.

213. The information submitted by developed country Parties on their biennial updated strategies and approaches for scaling up climate finance included qualitative information on how needs of developing countries are addressed. Most submissions in 2018 underscored that developed countries' climate finance support should be based on the needs and priorities of developing countries and that climate assistance is most effective when it is driven by the developing countries. In this context, many submissions stated that climate finance support from developed countries is based on partnerships and collaboration with the recipient countries and relevant stakeholders. For example, Switzerland stated that it conducts regular dialogues with its partner countries to set their priorities for collaboration for a period of approximately four years. Through this process, the partner country communicates its priorities to Switzerland and defines the scope of its own climate interventions. Norway states that its partnerships with key forest countries, through its International Climate and Forest Initiative, aims to support the countries' strategies for reducing emissions from forests and efforts to increase ambition in implementing the Paris Agreement through their NDCs.

214. Many submissions highlighted activities that foster partnerships and dialogue with recipient countries to ensure that support is based on the needs and priorities identified in their national development strategies and plans, such as NDCs and NAPs. They stated that partnerships that aim to facilitate the preparation and implementation of NDCs and NAPs promote coherence and buy-in and strengthen developing countries'

ownership of climate action. Capacity-building support, of individuals and institutions was emphasised as being a fundamental component of support across most areas. Capacity-building activities were seen as crucial to fostering enabling environments conducive to attracting additional climate finance and increasing the impact of the resources provided.

215. Parties, in their submissions, further recognized the importance of developing countries having access to multilateral climate funds. They outlined examples of technical assistance aimed at building institutional capacity and strengthening policy environments, and identified facilities that support developing countries in preparing project proposals. Some emphasised their continued efforts to help develop investment-ready projects to encourage an increase in private finance.

216. With regard to thematic scope, developed countries are focusing on supporting developing countries in achieving transformational change towards low-carbon economic growth through targeted investment in innovative projects and replicable technologies, including

by removing barriers to private sector investment. However, most submissions identified adaptation as a priority for support which is reflective of the priority areas of most developing countries. They confirmed their commitment to achieving a balance in the provision of climate finance for adaptation and for mitigation.

217. In their first biennial communications under the arrangements related to Article 9, paragraph 5, of the Paris Agreement submitted in 2020,⁹⁷ Parties reiterated that the provision of climate finance support is driven by the demands of and tailored to the needs and priorities of the recipient countries as articulated in their NDCs, NÁPs, national and subnational climate plans and sectoral strategies. This will provide coherent and coordinated support that is ultimately effective. With respect to information on how developed country Parties ensure that the climate finance provided effectively addresses the needs and priorities of developing countries, many biennial communications emphasise that their climate finance is driven by developing country Parties' demands, and that it must align with the national development plans of the recipient countries,

97) https://unfccc.int/sites/default/files/asset/document/2021_08E.pdf.



including in terms of capacity-building for enhancing adaptation plans and formulating investment ready climate project proposals. Most biennial communications state that developed country Parties support international networks and partnerships that foster developing country Party ownership of climate action in implementing their NDCs and NAPs.

218. Many Parties stressed that developing countries should be supported in articulating their needs, including by building their capacity to integrate climate change into national development planning and manage climate project pipelines. Consultation and dialogue with the recipient countries, including with international, national, subnational and local authorities, civil society and non-governmental organizations, enables the contributing Parties to better understand their context and needs and ensure that the support can be adjusted in line with changing circumstances.⁹⁸

219. In terms of Parties' sectoral priorities in supporting mitigation and adaptation, the key sectors for mitigation include renewable energy and energy efficiency, transport, forestry (in the context of REDD+) and waste management; and for adaptation, agriculture, food security, water resource management, disaster risk reduction, infrastructure, coastal zone management, land rehabilitation and soil improvement. Generally speaking, these sectors tend to reflect the priority sectors identified in the NDR and by developing countries themselves under the NBF project.

220. Capacity-building support to facilitate access to public and private finance was highlighted as a focus area, including through the provision of readiness support, generation of data on climate risk and vulnerability, and peer-to-peer exchange of lessons learned in accessing finance, with a view to strengthen the institutional capacity of developing country governments and institutions to foster long-term planning and ensure coherence of climate change policies. Capacity-building for facilitating access to adaptation finance was identified as crucial for supporting the most vulnerable developing countries,

particularly the LDCs and SIDS. Submissions also highlighted the need for a programmatic approach to capacity-building to enable a process of continuous learning and training rather than a one-off activity.

221. With respect to instruments, Parties indicated the financial instruments that they use for providing climate finance and their criteria for selecting instruments for specific purposes. Many Parties highlighted that grant-based public finance will be used for supporting adaptation in developing countries, particularly the LDCs and SIDS, as well as for supporting projects focused on early-stage climate technology, and readiness and capacity-building projects. According to the communications, grant-based finance should also be used to unlock and mobilize private investment in mitigation where public intervention is required to overcome market failure.

222. The BA, in its assessment chapter, considers the alignment of climate finance flows with the climate finance needs of developing countries. In its 2014⁹⁹ edition, the BA took a case study approach by considering needs of four countries as determined in the UNFCCC-supported NEEDS project and the UNDP climate change investment and financial flows initiative. It also looked at needs identified in TNAs, NAPAs and NAMAs to understand how the needs assessments of developing countries are informing how international finance is delivered. In its 2016¹⁰⁰ edition, the BA considered information on costed needs from submitted BURs and INDCs. While BURs and INDCs contained information on costed needs, such needs were defined differently between countries and covered different time frames, making comparisons on alignment with financial flows challenging. The 2018¹⁰¹ and 2020¹⁰² BAs continued to summarise information on climate finance needs assessments in national reports. Accordingly, due to the incompleteness of data from both the top-down and bottom-up estimation of needs, an assessment of the alignment of climate finance flows with the climate finance needs of developing countries remains challenging.

98) The first NDR makes a set of recommendations related to supporting developing countries' in articulating and costing their needs, ranging from addressing existing data gaps, enhancing methodologies related to determining and costing needs and the provision of financial and technical support, see Standing Committee on Finance. 2021 *First report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement. Executive Summary and Recommendations*. Available at https://unfccc.int/sites/default/files/resource/54307_2%20-%20UNFCCC%20First%20NDR%20summary%20-%20V6.pdf.

99) Standing Committee on Finance. 2014 *Biennial Assessment and Overview of Climate Finance Flows. Technical Report*. Available at https://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2014_biennial_assessment_and_overview_of_climate_finance_flows_report_web.pdf.

100) Standing Committee on Finance. 2016 *Biennial Assessment and Overview of Climate Finance Flows. Technical Report*. Available at https://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2016_ba_technical_report.pdf.

101) Standing Committee on Finance. 2018 *Biennial Assessment and Overview of Climate Finance Flows. Technical Report*. Available at <https://unfccc.int/sites/default/files/resource/2018%20BA%20Technical%20Report%20Final%20Feb%202019.pdf>.

102) Standing Committee on Finance. 2020. *Fourth (2020) Biennial Assessment and Overview of Climate Finance Flows. Technical Report*. Available at https://unfccc.int/sites/default/files/resource/54307_1%20-%20UNFCCC%20BA%202020%20-%20Report%20-%20V4.pdf.

223. The technical assessments conducted at the regional level under the NBF project view the needs identified against climate finance flowing into the regions. Table 3.5 presents an overview of the needs costed in their national reports and through national stakeholder consultation processes against the climate finance flows into the respective regions where a technical assessment has been finalised. Although the time periods of the needs are not directly comparable with the climate finance flows, such a comparison provides an indication whether or not climate finance flows direct the region's needs.

- (a) The ISIO¹⁰³ technical assessment finds that assuming a 10-year implementation period to 2030, the total estimated climate finance needs of ISIOs amount to USD 49.6 billion which equate to about USD 5 billion annually. This indicates an 8-fold increase in international climate finance flows into the region up to 2030 to meet current ISIOs needs;
- (b) In Arab States,¹⁰⁴ current finance flows are targeting the needs, but not in the volumes needed and geographic coverage is weak. Combining a rough aggregate of international public flows of between USD 3.6 billion and USD 4.9 billion a year with international private sector investment flows of USD 1.5 billion to USD 2.5 billion a year indicates that existing flows stand at approximately USD 5 billion to USD 7.5 billion a year, which is far below the stated needs. In terms of themes, 77 per cent of flows over the period 2013–2018 target mitigation themes, while 37 per cent of the costed needs are in

mitigation sectors. Within mitigation, the energy sector accounts for 42 per cent of flows and 14 per cent of costed needs, and transport accounts for 10 per cent of flows and 11 per cent of needs. Adaptation accounts for 18 per cent of flows (30 per cent when including projects with co-benefits) but represents 46 per cent of costed needs. Water receives 14 per cent of flows but represents 29 per cent of costed needs. Geographically, flows are concentrated in four or five countries, although needs have been identified across the region;

- (c) In West African Community (ECOWAS),¹⁰⁵ comparing needs versus climate finance flows is helpful to show the performance of specialised funds in addressing the region's needs. Most ECOWAS countries are among the LDCs, and as such, are eligible for LDCF funding. As of September 2020, total LDCF funding approved (USD 1.7 billion, including co-financing) had exceeded the needs expressed in NAPAs (USD 270 million) by ECOWAS member States. The total funding disbursed to completed projects (USD 330 million, including co-financing) also had exceeded total needs expressed. However, at the national level, roughly 13 years after the finalisation of their NAPAs, only Burkina Faso, Cabo Verde and Guinea had completed projects with a total value matching their expressed needs. This indicates that while the LDCF is fulfilling its mandate, the completion of projects takes a long time.

103) https://unfccc.int/sites/default/files/resource/UNFCCC_NBF_TA_ISIO_final_web_.pdf

104) https://unfccc.int/sites/default/files/resource/UNFCCC_NBF_TA_AS_final.pdf

105) https://unfccc.int/sites/default/files/resource/00008_UNFCCC_NBF_TA_Climate_Finance_WA_v11965B40965D.pdf

Table 3.5

Overview of needs identified compared to financial flows per region covered under the NBF project as identified in the technical assessments

	Climate finance flows		Costed needs	
	In USD billion	Timeframe	In USD billion	Timeframe
Arab States	21.60	21.60	363	2015 to 2040
ASEAN	16.00	16.00	422.16	Up to 2030
EAC	15.00	15.00	198 - 853	Up to 2030
ECOWAS	15.60	15.60	294	Up to 2030
ISIO	6.18	6.18	2.835	Each country has varied timeframes ranging from 2 to 12 years
LDCs in Asia	13.90	13.90	105	Up to 2030

3.3 Available quantitative and qualitative information on meaningful mitigation actions and transparency on implementation

224. This section provides an overview of available qualitative and quantitative information on meaningful mitigation actions and transparency on implementation. First, this section presents current status of global emissions, before discussing the relevant improvement in mitigation actions since 2010 as synthesised in reports under the UNFCCC, IPCC and other relevant reports. Information on further specific mitigation actions, including policies, regulations and clean energy investment is also included. Finally, the section includes an overview of transparency on implementation in relation to climate action and support and any improvements noted.

3.3.1 Current status in meaningful mitigation actions

GHG emissions status

225. In the context of meaningful mitigation action between 2010 and 2020, the IPCC in its 6th assessment report notes that global net anthropogenic GHG emissions increased from 53 Gt CO₂e to 59 Gt CO₂e from 2010 to 2019 (IPCC AR6 WGIII, 2022b).¹⁰⁶ GHG emissions as a share of the total by region as well as production based per capita emissions evolved by the following:

226. Overall, the IPCC notes large variation in GHG emissions trends up to 2019 across regions, over time and different stages of development. LDCs and SIDS have considerably lower per capita emissions than the global average, with 1.7t CO₂e and 4.6 t CO₂e compared to 6.9 tCO₂e globally (IPCC AR6 WGIII 2022b, B.3.1 p.13).

106) IPCC, 2022. Climate Change 2022 Mitigation of Climate Change. Summary for Policymakers. Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Switzerland: IPCC. Available at https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf

Table 3.6

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

Region	Regional GHG emissions				Per capita emissions**
	2010		2019		2019
	Total*	Share	Total*	Share	
Africa	4.2	8%	5.3	9%	3.9
Australia, Japan and New Zealand	2.1	4%	1.8	3%	13
Eastern Europe and West-Central Asia	3.7	7%	3.5	6%	13
Eastern Asia	12.7	24%	15.9	27%	11
Europe	5.3	10%	4.7	8%	7.8
Latin America and Caribbean	5.8	11%	5.9	10%	9.2
Middle East	2.7	5%	3.0	5%	13
North America	7.4	14%	7.1	12%	19
South-East Asia and Pacific	3.7	7%	5.3	9%	7.9
Southern Asia	4.2	8%	4.7	8%	2.6

Source: Adapted from Figure SPM.2. IPCC, 2022b p.14.

Notes: (1) *International shipping and aviation constitutes the remaining 2% for 2010 and 2019 respectively. Marginal differences between regional totals presented and global total due to rounding of regional shares by the technical authors. (2) ** Net GHG Production-based emissions (tCO₂-FFI per person, based on 2018 data).

Forward-looking information on mitigation ambition

227. Since 2010, Parties have had four types of avenues to communicate mitigation actions:

- (a) In line with paragraphs 4 and 5 of the Copenhagen Accord, non-Annex I parties were invited to communicate their nationally appropriate mitigation actions (NAMAs) and Annex I Parties were invited to communicate their quantified economy-wide emission reduction targets for 2020. COPs 16 and 17 took note of these submissions and further invited developing countries to submit NAMAs;¹⁰⁷
- (b) Signature and ratification of the Paris Agreement, which sets the collective long-term goals 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, recognizing that this would significantly reduce the risks and impacts of climate change;

- (c) Submission of intended nationally determined contributions (INDCs) in 2015, in response to decisions 1/CP.19 and 1/CP.20, and the first nationally determined contributions in response to Article 4, paragraph 2, of the Paris Agreement, followed by successive updates to NDCs;
- (d) Submission of NCS, BRs and BURs which include sections on mitigation policies and measures.

228. The number of Parties communicating NAMAs or mitigation targets has increased from 88 in 2010 to 194 Parties with NDCs in 2021) with non-Annex I Parties communication actions on mitigation increasing from 46 in 2010 to 153 in 2021 (see further information under current status of transparency on implementation). Furthermore, almost all Parties have signed and ratified the Paris Agreement.

¹⁰⁷ Decision 1/CP.16, paras 36, 49 and 50; decision 1/CP.17, para 32 and 34.

229. **NDC Synthesis Reports:** The communication of mitigation actions and targets by Parties over the years indicates an improvement on the aggregate effect of Parties mitigation efforts. While there is no official calculation of aggregate effect of both quantified economy-wide emission reduction targets by Annex I Parties and NAMAs by non-Annex I Parties, the latest NDC synthesis report includes a comparison of the aggregate effect of INDCs to the most recent NDC submissions.

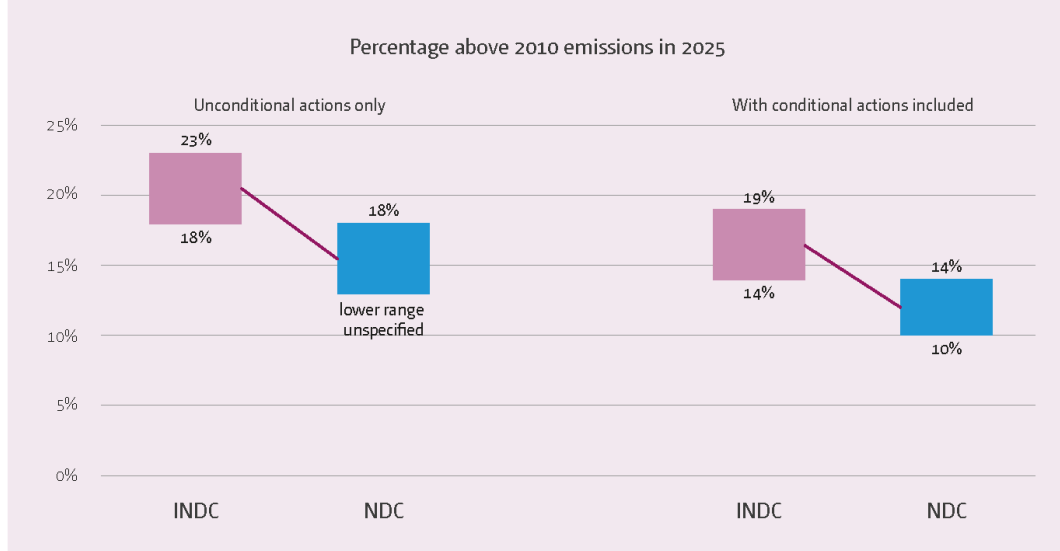
230. The synthesis of NDCs submitted by 12 October 2021 found an improvement in total expected GHG emission levels in 2030 (without LULUCF) of all Parties to the Paris Agreement of 6.2 per cent (3.6 Gt CO₂ eq) compared to the INDCs as at 4 April 2016 (58.5 to 54.9 Gt CO₂ eq). These numbers indicate the median of the range of mitigation efforts communicated, from the high range of the unconditional actions communicated in 2021 NDCs, to the low range of the total effect of all conditional actions, dependent on the provision of

financial, technology and capacity building support. The report noted that some 20 per cent of Parties included unconditional elements for the first time compared to the previous NDCs. Furthermore, the NDC synthesis stated that this level of highest ambition implied a potential peaking of global emissions by 2030, as the value reduced from 5.1 per cent above 2019 emission levels based on the aggregate effect of 2016 INDCs to 1.8 per cent below 2019 levels based on the 2021 NDCs. However, the report noted this remains out of line with global emission pathways with no or limited overshoot of the 1.5C goal or to limit warming to below 2°C.

231. In terms of the scope of this report, the underlying data used in the NDC Synthesis report, as well as the further synthesis update on NDCs submitted by 31 December 2021 under the global stocktake, estimates that against 2010 emissions, the full implementation of conditional actions dependent on financial support equates 10–14 per cent in 2025, compared to 14–19 per cent increase in 2025 from the INDCs.

Figure 3.8

Aggregate effect of NDCs up to end-2021 compared to INDCs in 2016 on global emission levels in 2025 vs 2010 baseline



Note: Data is based on the underlying information from figure 8 of the NDC Synthesis Report (UNFCCC, 2021) and the latest estimate of aggregate effect of NDCs submitted by 31 December 2021.

232. In terms of the type of mitigation targets communicated, the latest NDCs saw a greater proportion of Parties expressing absolute emission reduction targets from the level in a specified base year than in the INDCs (35 per cent compared to 32 per cent); and a lower proportion of Parties expressing mitigation targets as below a 'business as usual' level by a specified target year (43 per cent compared to 45 per cent), or through other ways to express targets such as through policies and measures, emission intensity targets, peaking targets (22 per cent compared to 27 per cent).¹⁰⁸

233. IPCC: The IPCC also reports an increase in global mitigation ambition from 2015 up to COP 26 in 2021. The IPCC AR6 WGIII report estimates that the implementation of announced NDCs by Parties prior to COP 26, compared to emissions implied in original NDCs, would lower existing emissions gaps within a range of -15 to -33 per cent depending on pathways limiting global warming to 1.5°C and 2°C respectively (IPCC, 2022b).¹⁰⁹

234. While seeing an urgent need to increase the scale and ambition of climate policies internationally, the IPCC AR5 in 2014 acknowledged considerable progress made in the development of national and sub-national plans and strategies on both adaptation and mitigation, in comparison to the AR4 report in 2007 (IPCC, 2014). It assessed with high agreement that sector-specific mitigation policies were more widely implemented than economy-wide approaches (IPCC, 2014). It also stated that available financial resources for adaptation were lower than for mitigation and indicated, with limited evidence, a gap between global adaptation needs and adaptation funding available. Further, the application of mitigation actions has been facilitated by increasing market maturity and cost reduction of several low-emission technologies between 2010 and 2020. However, the IPCC AR6 WGIII finds that due to weaker enabling conditions, including limited finance, technology development and transfer, and capacities, innovation and the adoption of low-emissions technology has lagged behind in developing countries, in particular in least developed countries (IPCC, 2022b).

235. UNEP Emissions Gap report series: In 2010, UNEP assessed emission reduction targets and/or mitigation actions of Annex I and non-Annex I countries following the Copenhagen Accords 2009. For non-Annex I countries, emissions were estimated to range at 6 to 8 percent lower than business-as-usual scenarios up to 2020 according to unconditional pledges and 7 to 9 percent according to conditional pledges. Annex I Parties' targets ranged at 1 to 12 percent above 1990 levels, or equivalent to business as usual scenarios up to 2020 (UNEP, 2010).¹¹⁰

236. The latest UNEP Gap report 2021 estimated an annual emissions reduction compared to previous NDCs of about 3 GtCO₂e for G20 members and about 0.8 GtCO₂e for non-G20 members by 2030 (UNEP, 2021).¹¹¹ A noted development was the increasing coverage of net-zero emission targets by countries that account for more than 50 per cent of the global emissions (UNEP, 2021). Yet, uncertainty around implementation pathways and target achievement was also noted alongside the need to provide further detail on short- and mid-term actions, policies and targets.

Information on specific mitigation actions

237. BURS and NCs: Beyond NDCs, Parties continue to build on, expand and diversify the mitigation measures established in the context of their 2020 targets and NAMAs. According to the synthesis report by the Secretariat as part of the Global Stocktake technical assessment, developed country Parties reported more than 2,800 mitigation actions in their fourth biennial reports, while developing countries provided information on over 2,000 mitigation actions in their latest NCs and BURS with the majority reported in second BURS or NCs as Parties made progress in reporting mitigation actions.

108) Comparison of data from Figure 1 in October 2021 NDC Synthesis report October 2021 and INDC Synthesis report April 2016. Percentages add up to more than 100 per cent as some Parties expressed more than one type of target.

109) The original emissions gap has fallen by about 20 per cent to one-third relative to pathways that limit warming to 2°C (>67%) with immediate action (category C3a in Table SPM.2), and by about 15–20 per cent relative to pathways limiting warming to 1.5°C (>50%) with no or limited overshoot (category C1 in Table SPM.2).

110) UNEP 2010. *The Emissions Gap Report. Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2°C or 1.5°C?* A preliminary assessment. Geneva: UNEP. Available at https://wedocs.unep.org/bitstream/handle/20.500.11822/7929/-The_emissions_gap_report_are_the_copenhagen_accord_pledges_sufficient_to_limit_global_warming_to_2c_or_15c-2010TheEmissionsGapReport_2010.pdf?sequence=3&isAllowed=y.

111) Covering 94 new or updated NDCs by 121 Parties (including the EU and 27 member states) as of mid-September 2021.

Table 3.7

Development of UNEP emissions gaps to 2C or 1.5C pathways by publication year (GtCO₂eq/yr)

Report year	BAU	Unconditional low range	Conditional high range	2C or 1.5C pathway	Gap
GAP in 2020					
2010	56	53	49	44	5-9
2011	56	55	51	44	6-11
2012	58	57	52	44	8-13
2013	59	56	52	44	8-12
2014	59	54	52	44	8-10
GAP in 2025					
2014	63	57	54	47	7-10
2015	61	54	53	48	5-6
2016	61	54	53	47-48	5-7
2017	61	54	52	45-48	4-9
GAP in 2030					
2014	69	59	56	42	14-17
2015	65	56	54	42	12-14
2016	65	56	53	39-42	12-17
2017	65	55	53	37-42	11-19
2018	65	56	53	24-40	13-32
2019	64	56	54	25-41	12-32
2020	64	56	53	25-41	12-32
2021	64	52	50	25-39	11-30

238. **NAMA registry:** COP 16 decided to establish a registry to record NAMAs seeking international support and to facilitate the matching of financial, technology and capacity-building support with those actions. The secretariat delivers an annual report to the COP on the operation of the NAMA registry.¹¹² As at 30 September 2021, 111 non-Annex I Parties (72 per cent of all non-Annex I Parties) had requested access to the registry, and 52 had recorded a NAMA entry. On the support side, 18 of 35 support editors with access to the registry had recorded information on support.

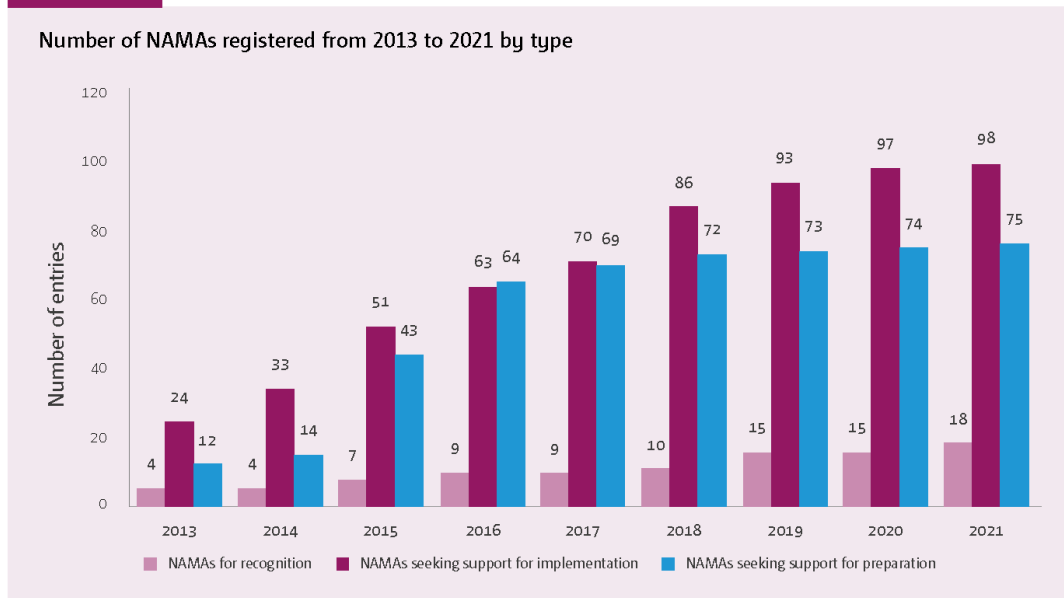
239. A total of 191 NAMA entries have been registered seeking recognition (10 per cent), or support for preparation (39 per cent) or implementation

(51 per cent). The cost of all NAMA entries was USD 74.8 billion, with USD 64.2 billion for NAMA seeking support for implementation, and USD 10.4 billion for NAMAs seeking recognition, and USD 175.8 million for NAMAs seeking support for preparation. A total of USD 34.7 billion in international support was being sought by all NAMA entries.

240. Information on support available and provided within the registry has remained unchanged since 2017. The registry contains 18 entries on support provided totalling USD 37.7 million, mostly provided for implementation (USD 31.3 million) and the rest for preparation (USD 6.4 million). Many support providing agencies did not mention the amount of support

112) https://unfccc.int/sites/default/files/resource/cp2021_inf01.pdf.

Figure 3.9



provided; hence, the actual support provided could be greater than that recorded in the registry.

241. The NAMA facility was jointly established by the UK and Germany in 2012 to support transformational NAMA projects in developing countries and emerging economies. It has received EUR 524 million in contributions from developed countries and philanthropies since 2013 and has supported 35 detailed NAMAs.

242. **Other policies and measures:** The IPCC AR6 notes trends in the adoption of policies, laws and regulations are also relevant. AR6 notes that:

- (a) Climate laws directly focused on GHG reductions were present in 56 countries covering 53 per cent of global GHG emissions compared to 20 per cent in 2010 (figure TS.24);
- (b) National economy-wide GHG emission targets covered 90 per cent of global emissions in 2020 compared to 49 per cent in 2010;
- (c) In 2021, carbon pricing mechanisms had been established in 64 jurisdictions covering 21.5 per cent of global GHG emissions, compared to 19 jurisdictions covering approximately 5 per cent of emissions in 2010 (World Bank, 2021 State and trends of carbon pricing, referenced in IPCC, 2022b).

243. **Clean energy investment and action:** According to the IEA, annual clean energy investment in emerging markets and developing economies, including China has risen by 19 per cent from 2015 to 2021 to USD 592 billion in 2021. Almost all of the growth has been due to rising investment in China while investment in other developing countries has remained at between USD 200–220 billion per year. There has also been an increasing trend in renewable energy capacity additions in non-Annex I Parties since 2010 largely driven in Asia, despite one year of decline in additions in 2019. Growth rates in installed capacity of renewable energy in non-Annex I Parties have been relatively steady since 2010, particularly in Asia and Latin America and the Caribbean. Jumps in the growth of RE capacity were witnessed in particular years for different regions before returning to the steady rate, for example in Oceania in 2015 (9 per cent growth from 2 per cent), Latin American and the Caribbean in 2016 (9 per cent from 5 per cent), Africa in 2017 (14 per cent growth from 7 per cent) and Asia in 2020 (16 per cent from 10 per cent).

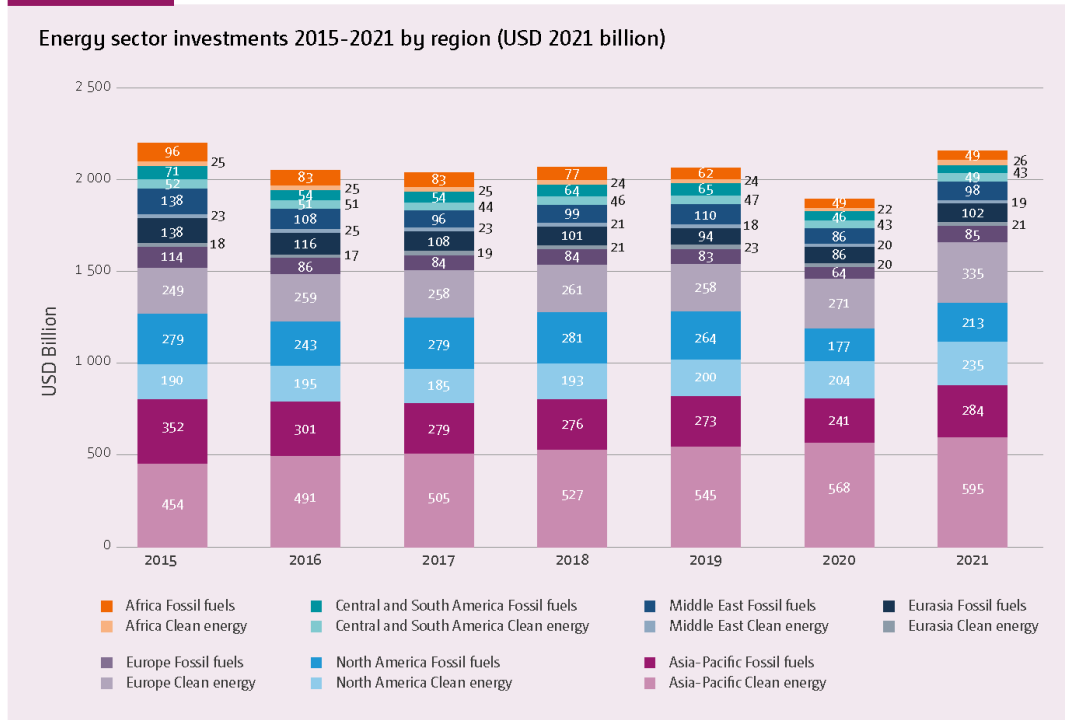
Figure 3.10

Clean energy investment in EMDEs and China (IEA, 2022) and annual capacity additions (MW) and growth rates of RE installed capacity by region (IRENA, 2022b)



Figure 3.11

Energy sector investments 2015-2021 by region (USD 2021 billion)



Source: IEA, 2022, World Energy Investment, 2022 Datafile.

Notes: Fossil fuels without CCUS. Clean energy includes renewable power, nuclear, EVs, low-carbon fuels and CCUS, grids and storage, energy efficiency and other end uses. Energy efficiency and other end-uses includes spending on energy efficiency, renewables for end use and electrification in the buildings, transport and industry sectors. Low carbon fuels include modern liquid and gaseous bioenergy, low-carbon hydrogen, as well as hydrogen-based fuels that do not emit any CO2 from fossil fuels directly when used and also emit very little when being produced.

244. Between 2015 and 2020, investments in clean energy vary significantly across regions, with a global upwards trend of a 27.4 per cent increase from approximately USD 1 trillion in 2015 to USD 1.308 billion in 2021. During the same time period, investments in fossil fuels without CCUS have seen a global decrease of -26.2 percent from USD 1214 billion in 2015 to USD 896 billion in 2021, whereby regional trends contribute to a varying extent to global investment totals.

245. IPCC AR6, WG III, noted the relatively larger volume of financial flows dedicated to financing high emission intensive activities compared to the total volume of climate finance flows worldwide.¹¹³ The role of public development finance institutions and credit agencies in financing high emissions intensive activities is assessed to remain significant (IPCC AR6 WGIII, 2022). Available estimates for development financing

institutions, MDBs and export credit agencies from G20 countries amount to USD 63 billion per year on average over 2018-20, of which 51 per cent flowing towards gas as fuel source (Tucker and DeAngelis, 2021). A majority of these public high emissions intensive international finance flows are attributed to government backed official ECAs. ECAs provided an estimated average of USD 40 billion per year of support in the form of insurance, guarantees or loans for fossil-fuel related activities over the period of 2018-2020 and USD 31 billion per year on average over 2016-2018 (Tucker and DeAngelis, 2020 referenced in IPCC AR6 WGIII; Tucker and DeAngelis, 2021).

113) Available at https://eport.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_Chapter15.pdf

Box 3.1

Meaningful climate resilience and adaptation actions

Although not part of decision language in relation to the goal, information on climate resilience and adaptation action is also a key feature of national reports and other relevant reports. The technical assessment of the Global Stocktake noted that no optimal approach for reviewing global efforts on climate resilience and adaptation currently exists although work is continuing in this area across initiatives and through the Glasgow-Sharm el Sheikh work programme on the global goal on adaptation. In their national reports, in particular in their NDCs, countries described how their adaptation efforts have become more ambitious since their first NDCs. As such, developing an adaptation component of an NDC, prioritizing and developing adaptation measures with corresponding targets and indicators to increase adaptive capacity and/or climate resilience of various priority sectors, and mainstreaming adaptation in national policies and programmes were mentioned as contributions to the national and global level of adaptation ambition.

The adaptation components of the NDCs, where included, indicate increased focus on national adaptation planning, in particular on the process to formulate and implement NAPs. The new or updated NDCs include, in comparison with the same Parties' previous NDCs, more information on time-bound quantitative adaptation targets and the associated indicator frameworks, more specific links between adaptation efforts and efforts towards the SDGs, and more specific information on synergies and co-benefits between adaptation and mitigation, effect of mitigation communications.

Despite the lack of comprehensive evidence on climate risk reduction outcomes, the **UNEP Adaptation Gap Report 2020** recognizes clear evidence for a global increase in adaptation activities. It reports a number of close to 400 adaptation projects since 2006 implemented by the funds serving the Paris Agreement (GCF, Adaptation Fund and GEF) alone, half of them initiated after 2015. Of these projects, more than 50 percent were located in LDCs and 15 per cent in SIDS. UNEP, 2021.

The Adaptation Gap Report 2020. Nairobi: Kenya. Available at <https://www.unep.org/resources/adaptation-gap-report-2020>.

Empirical assessments of enabling frameworks have documented a parallel increase in climate adaptation governance frameworks and policies throughout the last decade, as the **IPCC AR6 WGII** Chapter 17.4 on enabling conditions for adaptation and risk management notes. Up to 2017, significant revision of adaptation-relevant laws have been registered with publications of over 1200 climate-related national laws (Climate Change Laws of the World Database, referenced in AR6). Based on the same scientific source of information, as of December 2019, 170 countries address adaptation in executive policies with at least 91 countries having passed an adaptation-relevant law and at least 120 countries having established a framework law covering climate adaptation and/or resilience activities Nachmany, M., R. Byrnes and S. Surminski, 2019: National laws and policies on climate change adaptation: a global review. Policy Publication, Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London. Available at: <https://www.lse.ac.uk/granthaminstitute/publication/national-laws-and-policies-on-climate-change-adaptation-a-global-review/>.

The majority of adaptation relevant laws had been registered between 2009 and 2016, constituting 40 per cent of climate relevant laws during that period. The Adaptation Gap Report 2020 also confirms a notable increase in national-level adaptation planning, as 65 per cent of identified first planning instruments originate from 2010 onwards according to its analysis. In addition, evaluation of NDCs up to 2019 further indicates that adaptation priorities are more widely pronounced by developing and least developed countries as well as SIDS, in comparison to emerging economies and developed countries Pauw, P., Mbeva, K. & van Asselt, H. Subtle differentiation of countries' responsibilities under the Paris Agreement. *Palgrave Commun* 5, 86 (2019). <https://www.nature.com/articles/s41599-019-0298-6> referenced in AR6.

3.3.2 Current status in transparency on implementation

Availability of information on implementation

246. Since 2010, the available information on implementing climate action as well as support has increased to a significant degree (see 17 below);¹¹⁴

- (a) National communications include information on climate actions by Parties as well as needs for developing country Parties. While Annex I Parties are required to submit NCs every four years, non-Annex I Parties may submit at any time. In 2010, 90 per cent of non-Annex I Parties had submitted a first NC (139 Parties). By 2021, 94 per cent had submitted a second NC (145 Parties), growing at an annual rate of 14 per cent since 2010, and 59 per cent a third NC (93 Parties);
- (b) As noted at the start of this section, the number of Parties communicating mitigation actions has increased from 88 Parties communicating NAMAs in 2010 to 194 Parties with NDCs in 2021. Non-Annex I Parties communication actions on mitigation increasing from 46 national NAMAs in 2010 to 153 NDCs in 2021, 75 per cent of which have submitted updated NDCs (115 Parties). Registration of project related NAMAs for implementation in the NAMA registry has grown at a steady annual rate of 20 per cent since 2013 to 98 NAMA projects. For Annex I Parties, 42 had submitted quantified emission reduction targets by 2020 in 2010 and submitted INDCs in 2016, followed by NDCs. 41 have submitted updated NDCs by 2021;¹¹⁵
- (c) Almost all Annex I Parties (43 Parties) have submitted fourth biennial reports by 2021 with information on climate actions as well as support provided. Biennial update reports of non-Annex I Parties with information climate actions and needs, as well as climate support received, have been steadily increasing with 51 per cent (79 Parties) submitting at least one BUR, and 24 per cent a second BUR (37 Parties);
- (d) For adaptation-related communications, in 2010 46 Parties had submitted national action plans for adaptation (NAPAs) while since then national adaptation plans (NAPs) have grown at an annual rate of 53 per cent since 2015 with 38 Party submissions.

Improvements in transparency over time

247. Unlike BRs, no compilation and synthesis of information in BURs or NCs is mandated that will support an assessment of the progress in reporting transparency on implementation over time. Similarly, NAMAs submitted in 2010 and 2012 were not synthesised for their coverage and scope. However, the latest information in the context of the Global Stocktake as well as the BA, provides examples of where improvements have occurred.

248. According to the synthesis report by the Secretariat as part of the Global Stocktake technical assessment, most developed country Parties and many developing country Parties have established the necessary institutional arrangements, including legislative and policy frameworks and arrangements, for the planning, implementation and MRV of mitigation actions. However, many developing country Parties still face challenges in setting up institutional arrangements or domestic MRV systems partially owing to a lack of financial resources and human capacity.

249. Most developing country Parties that have submitted NCs and/or BURs have institutional arrangements in place for reporting under the UNFCCC. Information on domestic MRV arrangements for monitoring mitigation actions, by contrast, is not commonly reported by developing country Parties, particularly those that have not submitted a BUR. 43 per cent of the 78 developing countries with a BUR submitted and 13 per cent of those without a BUR submitted, reported MRV arrangements in place.

250. In terms of financial support, the fourth (2020) BA noted the gradual improvements in reporting by developed countries on climate finance provided through BRs in relation to more consistent and harmonized reporting on the thematic areas of climate finance but noted that heterogeneity in reporting information on recipients and sectors, and the functionality of the reporting system limits the aggregation of data on implementation of climate finance provided.

¹¹⁴ Data is as of Party submission by 30 June 2022.

¹¹⁵ No update from Liechtenstein.

Figure 3.12

Evolution of available information on transparency of climate action, needs and support, cumulative number of Parties submitting national reports to UNFCCC

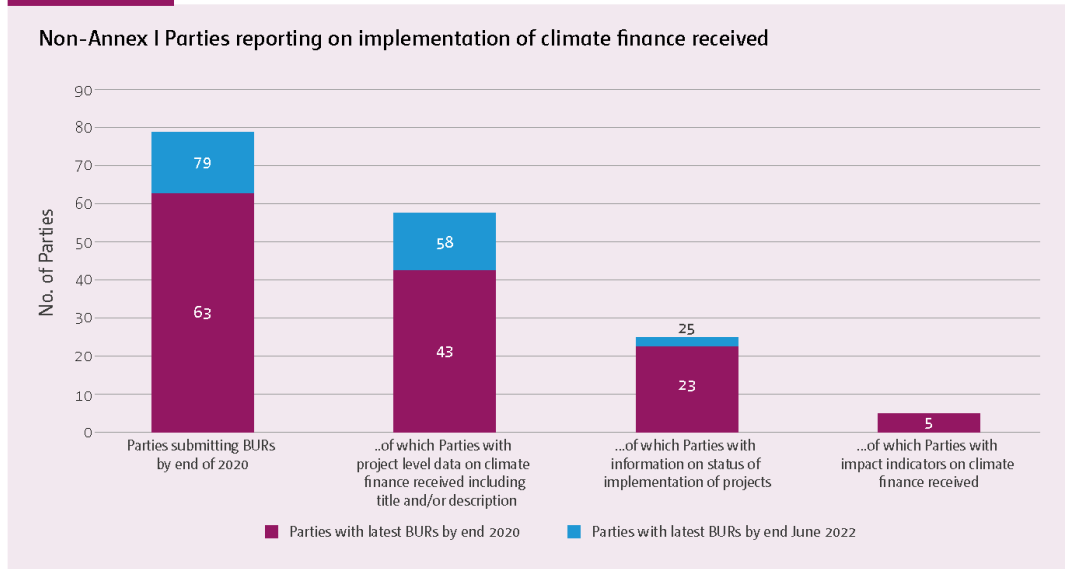


251. Many non-Annex I Parties include information on the projects for which they have received climate finance in their BURs. Out of 79 Parties submitting BURs up to end of June 2022, 58 provided information on the title of the project and/or a description of the project. 25 provided information on status of implementation of the project, such as completed, or under implementation and 5 Parties provided further impact indicators separately.

252. As Parties gain reporting experience, they provide more information in their second and third BURs. For example, in its third BUR, Brazil included two columns in tabular format on the linkages between activities and capacity-building and/or technology development and transfer, as well as a column providing hyperlinks to the projects, which were not provided in its second BUR. In addition, several Parties implemented best practices when reporting information on finance received with outcome-related indicators. For example:

- Antigua and Barbuda provides detailed registry of mitigation actions under implementation linked to national policy goals, with description of wider impacts and the type of funding received or needed if the action is yet to be implemented;
- Benin provides information on the impacts of support of each project receiving climate finance;
- Egypt provides information on the measures achieved by each project receiving climate finance;
- Lebanon provides information on the expected outputs related the projects under implementation with climate finance received;
- Tajikistan provides information on the monitoring and evaluation procedures for each project receiving climate finance.

Figure 3.13



253. More information to support assessing progress on transparency on implementation is expected once the Enhanced Transparency Framework is implemented by Parties by the end of 2024, in relation to both climate finance provided and mobilized as well as climate finance needed and received, including on the use, impact and results of climate finance needed and received.

254. The Capacity Building Initiative for Transparency reports that across 81 projects in its portfolio by March 2022 covering over half of non-Annex I Parties, the most common element is building technical capacities and institutional arrangements to track mitigation progress, including national GHG inventories (featured in 73 to 97 per cent of projects), adaptation tracking (63 to 73 per cent of projects), enhancing NDCs and policies (65 per cent) and tracking progress related to support (35 to 52 per cent).



4

Progress towards
the goal of mobilizing jointly
USD 100 billion per year
to address the needs of
developing countries in
the context of meaningful
mitigation actions
and transparency
on implementation

4.1 Trends

4.1.1 Trends in mobilizing finance flows

255. Assessing trends towards achieving the goal of mobilizing jointly USD 100 billion per year by 2020 necessitates taking a view on which sources, channels and instruments of climate finance to include in the assessment. As shown in chapter 2 and 3, sources of information vary widely on these questions with some analyses making assumptions on sources of finance and instruments which are not aligned with the language of the USD 100 billion goal. In addition, there is a lack of agreed accounting methodologies and boundary conditions for assessing progress under the UNFCCC.

256. It is widely accepted, however, that the goal has not been achieved in 2020. The Glasgow Climate Pact recognized as such in noting, *“with deep regret that the goal of developed country Parties to mobilize jointly USD 100 billion per year by 2020 in the context of meaningful mitigation actions and transparency on implementation has not yet been met and welcomes the increased pledges made by many developed country Parties and the Climate Finance Delivery Plan: Meeting the US\$100 Billion Goal and the collective actions contained therein”* and urged *“developed country Parties to fully deliver on the USD 100 billion goal urgently and through to 2025 and emphasizes the importance of transparency in the implementation of their pledges.”*¹¹⁶ Since then, the OECD report series noted mobilization of USD 83.3 billion in 2020, 16.7 per cent short of the goal (OECD, 2022).

257. Irrespective of different views on what should constitute overall progress towards the goal, reviewing trends in climate finance flows by each channel allows for a transparent comparison of progress towards achieving the goal and scaling up climate finance more broadly. As discussed in Chapter 2, not all sources of information follow a consistent approach and methodology over reporting years, particularly with respect to implication of different methodological choices for accounting different financial instruments on the financial volumes reported. Therefore, trends in growth or declines of finance flows described below refer to sources of information where multiple year datapoints exist and use a consistent approach and methodological assumptions. The difference in volume of flows by channel between 2013 and the latest available reporting year are provided

by each source as well as the compound annual growth rate (the average annualized rate over the period). Where aggregate estimates are provided, the proportion of each channel in the overall amount is also provided.

258. Bilateral finance

- (a) Data from the BA reported a 36 per cent growth from 2013-2020 in climate-specific finance through bilateral, regional and other channels reported based on BRs of Annex II Parties (2013–2020, 31.4 billion in 2020) or a compound annual growth rate (CAGR) of 4 per cent;¹¹⁷
- (b) Data reported by developing countries on climate finance received based on BURs amounted to USD 2.5 billion in 2019 from international bilateral sources in developed countries from a total of USD 8.1 billion received;
- (c) As reported in the OECD report series using BR data excluding coal-related financing and export credits, 40 per cent growth in bilateral climate finance (2013–2020, 31.4 billion in 2020) or a CAGR of 5 per cent. The share of bilateral climate finance in the overall amounts reduced from 48 per cent in 2016 to 38 per cent in 2020;
- (d) Underlying data from the 2020 Oxfam report estimates for bilateral grant and grant-equivalent values to be 13.2–16.5 billion in 2017/2018 although no multi-year data is reported. This represents between 69 and 73 per cent of total aggregate estimate in 2017/2018.

259. Multilateral finance including multilateral climate funds and MDBs:

- (a) As reported in the BA using fund financial reports and Climate Funds Update data, outflows of multilateral climate funds grew by 84 per cent since 2013 (2013-2020, 3.5 billion in 2020) or 9 per cent CAGR. The BA also reported MDB climate finance attributed to developed countries ranging from USD 28.2 billion to USD 33.2 billion in 2020. Based on data reported to the OECD DAC attributed to developed countries, the BA finds a 138 per cent growth from to 2013 to USD 36.9 billion in 2020;
- (b) Data reported by developing countries on climate finance received through BURs amounted to USD 4.9 billion in 2019 from multilateral sources from a total of USD 8.1 billion received;

¹¹⁶ Decisions 1/CP.26, paras 26 and 27.

¹¹⁷ Values for bilateral finance from the BA is derived from preliminary data of biennial reports of Annex II Parties for 2020 and is subject to change after the submission deadlines of 31 December 2022.

- (c) As reported in the OECD report series, multilateral public climate finance attributed to developed countries, reached USD 36.9 billion in 2020, compared to USD 15.5 billion in 2013, a 138 per cent growth (2013–2020, 36.9 billion in 2020) or a CAGR of 13 per cent; mostly driven by MDBs (155 per cent growth, 14 per cent CAGR), relative to multilateral climate funds (59 per cent growth and 7 per cent CAGR). The share of multilateral climate finance in the overall aggregate amount reported by OECD grew from 32 per cent in 2016 to 44 per cent in 2020;
- (d) Underlying data from the 2020 Oxfam report estimates multilateral grant and grant-equivalent values at USD 5.8–6.0 billion in 2017/2018. This represents a 27 to 31 per cent share in the aggregate amount of USD 19–22.5 billion;
- (e) In 2015, one Party (the Indian Ministry of Finance) argued that the amounts accounted toward the goal amounted to USD 2.2 billion, in part based on assumptions on sources and instruments which are not aligned with the language of the USD 100 billion goal;
- (f) For context, MDBs, in their joint climate finance estimates report a 91 per cent growth in climate finance, both from their own resources and from external resources managed by MDBs to USD 45.4 billion in developing and emerging economies in 2020 (10 per cent CAGR). This amount represents overall outflows from MDBs and therefore is not attributed to developed countries.

260. Total public finance:

- (a) As reported in OECD report series, combining bilateral and multilateral climate finance flows attributed to developed countries, have grown by 80 per cent since 2013 (2013–2020, 68.3 billion in 2020). It has also represented between 76 and 82 per cent of the total from all channels over the years, reaching the high end of the range in 2020. A noticeable trend in multilateral climate finance playing a larger role than bilateral climate finance is also apparent;
- (b) As reported in Oxfam’s report series, calculations of net climate-specific assistance of both bilateral and multilateral finance grew by 15 to 27 per cent between 2015/2016 and 2017/2018 (19–22.5 billion in 2017/2018);
- (c) The BA does not aggregate on total public climate finance across sources.

261. Export credits: As reported in OECD report series, climate-related officially supported export credits reported by 20 developed country agencies have grown by 19 per cent since 2013 (2013–2020, 1.9 billion in 2020) and 2 per cent CAGR. This has consistently represented between 2 to 4 per cent since 2016.

262. Mobilized private climate finance:

- (a) As reported in the OECD report series, mobilized private climate finance through bilateral and multilateral channels attributed to developed countries grew by 30 per cent since 2016 (2016–2020, 13.1 billion in 2020) and a 7 per cent CAGR. The share of mobilized private finance attributable to developed countries has represented a 16 to 20 per cent share in the overall aggregate amounts over the years reaching the low end of the range in 2020;
- (b) For context, from 2013 to 2018, MDBs reported private direct (i.e. financing from other sources and channels along with MDBs financing) and indirect mobilization for projects in developing and emerging economies, not attributed to developed countries, grew at annual rate of 37 per cent to USD 28.2 billion. For 2019 and 2020, although comparable data is not available with a change in data coverage, using private finance mobilized for low-income, lower and upper middle-income economies as a proxy, a significant decline of 55 per cent is reported;
- (c) The BA has reported mobilized private finance from the OECD and MDB over the years. Given gaps in consistently available data, the same sources are not used in each BA.

Total aggregates

263. In terms of total aggregate estimates, the BA provides multiple estimates of various funding channels, which are relevant for tracking progress towards the goal but no aggregate. The OECD report series total aggregates have grown by 42 per cent since 2016 (2016–2020, 83.3 billion in 2020), or a 9 per cent CAGR, while Oxfam reports increases in its net climate-specific assistance of between 15 and 27 per cent (19–22.5 billion in 2017/2018).

264. Comparing initial and end year trends can hide annual trends which can point to changes in the composition and characteristics of climate finance. The OECD reports the annual trend for multilateral and total public finance continuously growing year on year, while bilateral climate finance recorded declines in 2017 and 2019 of 4 and 10 per cent respectively before rebounding to the growth trend. Export credits and mobilized private climate finance meanwhile experienced declines in 2019 and 2020 of 4 and 27 per cent for export credits and 2 and 9 per cent for mobilized finance. (see section 4.2.1 for further information on challenges in mobilizing finance).

Looking forward

265. As noted above, it is commonly accepted that the goal has not been achieved in 2020. The trends from the data in the OECD report series indicate that public climate finance outperformed its projected amounts in the 2016 Roadmap to USD 100 billion by 2 percentage points in 2020 (68.3 billion in 2020 to 66.8 billion projected). A shortfall of 16 percentage points in bilateral climate finance provision (31.4 billion in 2020 against 37.3 billion projected) is balanced by a 25-percentage point outperformance in multilateral climate finance (36.9 billion in 2020 against 29.5 billion projected).

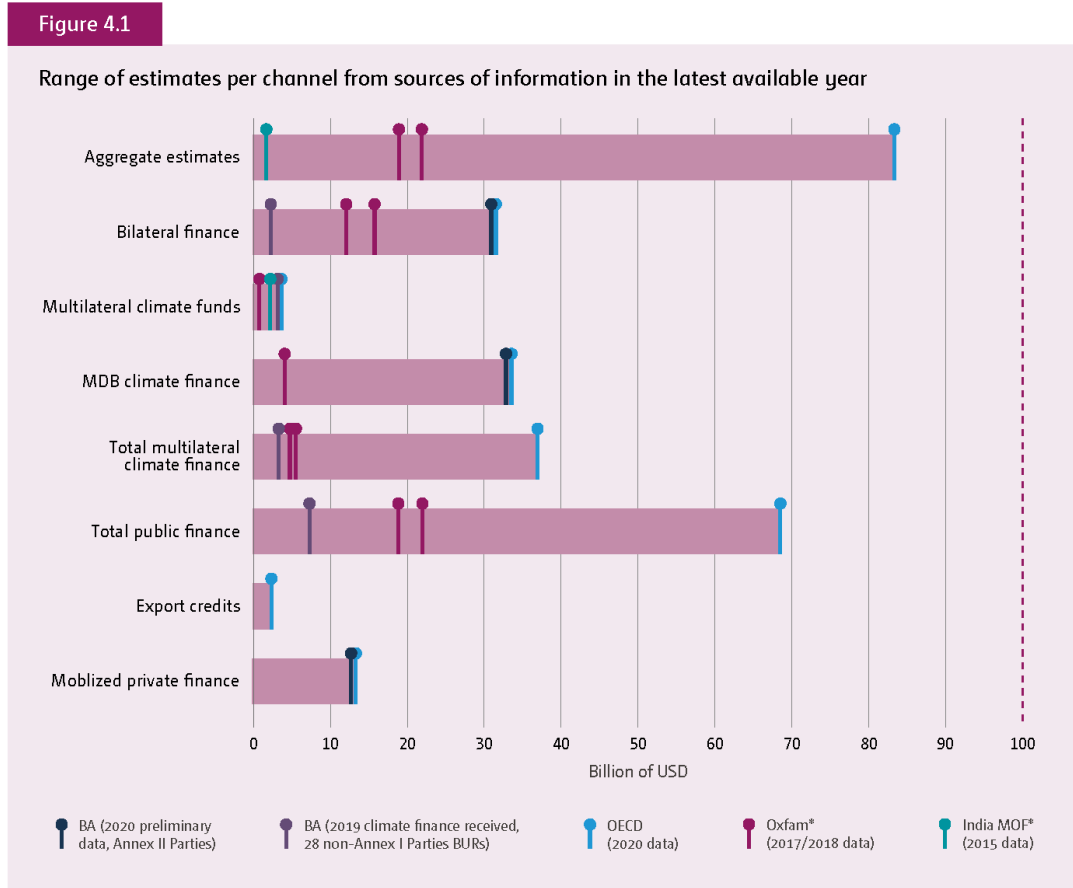
266. As noted in the Climate Finance Delivery Plan (2021), the mobilization of private climate finance has particularly underperformed against expectations of developed countries in the 2016 Roadmap, falling short by 60 percentage points (13.1 billion in 2020 against 33 billion in Roadmap, p.6).

It is unclear to what extent this was due to a lower than expected potential to mobilize private finance or to the relatively lower proportion of projects with mobilization potential in the overall climate finance portfolio, though the doubling of the actual share of adaptation in the aggregate level of finance provided and mobilized between 2016 and 2020 (from 17 to 34 per cent) suggests a strong role for the latter. Further work may be useful to understand the reasons.¹¹⁸

267. The 2021-2025 scenarios outlined in the Climate Finance Delivery Plan published in October 2021, therefore rebalance the weight of achieving the goal to public finance, taking account of pledges of climate finance providers and MDBs in particular, with less weight placed on the mobilization of private finance by bilateral and multilateral institutions. According to these scenarios, the goal could be achieved in 2023 with a range of USD 101 billion to USD 106 billion.

268. When comparing data reported by the OECD for 2020 to the scenarios in the Climate Finance Delivery Plan, the aggregate total USD 83.3 billion posted in 2020 already matches the low-end scenario for 2021 due to public finance outperforming its estimate by 3 per cent compared to mobilized private finance undershooting by 6 per cent. Yet, in this scenario, both segments would need to grow a further 21-22 per cent to meet the 2023 low-end estimate to total USD 101 billion.

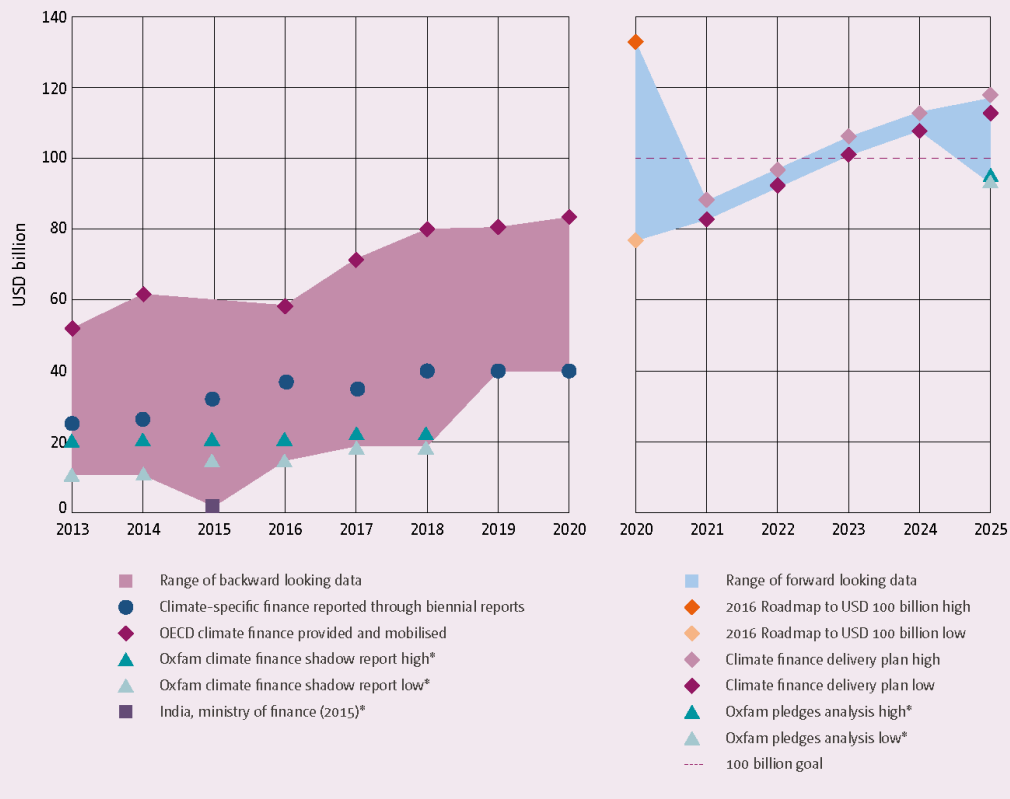
118) Sector level data in BRs does not follow standardised formats, hindering aggregate analysis.



Note: Pins represent specific values from each source of information per channel. The extent of the bars represent the maximum value of estimates on the latest available year across sources of information. *Analyses which make assumptions on sources and instruments which are not aligned with the language of the USD 100 billion goal. Note that sources of information reflect datapoints for the latest available year that differ across sources of information and are therefore non-comparable. The underlying datapoints, sources and annotations are outlined in Annex D. Values for bilateral finance from the BA is derived from preliminary data of biennial reports of Annex II Parties for 2020 and is subject to change after the submission deadlines of 31 December 2022.

Figure 4.2

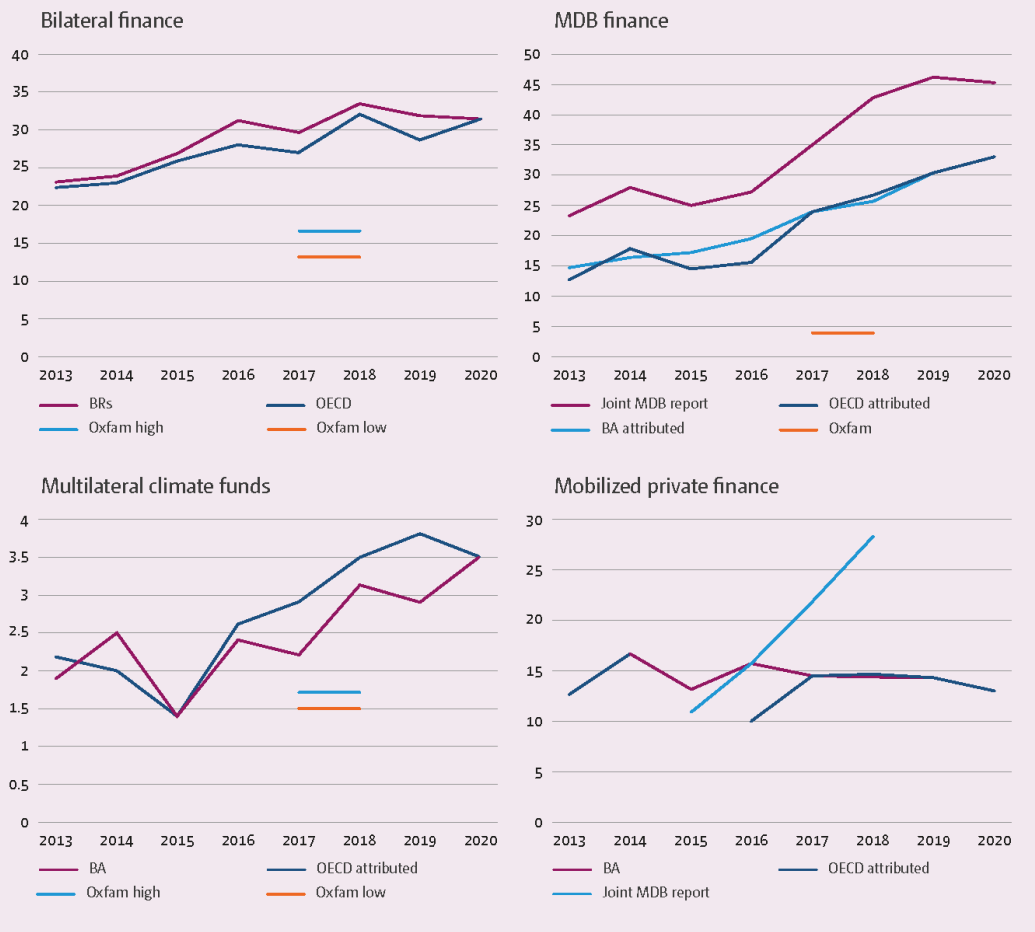
Trend in aggregate estimates from backward-looking information (2013-2020) and forward-looking projections (2020-2025).



Note: Backward-looking estimates take sources of information with different methodological approaches as outlined in Chapter 2. *Analyses which make assumptions on sources and instruments which are not aligned with the language of the USD 100 billion goal. Values for climate-specific finance reported through biennial reports for 2019 and 2020 is preliminary data and subject to change after the submission deadlines of 31 December 2022. The OECD report series did not report an aggregate estimate in 2015. Oxfam pledges analysis in forward looking data takes pledges from September 2021 compared to October 20, 2021 in the Climate Finance Delivery Plan.

Figure 4.3

Comparison of sources of information by channel



Note: Values for climate-specific finance reported through biennial reports for 2019 and 2020 is preliminary data and subject to change after the submission deadlines of 31 December 2022. Data from Oxfam consists of grant and grant-equivalent values of non-grant instruments. Data from Joint MDB reports for MDB finance for emerging and developing economies, non-attributed to developed countries, is provided for context. It includes both climate finance that is from MDB own resources as well as MDB managed from external sources. For mobilized finance in 2019 and 2020, the joint MDB report discontinued providing information for developing and emerging economies in aggregate to a provision by income group. The total private finance mobilized for low and middle-income economies was USD 21.9 billion in 2019 and USD 9.9 billion in 2020 (not shown).

4.1.2 Trends on how financing is linked to addressing needs

269. While, the USD 100 billion goal was never meant to meet the totality of developing countries' needs, nevertheless, developed countries should mobilize and provide climate finance in response to the priorities expressed by developing countries. With regard to

assessing trends in how the needs of developing countries have or are being addressed through efforts in mobilizing jointly finance to achieve the goal, no dedicated sources of information are available. Assessments of progress in this area could include considerations of a common timeframe for the goal and needs expressed, recognizing needs for financial support may change through various factors: reducing if technology costs fall

or macroeconomic environments improve; increasing if mitigation ambition and/or climate risks increase and macroeconomic environments, including inflation, worsen.

270. The 2021 report on the determination of needs of developing countries was the first comprehensive compilation of the latest information on needs across various data sources, including national, regional and global and reports. The needs analysed in the report vary over their timeframes, for example with NDCs considering 2030 cumulative needs of USD 5.8–5.9 trillion.

271. On an annual basis, needs for mitigation and adaptation in developing countries are significant. The IEA estimates annual investment of USD 1.36 trillion in emerging markets and developing economies as well as China from 2021-2025 in its sustainable development scenario of 50 per cent probability of limiting temperature increase to 1.65C. The Race to Zero/GFANZ net zero financing roadmap estimates annual investment for EMDEs and China is over USD 1.2 trillion per year for meeting a net zero emissions pathway in line with a 50 per cent probability of limiting temperature increase to 1.5C. For adaptation, UNEP (2016) estimated annual adaptation costs of USD 140 billion to USD 300 billion in 2030.

272. Although greater in volume than the goal of USD 100 billion per year, comparing the distribution of climate finance flows against the needs and priorities identified in the NDR can be relevant to assess whether the climate finance provided and mobilized is addressing, proportionally, the needs expressed by developing countries. This is outlined below in terms of the thematic, sectoral, sources and instruments, and geographical distribution of the finance flows compared to the needs in the NDR. The distributional analysis is a qualitative interpretation of whether expressed needs are being addressed due to the disparity in scale, the differences in geographical and sectoral coverage and scope of needs reported versus flows, as well as the differing approaches to measuring needs (based on number of needs expressed or costed by various methods) versus those approaches in measuring and quantifying climate finance flows (see chapter 2). The data for a robust quantitative assessment on addressing needs, for example based on measuring per unit outcomes of financing such as MW capacity of RE deployed or km of coastline made resilient and their associated costs, is not yet available.

Thematic split between mitigation and adaptation

273. Although there is a recent trend in scaling up adaptation finance in recent years, the balance of finance flows are not aligned proportionally with the needs expressed by developing countries. In terms of volume, the 2016 roadmap by developed countries highlighted that public adaptation finance was expected to double from 2013-2014 levels to USD 16 billion by 2020. The most recent OECD estimate (OECD 2022) for adaptation finance in 2020 was USD 28.6 billion, significantly above this earlier projection.

274. In terms of proportion of the number of needs expressed, adaptation needs represent 52 per cent for 149 NCs, 47 per cent for 153 NDCs, and 11 per cent for 62 BURs. As noted in Chapter 2 and 3, costed information on adaptation needs appears more difficult to identify than for mitigation, with NDCs identifying 13-14 per cent of costed needs for adaptation, NCs, 43 per cent, and BURs 32 per cent reported by 78, 46, and 24 Parties respectively. In comparison, latest available data on finance flows from the sources of information shows that although adaptation finance has grown strongly in recent years, mitigation finance is predominant:

- (a) The adaptation share of climate-specific finance through bilateral, regional and other channels reported in BRs has increased from 14 per cent in 2015-2016, to 21 per cent in 2017-2018 and 28 per cent in 2019-2020. Conversely, mitigation shares have decreased from 68 per cent to 65 per cent and 57 per cent in the same time periods;
- (b) The OECD report series shows a proportional increase of adaptation finance as part of total climate finance provided and mobilized from 17 per cent in 2016 to 34 per cent of the share in 2020;
- (c) Due to accounting for grants and grant-equivalent of concessional loans and equity instruments, Oxfam's estimates result in a larger proportion of adaptation finance, up to 32 per cent in 2017-2018, as adaptation activities require a greater amount of grant financing than mitigation activities.

Figure 4.4

Thematic distribution of needs and finance provided and mobilized

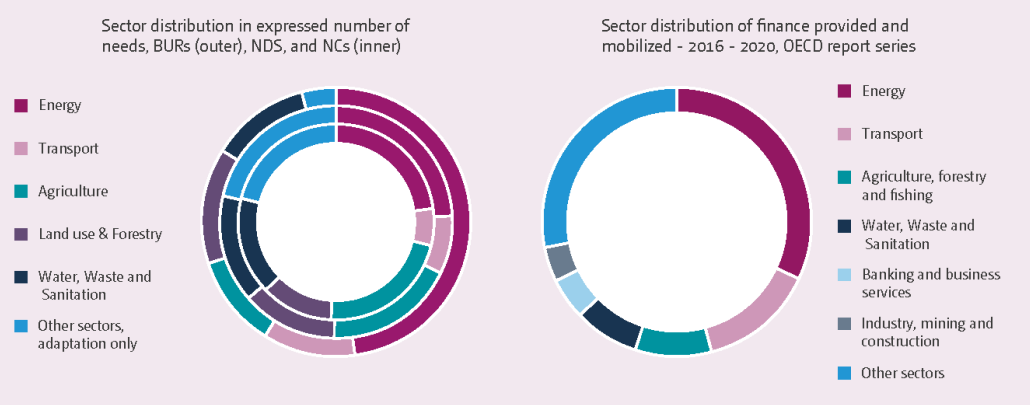


Source: UNFCCC, 2021c, OECD, 2022, and Oxfam 2020.

Note: Values for climate-specific finance reported through biennial reports for 2019 and 2020 is preliminary data and subject to change after the submission deadlines of 31 December 2022.

Figure 4.5

Sector distribution of expressed needs (NDR) and climate finance provided and mobilized (OECD)



Source: UNFCCC, 2021c, and OECD 2022.

Note: Data on number of needs expressed from the NDR1 combines the distribution by sectors for mitigation and adaptation in order to allow for comparative analysis with OECD report series which does not provide a breakdown by sector by mitigation or adaptation. Data on sector level breakdown of costed needs is not available in the NDR1.

Sectors

275. Sector-level distribution of climate finance flows across the sources of information are limited to the analysis in the OECD report series, which reports sector level data for total climate finance, including both adaptation and mitigation activities. Energy and transport sector activities from 2016 to 2020, amounted to approximately half of the total climate finance (46 per cent). A similar number of needs for these two sectors are expressed through BURs at 58 per cent (62 Parties reporting). However, for NCs and NDCs, a more equal distribution is noted between energy and transport (29–32 per cent), agriculture (18–22 per cent), land use and forestry (12–13 per cent) and water, waste and sanitation (15–16 per cent). By contrast, finance flows to agriculture, forestry and fishing amounted to 9 per cent over the 2016–2020 period, while water and sanitation amounted to 8 per cent (see figure 4.5).

276. Annualized investment needs for emerging markets and developing economies provided through the Race to Zero/GFANZ net zero financing roadmaps amounted to USD 1.24 billion for mitigation actions, of which 58 per cent is in the electricity sector, 17 per cent in transport, 10 per cent in buildings, 7 per cent in industry, 5 per cent in AFOLU and 3 per cent in low emission fuels.

Sources and instruments

277. Another aspect linked to whether finance flows are addressing the needs of developing countries is through the distribution between public and private sources of finance as well as the financial instrument instruments. As noted in Chapter 3.2, more grant finance than current levels is stated by developing countries as particularly needed for addressing capacity gaps, adaptation actions, and for developing countries with high levels of public debt burdens. Trends based on the sources of information on finance provided follow conflicting results due to time lags and different reporting scopes:

- (a) BRs reported that the proportion of grants in climate-specific finance provided through bilateral, regional and other channels decreased from 45.6 per cent in the third BRs (2015–2016) to 32.8 per cent in the fourth BRs (2017–2018);¹¹⁹
- (b) Oxfam’s focus on grants and grant-equivalent values of climate-related concessional loans and equity saw an increase of 15–27 per cent in the same period;
- (c) The OECD report series reports public finance as providing 82 per cent of the total climate finance provided and mobilized in 2020 and private finance 16 per cent, with climate-related export credits the remaining 2 per cent. The share of grants in public climate finance at 26 per cent in 2020 and loans

119) An analysis on the instruments used for 2019–2020 based on the preliminary data provided is not available.

at 71 per cent, the same as in 2019. Since 2016, the volume of both grants and loans have increased by 46 per cent. Grants amount to a larger proportion of the share of climate finance provided by bilateral sources or multilateral climate funds at 37 per cent and 56 per cent over 2016-2020 respectively, compared to MDBs at 7 per cent.

278. As noted in Chapter 3.2, both the IBA scenario on energy sector investment need, and the Race to Zero/ GFANZ net zero financing roadmaps for EMDs from 2021-2025 envision a public/private investment split of 30/70 per cent. Although based on a global level, the breakdown of instruments needed illustrated grant finance amounting to 25 per cent of the total public finance, similar to the proportion reached in climate finance provided and mobilized to developing countries (OECD, 2022). Public debt finance consisted of 46 per cent and equity finance of 29 per cent of public finance in the NZFR. The significantly lower proportion of debt finance than in data on climate finance provided and mobilized is potentially due to the inclusion of domestic sources of public finance, particularly SOEs, in the provision of equity.

Geographical distribution

279. In terms of regional distribution, the OECD reports that most climate finance flowed to Asia region at 46 per cent on average from 2016 to 2020, followed by

Africa (26 per cent) and the Americas (17 per cent), non-EU countries in Europe (5 per cent) and Oceania (1 per cent). The remaining 9 per cent was unspecified.

280. In comparison to the number of needs expressed in NDCs, the distribution was approximately aligned with regards to Asia and Latin American and the Caribbean, while a greater proportion of needs were expressed from African NDCs by 10 percentage points (36 per cent). A greater disparity was observed in costed needs, where Asia and African states consist of the vast majority at 55 and 42 per cent.

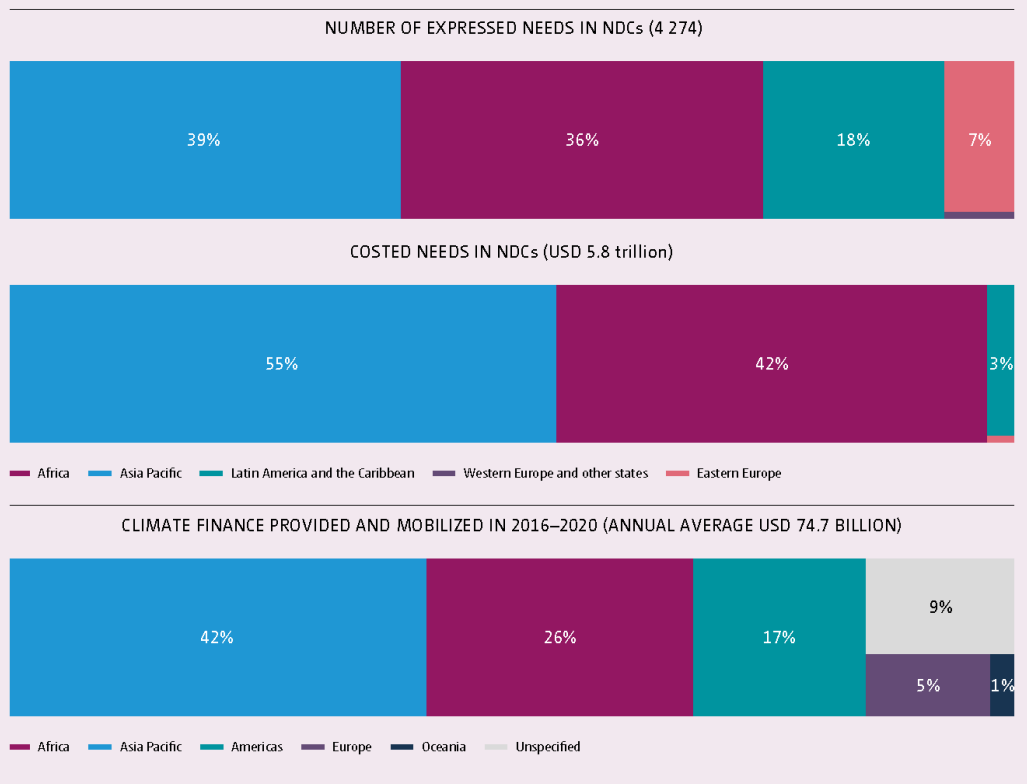
281. Information in assessing the needs against finance flows for LDCs and SDs is limited. For needs, the NDR1 does not provide comprehensive breakdowns of expressed and costed needs as a share of the total numbers across all national reports. Based on the available information the following points may be noted:

- (a) Finance flows to LDCs amounted to 17 per cent of the annual averages over the 2016-2020 period or USD 12.6 billion per year (OECD 2022). In terms of expressed needs, the NDR reported LDCs accounted for 13 per cent of needs expressed in BURs and 34 per cent in NCs. Adaptation finance consisted of 45 per cent of the flows and grant finance 62 per cent;



Figure 4.6

Geographical distribution of needs and finance flows



Source: UNFCCC 2021c, and OECD, 2022.

- (b) Finance flows to SIDS amounted to 2 per cent of the annual average over the 2016–2020 period or USD 1.5 billion per year (OECD 2022). Adaptation finance consisted of 48 per cent of the flows and grants 60 per cent. The NDR does not provide information on the proportion of needs, expressed or costed, by SIDS of the total. However, the Race to Zero/GFANZ net zero financing roadmaps brief on SIDS estimates that 5 per cent of the 2030 annual adaptation costs across developing countries would be in SIDS (USD 12 billion). By contrast 0.5 per cent of the global decarbonization investment needs would focus on SIDS (USD 14 billion). Forty-eight per cent (USD 5.5 billion) of annual investment needs in adaptation would derive from international public climate finance actors such as MDBs, bilateral DFIs and multilateral climate funds.

Access and disbursements

282. Further issues linking finance provision and addressing the needs of developing countries include access to financial resources and disbursements of climate finance committed. In a 2019 survey of developing country climate finance practitioners, 73 per cent identified finance from multilateral climate funds as the most challenging source of finance to access compared to private finance (62 per cent), MDBs and DFIs (30 per cent) and bilateral sources (17 per cent) (CFAN, 2020). The fifth BA reports that the accreditation of national and regional entities from developing countries to multilateral climate funds increased from one entity in 2010 to 76 in 2020, 63 per cent of all accredited entities. However, only 10 per cent of finance flows in 2019–2020 was through these entities, an increase from 7 per cent in 2017–2018.

283. Another issue expressed by developing countries in relation to facilitating access includes addressing delays in the disbursements of climate finance to activities in developing countries (UNFCCC, 2017). As noted in Chapter 3, the perspective of the discussion paper published by the India Ministry of Finance also stated disbursed funds crossing borders should be the measurement to assess progress on climate finance goals. While many Parties report climate finance as disbursed in their BRs, the sources of information on aggregate estimates and the BA use commitments of climate finance due to outstanding data gaps across climate finance providers on disbursement data, which render a trend analysis challenging.

4.1.3 Trends related to the context of the USD 100 billion goal: meaningful mitigation actions and transparency on implementation :

284. The mandate of the goal is set out in the context of meaningful mitigation action and transparency on implementation. Therefore, assessing trends on mitigation actions and transparency on implementation is relevant to assessing progress on the goal. As a contextual element of the goal, a direct causal link between finance flows to address the needs of developing countries, and any improvements in mitigation actions and/or transparency on implementation and vice-versa are challenging to establish and there is a lack of dedicated data or literature on this aspect.

285. Where platforms have been established that could support a linkage between mitigation actions and financial support provided, there has been a lack of reporting. For example, as noted in section 3.3, registration of project related NAMAs for implementation in the NAMA registry by non-Annex I Parties has grown at a steady annual rate of 20 per cent since 2013 to 98 NAMA projects by 52 non-Annex I Parties. On provision of support, 18 of 35 support entities – those agencies and institutions who have registered to update the information on how they provide support in response to the NAMAs registered – have provided information.

286. While some sources include information on mitigation impact at the activity or project level, (e.g. project financed by multilateral climate funds), there is no readily available information on aggregate trends on

meaningful mitigation associated with the international climate finance provided and/or mobilized under the goal. Further work is needed to understand the linkages between the finance provided and the mitigation impact achieved.

287. Conversely, whether more meaningful mitigation action or transparency on implementation have played a role in attracting climate finance may also be interpreted as relevant to assessing progress on the goal. The role of clear, consistent and coherent policy signals, including but not limited to carbon pricing (e.g. phasing out support for fossil fuels, performance standards, targeted incentives for clean technologies, spatial planning) as well as enabling environments (e.g. ease of doing business; investment policy and governance, competition and trade policy as well as financial market regulation) is well established in the literature (Ang et al., 2017, see section 4.2.1 for a discussion on the role of enabling environments to mobilize climate finance). In addition, through the accreditation of entities and establishment of national climate funds, many developing countries have established the infrastructure necessary to receive climate funds through multilateral climate funds and other sources. However, there is a lack of information in the literature making a link between increased mitigation action and transparency and the finance delivered as part of the efforts to achieve the goal to draw out a trend in this aspect. In the areas of broader finance flows, IEA data on clean energy investment, including renewable and energy efficiency investment, in emerging markets and developing economies, shows that investment levels are relatively flat from 2015–2020 in markets outside China although this may also be driven by decreases in technology costs as RE annual net capacity addition grew by 82 per cent over the same period.

288. None of the sources of information related to mitigation ambitions and actions (see section 3.3) purport to relate to the achievement of the USD 100 billion goal. Furthermore, there is also a lack of information on whether increased mitigation actions and transparency on implementation attracted finance related to the delivery of the goal. Thereby this report does not draw any conclusions between the two. However, trends, as noted in Chapter 3, in the context of mitigation actions and ambition are summarized below:

- (a) Global net anthropogenic GHG emissions increased by 11 per cent between 2010 and 2019 to 59 Gt CO₂e. While emissions continue to increase, the rate of growth has slowed from 2.1 per cent annually between 2000 and 2009, to 1.3 per cent per year between 2010 and 2019;
- (b) The number of Parties communicating mitigation ambition has increased from 88 Parties in 2010 to 194 Parties with NDCs in 2021. Almost all Parties (193) have signed and ratified the Paris Agreement setting a collective long-term goal of holding the increase in 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. Forty-six non-Annex I Parties communicated national NAMAs in 2010, compared to 153 (99 per cent) recording NDCs by the end of 2021. 75 per cent of which have submitted updated NDCs (115 Parties). For Annex I Parties, 42 had submitted quantified emission reduction targets by 2020 in 2010, INDCs in 2016, followed by NDCs. Forty-one have submitted updated NDCs by 2021;¹²⁰
- (c) The aggregate effect of conditional and unconditional mitigation actions in NDCs submitted by end of 2021 is expected to result in 2025 global emissions 10 to 14 per cent above the 2010 level compared to 14 to 18 per cent based on INDCs from 2016. However, according to SR1.5, global emissions need to decline by about 45 per cent to be consistent with pathways with no or limited overshoot of the 1.5°C goal, and 25 per cent for limiting warming to below 2°C.

Trends related to transparency on implementation

289. Many sources of information based on Parties submissions point to the importance of transparency on implementation with regard to action and support to enhance the effectiveness of climate finance, identify gaps and overlaps and increase mutual trust and accountability (UNFCCC, 2017, 2021a, 2021b). Section 3.3.2 outlined the growth in the submission of national reports to the UNFCCC related to climate action, needs and support. In particular:

- (a) For submission of NCs, which covers transparency of actions as well as needs, in 2010, 90 per cent of non-Annex I Parties had submitted a first NC (139

- Parties) and by 2021, 94 per cent had submitted a second NC (145 Parties), growing at an annual rate of 14 per cent since 2010, and 59 per cent a third NC (93 Parties). Annex I Parties have regularly met NC submission cycles although one Party has not yet provided an NC7 (Ukraine);
- (b) Submission of biennial update reports of non-Annex I Parties with information climate actions and needs, as well as climate support received, have been steadily increasing with 51 per cent (79 Parties) submitting at least one BUR, and 24 per cent a second BUR (37 Parties). Almost all Annex I Parties (43 Parties) have submitted fourth biennial reports by 2021 with information on climate actions as well as support provided although not always in line with the submission cycle deadlines;
- (c) For adaptation-related communications, in 2010 46 Parties had submitted national action plans for adaptation (NAPAs) while since then national adaptation plans (NAPs) have grown at an annual rate of 53 per cent since 2015 with 38 Party submissions.

290. In terms of trends of improving coverage and quality of information in reporting, there are limited sources that track quality of coverage and transparency over time particularly for NCs and BURs from non-Annex I Parties. For NDCs, a greater proportion of Parties express ambition in absolute emission reduction targets from the level in a specified base year than in the INDCs (35 per cent compared to 32 per cent); and lower proportion of Parties expressing mitigation targets as below a 'business as usual' level by a specified target year (43 per cent compared to 45 per cent), or through other ways to express targets such as through policies and measures, emission intensity targets, peaking targets (22 per cent compared to 27 per cent).¹²¹

291. In terms of quality of information on financial support, the fourth (2020) BA noted the gradual improvements in reporting by developed countries on climate finance provided through BRs in relation to more consistent and harmonised reporting on the thematic areas of climate finance but noted that heterogeneity in reporting information on recipients and sectors, and the functionality of the reporting system limits the aggregation of data on implementation of climate finance provided.

¹²⁰) No update from Liechtenstein.

¹²¹) Comparison of data from Figure 1 in October 2021 NDC Synthesis report October 2021 and INDC Synthesis report April 2016. Percentages add up to more than 100 per cent as some Parties expressed more than one type of target.

292. The fifth BA notes significant improvements in reporting by developing countries on climate finance received through BURs, particularly for Parties submitting second or third BURs. Out of 79 Parties submitting BURs up to end of June 2022, 58 provided information on the title of the project and/or a description of the project. 25 provided information on status of implementation of the project, such as completed, or under implementation and 5 Parties provided further impact indicators separately.

293. Looking forward, more information to support assessing progress on transparency on implementation is expected once the Enhanced Transparency Framework is underway by the end of 2024, in relation to both climate finance provided and mobilized, as well as climate finance needed and received, including on the use, impact and results of climate finance needed and received. The Capacity Building Initiative for Transparency reports that across 81 projects in its portfolio by March 2022 covering over half of non-Annex I Parties, the most common element is building technical capacities and institutional arrangements to track mitigation progress, including national GHG inventories (featured in 73 to 97 per cent of projects), adaptation tracking (63 to 73 per cent of projects), enhancing NDCs and policies (65 per cent) and tracking progress related to support (35 to 52 per cent).¹²²

4.2 Challenges and lessons learned

294. The goal to jointly mobilize USD 100 billion per year of climate finance by 2020 is a collective commitment by developed country Parties, but climate finance outcomes each year are the result of the diverse priorities and decisions of multiple interacting actors. These include developed country governments and their funding agencies, multilateral climate funds, multilateral development banks, private sector actors and stakeholders (government and non-governmental) in or working with partner developing countries. The level of climate finance, however defined, can be seen as the outcome of these disaggregated actions in terms of the total level of total public climate finance, the share of that finance with the potential to mobilize private finance and the effectiveness with which, such private finance is mobilized.

295. The challenges in achieving the goal cut across the three dimensions. Firstly, in terms of challenges to mobilizing the volumes of finance flows need to meet the target of USD 100 billion per year; secondly in terms of how the finance is targeted to address the needs of developing countries; thirdly in terms of meaningful mitigation action and transparency on implementation; and lastly in terms of challenges observed in measuring progress against the goal.

4.2.1 Challenges and lessons learned in mobilizing the finance to achieve the goal

296. A number of challenges have been cited with regard to efforts in mobilizing finance to achieve the goal including a lack of accountable burden-sharing frameworks, difficulty in mobilizing private climate finance, and macroeconomic headwinds. Developed countries stated in the 2021 Climate Finance Delivery Plan (COP26, 2021) that:

- (a) All developed countries need to step up efforts to meet the goal, implying the need to scale up public finance;
- (b) The scale of private finance mobilization is not where it was projected to be in the 2016 Roadmap, demonstrating that further efforts are needed to improve the effectiveness of mobilizing private finance from public interventions;
- (c) Despite relative increases in adaptation finance, more work needs to be done to increase both the quantity and accessibility of adaptation finance, particularly for the poorest and most vulnerable countries and communities;
- (d) That the collective ability to reach the goal continues to rely on a number of factors such as the performance of climate funds, developing country demand and absorptive capacity, policy interventions, robust pipelines of bankable projects, and indirect global and local economic factors.

¹²² CBIT progress report p.11 <https://www.thegef.org/council-meeting-documents/gef-c-62-inf-05>.

Accountable burden-sharing frameworks

297. Although mandated as a collective goal, several reports by non-Party stakeholders highlight the lack of burden sharing framework among developed countries as a challenge to hold individual developed countries accountable for shortfalls in achieving the goal. The studies find approximately seven countries out of 24 Annex II Parties, consistently meet their “fair share” of climate finance provision according to different indices and methods (Bos and Thwaites, 2021; Colenbrander et al., 2022; Colenbrander et al., 2021).

298. Along a similar logic, Parties agreed on a global temperature goal but did not prescribe a burden-sharing framework to achieve the goal in the Paris Agreement and / or the Paris Agreement Rule Book. The UNFCCC and the Paris Agreement in general follow a nationally determined logic to achieve several collective goals.

Mobilization of private finance to and in developing countries

399. A key challenge, as noted in various sources of information, is mobilization of private finance from public interventions (COP26, 2021; Bhattacharya et al., 2020). The IPCC (2022b) identifies “a mismatch between capital availability in the developed world and the future emissions expected in developing countries. This emphasizes the need to recognize the explicit and positive social value of global cross-border mitigation financing. A significant push for international climate finance access for vulnerable and poor countries is particularly important given these countries’ high costs of financing, debt stress and the impacts of ongoing climate change.”

300. As noted in section 4.1, further disaggregated analysis would be helpful in better understanding the reasons behind the lower-than-anticipated mobilization of climate finance by public interventions, both in terms of the composition of the overall climate finance portfolio and the effectiveness of specific actions supported by public finance instruments in mobilizing private finance. Mobilized private climate finance in low and middle-income economies in by MDBs in 2020 was half than in 2019 at USD 11.1 billion (AfDB et al., 2021, 2020).

301. Bhattacharya et al (2020) highlighted the critical role of grant finance in mobilizing private capital, through enabling MDBs and other multilateral financing entities to de-risk investments in developing countries. From 2016 to 2020, both grants and loans increased at

the same rate (46 per cent) according to OECD estimates (2022), while private finance mobilized increased by 30 per cent.

302. Estimates of private climate finance mobilized focus on project co-financing rather than more complex modes of finance mobilization such as technical assistance or policy-related efforts. A key aspect in attracting and mobilizing private sector investment are cross-cutting enabling environment factors. The CFLI (2021) cites analysis of 108 emerging market clean energy policy regimes based on ambition, access, stability and success of each type of policy that shows the bottom-ranked 60 markets attracted 17 times less on average than those markets ranked in the top 47 (excluding China). Specific enabling environment conditions that may allow for increased private sector finance flows include (CFLI, 2021; IPCC, 2022b):

- (a) Macroeconomic, policy and currency stability provide investors with broad assurance of the financial sustainability of investments by managing inflation and interest rate risks, long-term policy risk and exchange rate risk. Multi-level, integrated systems planning, for the example through implementation of NDCs, also plays a role in sending a long-term policy signal to investors on commitment to sector-based low-carbon transitions, as do the provision of stable investment incentives such as tax credits or preferential treatment on import duties for low-carbon technologies;
- (b) Capacity to create robust bankable pipelines of investment opportunities by infrastructure coordinator agencies and one-stop structuring and financing facilities;
- (c) Procurement regimes to attract private investment such as PPP regulatory frameworks and institutional capacity, contract standardization and bundling of smaller projects into larger investment programmes, project revenue support;
- (d) Financial market depth in local bank and capital markets to provide current and interest rate swaps, access to local green bonds or infrastructure funds, and co-investors in the form of local pension funds and insurance companies provide a strong incentive to international investors;
- (e) Fewer foreign ownership restrictions and local content requirements, and clear and predictable licencing and permitting procedures;

- (f) Standardization of contracts that reflect international common practice reduce transaction costs, and could facilitate bundling to reach investment sizes that are attractive to deploy capital; and
- (g) Effective community engagement and strong transparency measures.

303. Various sources (e.g. IPCC, Bhattacharya et al, Race to Zero/GFANZ) highlight the role of MDBs in mobilizing private finance in developing countries. The IPCC (2022b) notes the MDB business model imposes limitations on the use of guarantees and collaboration with other development finance institutions. Bhattacharya et al (2020) point to the need to improve use of risk-sharing instruments, orientation to the private sector and reducing inefficiencies in doing business with MDBs as key challenges to overcome to mobilize greater finance. The authors point to the greater use of guarantee instruments, noting the limited incentive to scale their use; local currency lending to international and domestic private sector entities; and, equity investments to attract private capital. The reluctance of MDBs to tie up capital for extended periods before returns may be realised, lack of ready exit opportunities to limit losses and other challenges would need to be addressed.

Macroeconomic headwinds

304. Recent years have witnessed attempts to mobilize private finance against a backdrop of macroeconomic shocks and headwinds. The IPCC AR6 identified slowing and unstable GDP growth due to worsening climate impacts such as greater and rising intensity of floods, droughts, forest fires and storms, that raise private financing costs and deteriorating public fiscal positions and rising indebtedness as headwinds already affecting climate finance flows before 2020.

305. The disruption of COVID-19 and global energy and food supply shocks has further exacerbated these challenges with public finance reallocated to pandemic relief and economic recovery measures. These challenges impact both providers and recipients of climate finance albeit in different orders of magnitude. Recovery packages and new policy developments both in domestic and international policy environments provide an opportunity for rethinking how climate finance may be scaled up.

Long-term sources for international public climate finance

306. In reporting on ex-ante climate finance information accordance with Article 9.5 of the Paris Agreement, many developed country Parties presented projected levels of public climate finance over multi-year commitments, while noting that such commitments are subject to annual approvals for disbursement by parliamentary procedures (UNFCCC, 2021b). The commitment to multi-year climate finance budgets support long-term planning with partner countries on meeting needs and priorities. Several Parties highlighted that their financial commitments had not changed despite the challenges posed by the COVID-19 pandemic to fiscal budgets. Some Parties also referred to national climate funds that support developing countries using resources mobilized through carbon market proceeds, although such levels are subject to uncertainty owing to the volatility of carbon prices.

Innovative and alternative sources for international public climate finance

307. Indeed, carbon pricing instruments were highlighted as potential innovative or alternative sources of international climate finance to meet the USD 100 billion per year commitment following the setting of the goal in 2010 (AGE, 2010). Other potential alternative sources identified to raise the amounts needed to meet the climate finance goal included carbon pricing on international aviation and shipping, redirection of fossil fuel subsidies or royalties, and financial transaction taxes although challenges were noted with regard to the political acceptability of such instruments both nationally and internationally.

308. Although, the use of special drawing rights (SDRs) was also highlighted as an alternative source of climate finance since 2010 (Bredenkamp and Pattillo, 2010), it has attracted more attention in recent years as highlighted in the Glasgow Climate Pact as a potential form of concessional financial resources to be explored and through the development of the Resilience and Sustainability Trust by the IMF to help countries build resilience to external shocks and ensure sustainable growth.¹²³ Furthermore, debt swaps and green sovereign bonds are introducing further innovative or alternative sources of international public climate finance (Chamon et al., 2022).

¹²³ See decision 1/CP.26, para 29 and 1/CMA.3, para 48.

Lessons on mobilization

309. Lessons learned, based on the above trends and challenges that could support further efforts to mobilize climate finance to achieve the goal include:

- (a) The extent of private finance mobilization will depend on many factors across both developed country and developing country Parties and multilateral financial institutions. In relation to the goal, which is framed in terms of financial resources not outcomes, a key determinant is the overall scale and composition of climate finance at an aggregate level and the extent to which the activities financed have the potential to mobilize private finance, i.e., that there is a bankable revenue stream associated with the activity;
- (b) In achieving the goal, the mobilization of private finance as a means of achieving that goal, should not come at the expense of, or involve a trade-off in addressing the needs of developing countries. Addressing many of these needs depends on climate finance for activities that may have less or perhaps even no direct mobilization potential;
- (c) For those activities that have the potential to mobilize private finance, developed countries and multilateral financial institutions may have the potential to increase the effectiveness with which such activities are able to mobilize private finance. For example, as risks in new technologies fall over time, the private sector may be in a position to take on a far greater share of finance for climate projects and for mitigation projects, in particular. Developed countries in partnership with developing countries may be able to more effectively mobilize private finance for those projects through interventions such as policy lending, capacity building and the use of guarantees and other methods of reducing risks for private investors to tolerable levels;
- (d) Due consideration should be given to supporting activities that can improve the broader investment environment over time (e.g., policy development, providing public data tools and support, and capacity building) as well as those that may have a more direct and immediate effect on levels of mobilization (e.g., risk mitigants for individual projects with a well-defined revenue stream);
- (e) The importance of the ability to have access to mobilization data in order to assess challenges, successes and lessons learned, as well as demonstrate results for implementation that could have a multiplier effect for other sectors, markets and actors to emulate success stories and avoid pitfalls. Further granular analysis of the current

aggregate climate portfolio therefore has the potential to inform better use of public finance and increased effectiveness over time in the mobilization of private finance by climate projects;

- (f) The advantage of long-term and predictable financing plans or commitment envelopes by international climate finance providers that enables decision-makers in both contributor and recipient countries to plan long-term as well as be resilient to macroeconomic shocks or disruptive events (see further lessons in section 4.2.2 for greater coordination in planning).

4.2.2 Challenges and lessons learned related to ensuring mobilization addresses the needs of developing countries

310. The challenges in ensuring mobilization of climate finance flows addresses the needs of developing countries rest on aspects related to data and reporting quality, translating identified needs into actionable financing opportunities, access to finance, the financial instruments used as well as geographic and thematic targeting of support.

Data and reporting quality

311. As noted in Chapter 3, information on climate finance received reported by developing countries, although improving, highlights capacity and data constraints in reporting a full picture on international climate finance inflows to the country as coverage on finance channelled to all public institutions, private sector or civil society may be lacking. In their BRs, developed country Parties report climate finance recipient information at country level with project names and descriptions without information on recipient entities. Such data is partially available through other data sources such as OECD DAC statistics, however the BA reported that 59 per cent of public climate finance reported through the system had information on recipient entities in 2017-2018 (UNFCCC, 2021d). In multilateral finance, 4 out of 8 MDBs publish activity level climate finance data on their websites and confidentiality concerns limit the availability of granular data on multilateral climate finance and private finance mobilized (OECD, 2020).

312. Good quality disaggregated data on climate finance flows both provided, mobilized and received is important to overcome any perception or knowledge gap in understanding whether flows are addressing needs. The enhanced transparency framework, due to come

into implementation by the end of 2024, will provide an opportunity to match the information reported on climate finance provided and mobilized, and needed and received, although much will depend on the quality of reporting by all Parties. As Parties may not have all information on finance flows from developed to developing countries at their disposal to report (e.g. outflows from multilateral institutions and funds), complementary solutions may be necessary to provide a full overview of how climate finance provided and mobilized is addressing needs expressed by developing countries, while meeting any concerns related to confidentiality.

Translating needs into financing opportunities

313. A significant challenge is the relatively limited capacity of developing countries to quantify costs and build project pipelines that attract and enable public and private climate finance to be targeted to the needs (UNFCCC 2021c, IPCC 2022b). The NDR report highlighted several country case studies that had shown how the needs identification process provided an opportunity for countries to translate their needs into investment opportunities and project ideas for support. However, the report also highlighted several challenges, including:

- (a) Institutional coordination both between national and local levels as well as across line ministries to identify, cost and articulate project-specific needs comprehensively;
- (b) High staff turnover leading to loss of knowledge and expertise in needs identification;
- (c) Challenges in costing adaptation needs due to methodological limitations and their long-term nature compared to short-term projects.

314. As noted above, project pipelines are a key tool to support mobilization of finance. The Needs-based Finance Project launched by the UNFCCC is developing climate finance access and mobilization strategies as supporting work on pipelines across 12 regions covering 100 countries (see chapter 2.3 and 3.2). Furthermore, many Parties are developing NDC investment plans and strategies to accompany the NDC update process. The NDC Partnership is supporting 55 countries to develop climate finance strategies and financing roadmaps, 47 countries to identify and assess external financial resources to fund projects, and 49 countries to translate NDCs into bankable projects and pipelines.¹²⁴ A more

comprehensive approach to capacity-building, e.g. through an assessment of whole-of-government capacity needs could also be explored to ensure that capacity for quantifying costs and building project pipelines are set in a wider context of capacity needs.

Access to capital

315. As noted in section 3.2 and 4.1.2, access to capital is identified as a significant challenge by developing countries in order to address their needs (UNFCCC, 2017; Bhattacharya et al., 2020; COP26, 2021; IPCC 2022b). The Independent expert group on climate finance reported that owing to the complexity of requirements, accessing international climate finance through multilateral climate funds is often a resource and time-consuming process stretching beyond the length of election cycles, presenting an additional challenge for elected governments (Bhattacharya et al., 2020).

316. The IPCC (2022b) noted that debt-constrained developing countries have lower access to international capital markets due to higher perceived risks and lower credit ratings than developed countries, exacerbated by the COVID-19 pandemic. The chapter authors point to cross-border instruments such as sovereign guarantees, strengthening local capital markets and boosting the USD 100 billion annual climate finance commitment as potential solutions.

Sources and instruments

317. A key need is also expressed for greater volumes of grant finance to avoid increasing debt burdens and build capacities of developing countries (Bhattacharya et al., 2020; UNFCCC, 2021a; Oxfam, 2020). COP 26 noted, “with concern the growing needs of developing country Parties, in particular due to the increasing impacts of climate change and increased indebtedness as a consequence of the coronavirus disease 2019 pandemic.”¹²⁵ As developing countries fiscal budgets are increasingly debt-constrained or impacted by significant macroeconomic shocks, the capacity to service new debt is severely limited. The implications for climate action and climate finance flows in the near-term in the context of this challenging macroenvironment need to be considered including how it increases perceptions of risk in developing countries, the mobilization of private finance in the near term, and how much of climate finance would need to be sourced from international public concessional sources.

¹²⁴ NDC Partnership 2022, available at <https://pia.ndcpartnership.org/financing-dimate-action/>. Accessed on August 2022.

¹²⁵ Decision 1/CP.26, para 23.

318. A variety of different financing instruments are identified as necessary for supporting mitigation and adaptation projects depending on different stages of the project development, different stages of the technology innovation chain, and different maturity of markets (IPCC, 2022b). Loans are useful instruments to support deployment of capital-intensive projects with clear revenue streams to support debt repayments. For example, debt instruments consist of almost half the total annualized amount in 2021–2025 net zero financing roadmap with equity instruments comprising 43 per cent and grants 8 per cent (Race to Zero/GFANZ, 2021). The OECD reported that loans consisted of 88–96 per cent of public climate finance provided from 2016–2018, while making up 57 per cent of finance to low income countries, with grants consisting of 42 per cent (OECD, 2020).

319. The key challenge in utilising grant finance and concessional capital is the high level of demand for both mitigation and adaptation activities. Grant finance and other risk-sharing instruments are necessary to derisk and mobilize the significant amounts of private capital required for capital-intensive mitigation projects in developing countries, as well as support policy frameworks, capacity building and development of bankable pipelines. At the same time, grant finance is necessary to support the adaptation activities where revenue streams are typically less prevalent to support private sector participation (IPCC, 2022b). The BA reports 57 per cent of bilateral adaptation finance, 99 per cent of multilateral climate funds finance, and 15 per cent of MDB adaptation finance was in the form of grants over the 2019–2020 period. (UNFCCC, 2022a).

Balancing mitigation and adaptation needs

320. As identified in the trends across multilateral and bilateral channels presented in section 4.1, addressing adaptation and climate resilience needs through achieving a balance of mitigation and adaptation finance flows has been a challenge in recent years. Developing countries regularly express the need for greater adaptation financing, and various sources of information understand this to equate to at least a 50:50 allocation (UNFCCC, 2021a; Bhattacharya et al., 2020; Oxfam 2020; Bos and Thwaites, 2021). At COP 26, this led to decision 1/CMA.3, para 18, which urges developed country Parties to at least double their collective provision of climate finance for adaptation to developing country Parties from 2019 levels by 2025. The distributional analysis in section 4.1.2 showed that

the proportional trend in climate finance provided to adaptation increasing to 28 per cent (preliminary data) or 34 per cent (OECD, 2022).

321. The question of balance may apply at national or global levels. At the national level, the challenge in costing adaptation needs was apparent based on the NDR which showed expressed needs in NDCs from 153 Parties as 47 per cent to adaptation, while costed adaptation needs reported by 78 Parties in their NDCs amounted to 13–14 per cent. This also poses a challenge in supporting assessment of progress on whether finance is addressing needs: how such needs are articulated and costed may differ from how climate finance flows are measured and tracked. For example, it is unclear if adaptation costed needs follow climate-specific component methodologies for accounting adaptation finance as followed by MDBs and most Parties, or report on total project amounts, leading to the potential comparison of different accounting approaches. At the global level, and in the context of directing climate finance, the near-term imperative of financing adaptation to support countries managing climate impacts may also be considered with the imperative of financing mitigation action at scale to reduce adaptation costs and impacts in the future.

322. All of the above challenges related to access to capital, demand for grant or concessional finance, and for adaptation finance are particularly exacerbated in the most vulnerable developing countries, in particular LDCs and SIDS.

Role of international public climate finance in meeting climate finance goals

323. A common theme from the challenges identified above in both mobilizing climate finance as well as addressing the needs of developing countries, is on the specific catalytic role international public climate finance, in particular concessional finance, can have within the framing of an overall mobilization goal. A focus on a volumetric goal related to inputs for climate action (financing) can divert incentives, both for providers and recipients of climate finance, from a focus on outcomes and impact.

324. The IPCC (2022b) highlights how limited pipelines and absorptive capacities are stated as a challenge for accelerated deployment of funding, and therefore whether an international public climate financing gap exists for patient institutional capacity building, potentially due to the complexity in measuring

intangible direct outcomes from such interventions. Furthermore, the question of balancing mitigation and adaptation priorities over the shorter and longer term is another challenge. Efforts to take into account are the immediate and short-term needs of developing countries to increase resilience that are potentially juxtaposed with the need to limit climate impacts in the future, particularly for most vulnerable countries, by mitigating global emissions as much as possible in the short term. Within this aspect on mitigation, is the respective role of developing countries domestic resource mobilization and international sources where ideally, the lowest marginal abatement cost mitigation actions may be funded through domestic resources or private markets while concessional international public climate finance may focus on actions with higher marginal abatement costs within NDC plans.

325. These considerations are without clear-cut solutions or approaches beyond country or sector-specific contexts. However, in considering the implementation of collective mobilization goals and collective climate goals, makes the case to carefully consider portfolio priorities and roles of different public and private climate finance actors at the outset. National-level platforms focusing on sector-specific transitions are one example where such considerations may be taken into account while ensuring collective goals are met, as seen in the Just Energy Transition partnership for South Africa (JET-P). Furthermore, additional sub-goals or well-stated performance metrics for international public climate finance part of mobilization goals may be another avenue to explore, particularly if focused on, and framed around, impact outcomes. This may not only focus on finance related mobilization goals for segments such as sources, instruments or themes (e.g. public international grant finance to achieve a certain adaptation impact), but could also consider deployment of identified solutions to common challenges across developing countries. For example, in 2022, the UN set a goal to achieve universal coverage of early warning services and systems as a collective contribution towards global adaptation efforts.¹²⁶

Lessons on linking mobilization to address needs

326. Given the differentials in the reporting on finance provided, mobilized and received, in section 4.1, the above data, reporting and capacity challenges reinforce a perception gap between provider and recipient perspectives of climate finance as to whether needs

and priorities are being addressed and whether climate finance committed is equal to climate finance received

327. A lack of comprehensive assessment on needs hinders tailoring of current flows to address needs. Detailed and timely information on needs, regularly updated to account for latest technology trends and socio-economic developments, are necessary to inform climate finance programming and effectiveness. Furthermore, a focus on inputs (volume of finance) detracts from emphasising implementation to achieve outcomes. Needs, due to their nature, may not always require costing, but quantitative information in the form of sector-based metrics, technology deployment and capacity building indicators may be more conducive to ensuring finance flows meet needs.

328. This highlights the role of needs identification in reinforcing general sustainable development and poverty eradication in developing countries, and the role of climate finance in particular to synergise with sustainable development needs. The current macroeconomic environment and high debt burdens faced by many developing countries reinforce the limited headroom governments have to help meet developmental needs while establishing the incentives to support private investments in climate solutions. This points to the need for more public finance in the near-term, particularly through the greater use of risk mitigation instruments to help mobilize private finance

329. In this context, greater strategic understanding on the role of climate finance catalysing action on the ground, not by incentivising large volumetric transactions at the expense of impactful outcomes, but in meeting developmental needs is needed. The implications of this in the context of volumetric goals should be well understood. A greater need for grant finance or finance targeting adaptation may aim to better address the needs of developing countries but also may result in challenges to mobilize private finance to meet both volumetric collective goals, as well as sustainable development needs. In this respect, the aggregate value of concessional loans in particular as an effective financial instrument could be better understood through the availability of more information on how terms and conditions of the capital provided support recipient countries in meeting long term developmental needs and help recycle capital to other priorities.

¹²⁶ <https://public.wmo.int/en/media/press-release/%E2%80%8Bearly-warning-systems-must-protect-everyone-within-five-years>.

4.2.3 Challenges and lessons learned in the context of meaningful mitigation action and transparency on implementation

330. An in-depth review of the challenges to meaningful mitigation action globally and in developing countries is beyond the scope of this report. However, as noted in section 4.1.3, while aggregate effects of full implementation of NDCs has improved by 4 percentage points from 2016 to 2021 (2025 global emissions went from 18-14 per cent above 2010 emissions based on 2016 INDCs to 10-14 per cent based on updated NDCs as of end of 2021) this is insufficient to meet global temperature goals according to pathways outlined by the IPCC. A significant gap in global mitigation action remains and a key lesson is in relation to the step-change required to scale up mitigation action up to 2025 and beyond in accordance with the decision of the Parties at CMA 3 to establish a work programme to urgently scale up mitigation ambition and implementation in this critical decade.¹²⁷

331. Challenges related to transparency on implementation are central to the delivery of the goal and interspersed in sections 4.2.1 and 4.2.2 on the challenges of:

- (a) Accountability and data on mobilization of climate finance to understand successes for replication and scale up;
- (b) Quality data on climate finance provided and received to overcome perception gaps; and,
- (c) Understanding the role of different financing instruments to addressing the needs of developing countries.

332. Section 4.2.4 below further outlines specific lessons on data transparency that could assist future efforts in implementing the goal and assessing progress in its achievement.

4.2.4 Challenges and lessons learned in measuring progress to support implementation of the goal

333. As noted in section 1.3, the mandate on the goal from 2010 does not identify a detailed accounting methodology, and definitions to support progress measurement on flows or an approach to assess efforts

on addressing the needs of developing countries and the goal in the context of meaningful mitigation action and transparency on implementation. Subsequent decisions related to the goal offered little further guidance apart from clarifying the goal includes private financial resources.¹²⁸

334. While Annex II Parties report quantitative and qualitative information on climate finance provided and mobilized through national reports under the UNFCCC (i.e. biennial reports), the current system of MRV of support does not include specific provisions for reporting or tracking progress on the collective finance goal of mobilizing USD 100 billion per year. Likewise, finance, technical and capacity-building support are not included in the scope of the multilateral assessment phase in the current MRV system.

335. In 2015 the Paris Agreement, and the modalities, procedures and guidelines for the enhanced transparency framework of the Paris Agreement agreed in 2018, set out a framework for a bottom-up approach whereby countries can take a self-determined methodological approach to define, track, measure and report climate finance provided and mobilized, needed and received. The collective goal is not mentioned and therefore no collective reporting provisions under the Paris Agreement exist.

336. Features of robust goal-setting include outlining their specificity as well as how they may be measured at the outset so that there is the best chance to support successful implementation of the goal. A lack of such features therefore represents a challenge for implementation as well as a challenge to track progress on implementation. This report is a first attempt to forge links between the three dimensions of the goal. Since the goal was recognized in 2010, gradual improvement in data and reporting has supported various approaches to assessing progress on aggregate as outlined in Chapter 2 and 3, however some of the key aspects related to the goal have been developed in recent years. These include, for example:

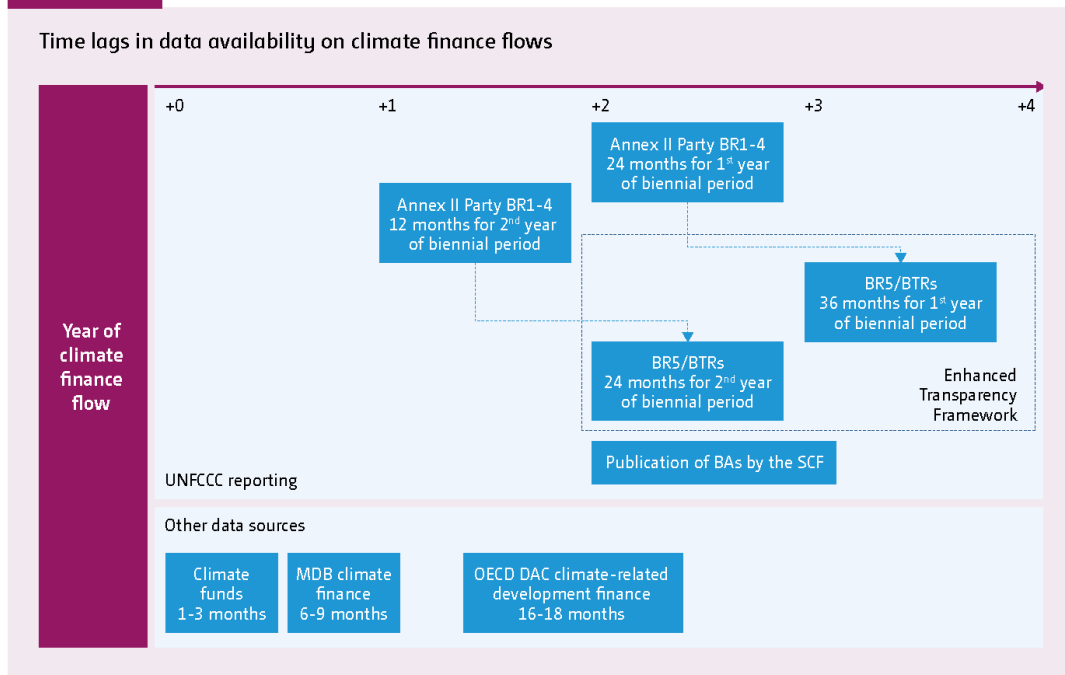
- (a) The annual Joint MDB climate finance reporting from 2011 and the establishment of common principles on mitigation and adaptation finance tracking (2015, revised for mitigation in 2021);

¹²⁷ Decision 1/CMA.3, para 27.

¹²⁸ Annex to decision 2/CP.17, para 19.

- (b) The OECD report series on climate finance provided and mobilized (2015, 2019, 2020, 2021, 2022) with improved methodologies for measuring mobilized private climate finance from 2019;
 - (c) The Oxfam climate finance shadow report series providing information on grants and grant-equivalent values of climate finance flows (2016, 2018, 2020);
 - (d) Information on the needs of developing countries through the NDR was first published in 2021;
 - (e) Information on meaningful mitigation actions has become available through NDC synthesis reports (2021) and the Global Stocktake process which commenced in 2022;
 - (f) Information on transparency on implementation related to climate action, needs and support, as noted in section 3.3, has been improving in recent years.
337. Looking forward, the implementation of the ETF will support greater information and understanding on mitigation and adaptation action and climate finance provided, mobilized, needed and received. The biennial assessment and overview of climate finance flows by the SCF will continue to assess the achievement of the USD 100 billion goal based on this information and other sources. In this context, it is important to note numerous sources of information identify challenges in the availability of granular data to support assessing progress towards the goal (OECD, 2020; Oxfam 2020, Colenbrander et al., 2022; Bos and Thwaites, 2021; Bhattacharya et al., 2020).

Figure 4.7



338. These include:

- (a) The approximately 2-3-year time lag in reporting of information on finance flows affects a common understanding on progress and efforts to reconcile flows with needs and priorities. Up to the submission of fourth biennial reports, the time lag in reporting was limited to two years for the first year in the biennial period (e.g. 2017 data reported on 1 January 2020), and one year for the second year of the biennial period (e.g. 2018 data reported on 1 January 2020). In accordance with decision 6/CP.25, the submission of fifth biennial reports was set to 31 December 2022. This is aligned with the submission of the first biennial transparency reports under the enhanced transparency framework, due by 31 December 2024. The change in the timing of reporting extends the time lag on data availability on climate finance provided and mobilized to 2–3 years;
- (b) Another key issue in measuring progress is the geographic scope of contributors and recipients to the goal. While Annex II Parties are required to report on climate finance provided through the BRs, approximately 13 other Annex I Parties voluntarily do so, and one non-Annex I Party also reports on climate finance provided in their BURs. Under the enhanced transparency framework from the end of 2024, developed country Parties shall report on climate finance provided and mobilized and the other Parties providing support are encouraged to do so. Sources of information, when assessing progress on the goal, consider contributors to range from Annex II Parties only (Oxfam, 2020; Bos and Thwaites, 2021; Colenbrander et al., 2021, 2022) to also include other EU member states not in Annex II, Liechtenstein and Monaco (OECD, 2022). It is noted that statements by developed countries on how the goal may be achieved such as the 2016 Roadmap and the Climate Finance Delivery Plan (2021) were supported by the latter grouping. For recipients, sources of information on assessing progress on the goal consider non-Annex I Parties and/or OECD DAC ODA eligible countries¹²⁹ to be considered (OECD, 2022), define recipients as non-Annex I Parties but do not make efforts to omit Annex I Parties from the analysis (Bos and Thwaites, 2021) or do not define recipients (Oxfam, 2020; Colenbrander et al., 2021, 2022);
- (c) Confidentiality concerns limit the availability of granular data on multilateral climate finance and private finance mobilized. The OECD outlines several tailor-made legal and technical solutions necessary to overcome data-sharing from MDBs in its report series (OECD, 2020). The MDB Joint reports on climate finance do not publish activity level data behind the aggregate numbers presented, although four MDBs do publish project-level activity data on their own websites including the share of climate components as part of the total project finance commitment.¹³⁰ In recent years, the MDB Joint report has changed the geographic scope of climate finance reporting, impacting assessment of trends from previous years, in the absence of more granular data made available;
- (d) Foreign exchange rate fluctuations have considerable impact on how the goal is perceived to be achieved. Irrespective of whether the goal is to be measured in nominal values to the quantity set in the mandate or real values taking into account inflation, the reporting on climate finance often reveals disparities between the efforts of contributors and the USD value, given fluctuations in exchange rates. OECD analysis showed the euro, yen and pound sterling had depreciated in value against USD by approximately 20 per cent between 2013 and 2019;
- (e) Data on disbursements of climate finance: most sources of information rely on data on commitments to projects made in the reporting year as the point of measurement on finance flows as this data is readily available from various reporting channels and can better reflect the contributor's effort to deliver climate finance. While data on disbursements of climate finance is non-comparable to commitments as it represents the same flow but potentially over a multi-year time period, it is an important element to consider in overcoming perception gaps on climate finance flows from the recipient perspective. Granularity in this area is improving through the availability of Rio-marked disbursement data through the OECD DAC creditor reporting system and through multilateral climate funds such as the GCF enabling a tracking of progress of disbursement of commitments made, although data from other sources such as MDBs is lacking;

¹²⁹ These include Belarus, Kosovo, Montserrat, Saint Helena, Republic of Türkiye, Tokelau, Ukraine, and Wallis and Futuna.

¹³⁰ These include Asian Development Bank, Inter-American Development Bank, the World Bank for its concessional finance arm IDA, and the IBRD, and EBRD in its sustainability report.

- (f) Some reports identify the potential for overreporting on climate finance flows due to different methods and approaches adopted by Parties in identifying climate-specific finance (Oxfam, 2020; Bhattacharya et al., 2020).

Lessons learned in measuring progress to support implementation of the goal

339. From the foregoing analysis of the three dimensions of the goal of jointly mobilizing USD 100 billion per year by 2020 to address the needs of developing countries, in the context of meaningful mitigation action and transparency on implementation, it is evident that the developments under the UNFCCC have evolved in a staggered manner with limited direct linkages between the three dimensions of the goal. This makes the task of analysing correlations and connections across the three dimensions difficult especially matching of action and support.

340. The assessment of provision and mobilization of USD 100 billion has been examined under the UNFCCC by the SCF and several external actors, though methodological issues have led to a variety of conclusions. The issue of mobilizing private finance is also complex, including how it may be attributed to developed countries and measuring the mobilization of private finance by specific public interventions. Furthermore, given the “collective” nature of the goal, the accountability of climate finance contributors is primarily to the collective group of providers rather than directly to the wider group of Parties. This speaks to issues around transparency on implementation with regard to mobilizing finance to meet the goal.

341. At the same time, prior to this report, there has been little data-driven analysis on how the flows counted towards the goal have helped to address the articulated needs explicitly presented by developing countries in the context of UNFCCC reporting obligations. Transparency on the articulation of needs and development of project pipelines to meet them, has improved as more developing countries submit regular reporting to the UNFCCC. Differences in the timing of reporting of BRs and BURs, where there is regular data every biennial period on climate finance provided but ad hoc unstandardized data on climate finance received from developing countries has not made this task easy. With common timelines for reporting under the ETF, this may help rectify this issue. However, the prospective two to three-year time lag from when finance is delivered to the reporting of that finance remains a challenge to be able to adjust support to ensure finance addresses needs effectively.

342. Evidence on meaningful mitigation action can be gleaned by NAMAs, BURs, NDCs and other reports submitted by developing countries insofar as intent to reduce emissions. However, any actual reduction in emissions may be attributed to several other factors including growth deceleration and other events. This leads to questions around the ways and means to link finance delivered as part of the goal and with transparency on implementation on meaningful mitigation actions.

Annex A.1: Financial support provided by Annex II Parties to developing countries, 2011–2020, as reported in their BRs (billions of USD)

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

Notes: Data as of 8 September 2022. ^a Sum of mitigation, adaptation, cross-cutting and other climate finance provided via bilateral, multilateral, regional and other channels. ^b Support provided to multilateral and bilateral institutions that Parties do not identify as climate specific. ^c Data for 2015 and 2016 are updated to data received by November 2021 and therefore differ from data previously published in the third and fourth BAs and in the compilation and synthesis of third biennial reports. ^d In its BR4, the EU reported climate-specific finance related to the EIB under multilateral channels and in its BR1–3 under bilateral, regional and other channels. ^e In 2017, a further USD 44 million in climate-specific finance and USD 22 million in core-general funding was voluntarily reported by other Annex I Parties, resulting in grand total of USD 48.89 billion. In 2018 a further USD 79 million in climate-specific finance and USD 58 million in core-general funding was voluntarily reported by other Annex I Parties upon request of SCF. Subject to change upon the final data officially submitted as part of the fifth biennial reports. ^f Preliminary data received from Annex II Parties for 2019 and 2020 compiled in the fifth BA. BA 2014, 2016 and 2018 for the years 2011–2016. ^g Preliminary data.

Source: UNFCCC, 2022a, Fifth BA.

UNFCCC
Standing Committee on Finance

Home
112

Report on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency of implementation

Annex A.2: Climate finance commitments from MDBs own resources that are attributable to developed country Parties (billions of USD)

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

Notes: ^a Commitments of MDB resources to Annex I Parties, in particular EU member states. See previous BAs for details on years before 2019. ^b For paid-in capital contributions, both historical and recent contributions are taken into account. For institutions raising additional funds from the capital markets, callable capital, consisting of on-call capital which shareholders have committed to provide in exceptional circumstances, supports the ability to raise funds. For callable capital, only shareholders with credit ratings of A or above are taken into account and such capital is weighted at 10 per cent of total attribution compared to 90 per cent for paid-in capital. ^c For 2013–2016, developed countries are classified as Annex II Parties plus Czechia, Poland, Slovakia and Slovenia, and developing countries as non-Annex I Parties and/or the OECD DAC list of ODA-eligible recipients (see annex A). For 2017–2020, developed countries are classified as Annex II Parties, EU member states, Lichtenstein and Monaco, and developing countries as non-Annex I Parties and/or the DAC list of ODA recipients for 2018. ^d For 2019–2020, the proportion of each MDBs own resources to total climate finance in Table 4 in AIDB et al 2020, 2021 (both developed and developing countries) is applied to the total for each MDBs climate finance to emerging economies and developing countries (Figure A F1 in AIDB et al 2020, 2021).

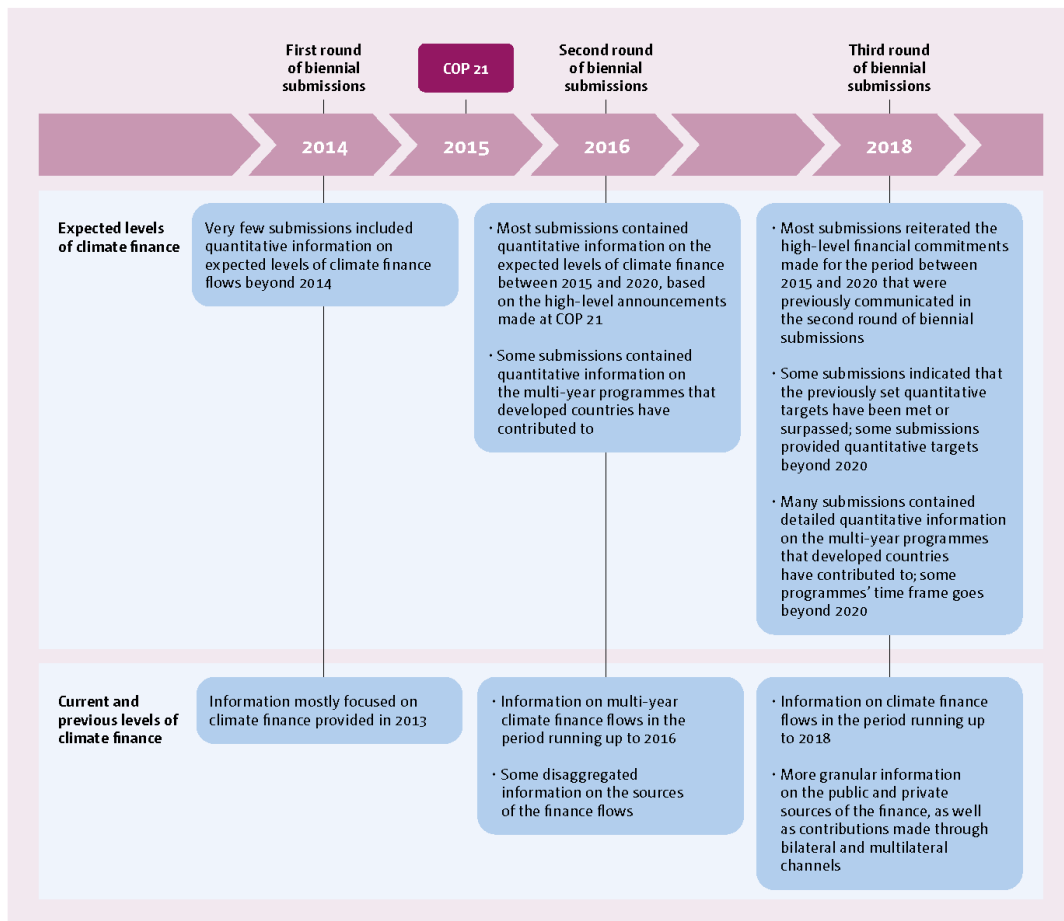
Source: UNFCCC, 2022a, Fifth BA.

UNFCCC
Standing Committee on Finance

Home
113

Report on progress towards achieving the goal of mobilizing jointly USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency of implementation

Annex B: Overview of information provided by developed country Parties on expected levels of climate finance mobilized from different sources



Source: Compilation and synthesis of biennial submissions from developed country Parties on their updated strategies and approaches for scaling up climate finance from 2014 to 2020.

Annex C: Number and cost of needs expressed in nationally determined contributions by region

Region	Number of expressed needs	Number of expressed needs with financial information (i.e. costed needs)	Costed needs based on available financial information (USD billion)
African States	1 529	874	2 459.56–2 460.56
Asia-Pacific States	1 677	630	3 180.39–3 250.39
Eastern European States	282	122	9.36
Latin American and Caribbean States	771	166	168.18–168.26
Western European and other States	15	–	–

Notes: Ranges of costs included where available.

Annex D: Comparison of estimates per channel and sources of information based on latest available year

Channel/ Data of latest available year	BA			OECD			Oxfam			India MOF		
	2020	Underlying data source	Notes	2020	Underlying data source	Notes	2020	Underlying data source	Notes	2020	Underlying data source	Notes
Bilateral finance	31.4	BRs (preliminary data)	Climate-specific finance reported through bilateral, regional and other channels	31.4	BRs (preliminary data)	Excludes coal- related financing and export credits	13.2- 16.5	OECD DAC	Author analysis of grant- equivalent amounts of bilateral climate finance with country averages of grant-equivalent applied, and with Rio marked 1 activities (significant) discounted to 30%-50%	-	-	Not included
Multilateral climate funds (including UNFCCC funds)	3.5	Fund reports, CFU	Commitments to projects in developing countries	3.5	OECD DAC	Only amounts attributable to developed countries	1.5- 1.7	OECD DAC	Author analysis from OECD DAC data, with grant-equivalent calculation of 49.8% to concessional loans	2.2	CFU	Cumulative disbursements of 17 multilateral climate funds as of June 2015
MDB climate finance	33.2	OECD	-	33.2	OECD DAC and comple- mentary data	Only amounts attributed to developed countries	4.3	OECD DAC	Author analysis of OECD DAC data, with grant-equivalent calculation of 49.8% to concessional loans	-	-	-
Subtotal multilateral climate finance	n/a		Flows across multilateral channels are not aggregated in the BA	36.9	OECD	Outflows of multilateral climate funds, MDB climate finance attributed and inflows to multilateral institutions where outflows unavailable (0.2)	5.8- 6.0	-	-	-	-	Unspecified

UNFCCC
Standing Committee on Finance

Home
116

Report on progress towards achieving the goal of mobilizing
jointly USD 100 billion per year to address the needs of
developing countries in the context of meaningful mitigation
actions and transparency of implementation

Annex D (continued): Comparison of estimates per channel and sources of information based on latest available year

Channel/ Data of latest available year	BA			OECD			Oxfam			India MOF		
	2020	Underlying data source	Notes	2020	Underlying data source	Notes	2020	Underlying data source	Notes	2020	Underlying data source	Notes
Officially supported export credits	n/a		BR data of some parties includes export credits, reported in bilateral finance	1.9	OECD Export Credit Group statistics and comple- mentary data	Climate-related export credits provided by 20 agencies of developed countries, and extraction of related complementary data provided in BRs and directly by 6 countries, mostly for RE	-	-	Not included	-	-	Not included
Mobilized private finance by bilateral institutions	5.1	OECD	Only amounts attributed to developed countries	5.1		Includes private finance mobilized by MDBs and climate funds, only amounts attributed to developed countries	-	-	Not included	-	-	Not included
Mobilized private finance through multilateral channels	8.0	OECD	Only amounts attributed to developed countries	8.0	OECD DAC and comple- mentary data	Only amounts attributable to developed countries	-	-	Not included	-	-	Not included
Subtotal Mobilized private finance	13.1	OECD	-	13.1	-	-	-	-	Not included	-	-	Not included
Other private finance flows	11.0	CPI	-	-	-	Not included	-	-	Not included	-	-	Not included
Total	n/a	-	No aggregate calculation	83.3	-	-	19 - 22.5	-	-	2.2	-	-

UNFCCC
Standing Committee on Finance

Home
117

Report on progress towards achieving the goal of mobilizing
jointly USD 100 billion per year to address the needs of
developing countries in the context of meaningful mitigation
actions and transparency of implementation

REFERENCES

2016. Roadmap to US\$100 Billion . Available at <https://unfccc.int/sites/default/files/resource/climate-finance-roadmap-to-us100-billion.pdf>.
- AfDB, ADB, AfIB, et al. 2020. 2019 Joint Report on Multilateral Development Banks Climate Finance. Available at <https://publications.iadb.org/publications/english/document/2019-Joint-Report-on-Multilateral-Development-Banks-Climate-Finance.pdf>.
- AfDB, ADB, AfIB, et al. 2021. 2020 Joint Report on Multilateral Development Banks Climate Finance. Available at <https://thedocs.worldbank.org/en/doc/9234bfc633439d0172f6a6eb8df1b881-0020012021/original/2020-Joint-MDB-report-on-climate-finance-Report-final-web.pdf>.
- AGF. 2010. Report of the Secretary-General's High-level Advisory Group on Climate Change Financing. Available at <https://www.cbd.int/financial/interdev/inno/un-climate-report.pdf>.
- Baarsch F, de Bruin K, Granadillos J, et al. 2015. Impacts of Low Aggregate INDCs Ambition: Research commissioned by Oxfam. Oxfam. Available at <https://policy-practice.oxfam.org/resources/impacts-of-low-aggregate-indcs-ambition-research-commissioned-by-oxfam-582427/>.
- Bhattacharya A, Calland R, Averchenkova A, et al. 2020. Delivering on the \$100 billion climate finance commitment and transforming climate finance. The Independent Expert Group on Climate Finance. Available at https://www.un.org/sites/un2.un.org/files/2020/12/100_billion_climate_finance_report.pdf.
- Bos J. and Thwaites J. 2021. A Breakdown of Developed Countries' Climate Finance Contributions Towards the \$100 Billion Goal. Technical Note. Washington, DC: World Resources Institute. Available at <https://www.wri.org/research/breakdown-developed-countries-public-climate-finance-contributions-towards-100-billion>.
- Bredenkamp H and Pattillo CA. 2010. Financing the Response to Climate Change. Available at <https://www.imf.org/external/pubs/cat/longres.aspx?sk=23725.0>.
- CFAN. 2020. Climate Finance Access Network: Overview. Available at https://rmi.org/wp-content/uploads/2019/12/CFAN_8.5x11-brochure.pdf.
- CFLI. 2021. Unlocking Private Climate Finance in Emerging Markets - Private Sector Considerations for Policymakers. CFLI. Available at [https://programme.unfccc.int/drive/FTC/files/U_Climate%20Finance/Projects/Policy%20and%20Analysis/O.LIBRARY/4.100bn/CFLI_Private-Sector-Considerations-for-Policymakers-April-2021%20\(1\).pdf](https://programme.unfccc.int/drive/FTC/files/U_Climate%20Finance/Projects/Policy%20and%20Analysis/O.LIBRARY/4.100bn/CFLI_Private-Sector-Considerations-for-Policymakers-April-2021%20(1).pdf).
- Chamon M d, Klok E, Thakoor VV, et al. 2022. Debt-for-Climate Swaps: Analysis, Design, and Implementation. Available at <https://www.imf.org/en/Publications/WP/Issues/2022/08/11/Debt-for-Climate-Swaps-Analysis-Design-and-Implementation-522184>.
- Chapagain D, Baarsch F, Schaeffer M, et al. 2020. Climate change adaptation costs in developing countries: insights from existing estimates. *Climate and Development*. 12(10): pp.934–942. Available at <https://doi.org/10.1080/17565529.2020.1711698>.
- Colenbrander S, Cao Y, Pettinotti L, et al. 2021. A fair share of climate finance: apportioning responsibility for the \$100 billion climate finance goal. Available at <https://odi.org/en/publications/a-fair-share-of-climate-finance-apportioning-responsibility-for-the-100-billion-climate-finance-goal/>.
- Colenbrander S, Pettinotti L and Cao Y. 2022. A fair share of climate finance? An appraisal of past performance, future pledges and prospective contributors. Available at <https://odi.org/en/publications/a-fair-share-of-climate-finance-an-appraisal-of-past-performance-future-pledges-and-prospective-contributors/>.
- COP26. 2021. Climate Finance Delivery Plan: Meeting the US\$100 Billion Goal. Available at https://programme.unfccc.int/drive/FTC/files/U_Climate%20Finance/Projects/Policy%20and%20Analysis/O.LIBRARY/4.100bn/COP26_2021_Climate-Finance-Delivery-Plan.pdf.
- CPI. 2019. Global Landscape of Climate Finance 2019. London: CPI. Available at <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2019/>.
- CPI. 2020. Updated View on the Global Landscape of Climate Finance 2019. San Francisco and London: CPI. Available at <https://www.climatepolicyinitiative.org/publication/updated-view-on-the-global-landscape-of-climate-finance-2019/>.
- Crippa M, Solazzo E, Guizzardi D, et al. 2021. Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food*. : pp.1–12. Available at <https://www.nature.com/articles/s43016-021-00225-9>.

Ellis C and Pillay K. 2017. Understanding 'bankability' and unlocking climate finance for climate compatible development. Available at https://cdkn.org/sites/default/files/files/CDKN_unlocking-climate-finance.pdf.

Hallegatte S, Rentschler J, Rozenberg J. 2019. Lifelines. The Resilient Infrastructure Opportunity. Sustainable Infrastructure. Washington, DC: World Bank. Available at <https://openknowledge.worldbank.org/handle/10986/31805>.

IEA. 2021. World Energy Outlook 2021. Paris: IEA. Available at <https://www.iea.org/reports/world-energy-outlook-2021>.

IEA. 2022. World Energy Investment 2022 Datafile. Available at <https://www.iea.org/data-and-statistics/data-product/world-energy-investment-2022-datafile>.

IPCC. 2014. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. CB Field, VR Barros, DJ Dokken, et al. (eds.). Cambridge and New York: Cambridge University Press. Available at <http://www.ipcc.ch/report/ar5/wg2>.

IPCC. 2022a. Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. H Pörtner, D Roberts, M Tignor, et al. (eds.). Cambridge, United Kingdom: Cambridge University Press. Available at <https://www.ipcc.ch/report/ar6/wg2/>.

IRENA. 2022a. World Energy Transitions Outlook 2022: 1.5°C Pathway. Abu Dhabi: IRENA. Available at <https://irena.org/publications/2022/Mar/World-Energy-Transitions-Outlook-2022>.

IPCC. 2022b. Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. P R Shukla, J Skea, R Slade, et al. (eds.). Cambridge and New York: Cambridge University Press. Available at <https://www.ipcc.ch/report/ar6/wg3/>.

IRENA 2022b. Renewable capacity and generation statistics. Abu Dhabi. IRENA. Available at <https://www.irena.org/Data/Downloads/Tools>.

Miller A, Swann S, Cheng S, et al. 2019. Driving Finance Today for the Climate Resilient Society of Tomorrow: for the Global Commission on Adaptation. UNEP FI and Global Commission on Adaptation. Available at <https://www.unepfi.org/wordpress/wp-content/uploads/2019/07/GCA-Adaptation-Finance.pdf>.

Ministry of Finance, India. 2015. Climate Change Finance, Analysis of a Recent OECD Report: Some Credible Facts Needed. India. Available at <https://archive.pib.gov.in/documents/rlink/2015/nov/p2015112901.pdf>.

NAMA Facility. 2022. Nama Facility. Available at <https://nama-facility.org/>.

OECD. 2015. Climate Finance in 2013-14 and the USD 100 billion Goal: A Report by the OECD in Collaboration with Climate Policy Initiative. OECD. Available at https://www.oecd-ilibrary.org/environment/climate-finance-in-2013-14-and-the-usd-100-billion-goal_9789264249424-en.

OECD. 2016. 2020 Projections of Climate Finance Towards the USD 100 Billion Goal: Technical Note. Climate Finance and the USD 100 Billion Goal. OECD. Available at https://www.oecd-ilibrary.org/environment/2020-projections-of-climate-finance-towards-the-usd-100-billion-goal_9789264274204-en.

OECD. 2020a. Climate Finance Provided and Mobilised by Developed Countries in 2013-18. Paris: OECD Publishing. Available at <https://www.oecd.org/environment/climate-finance-provided-and-mobilised-by-developed-countries-in-2013-18-f0773d55-en.htm>.

OECD. 2020b. Nature-based solutions for adapting to water-related climate risks. OECD Environment Policy Paper. Paris: OECD. Available at <https://www.oecd.org/environment/nature-based-solutions-for-adapting-to-water-related-climate-risks-2257873d-en.htm>.

OECD. 2022. Aggregate Trends of Climate Finance Provided and Mobilised by Developed Countries in 2013-2020. Available at <https://www.oecd.org/climate-change/finance-usd-100-billion-goal/>.

Oxfam. 2016. Climate Finance Shadow Report 2016 - Lifting the Lid on Progress Towards the \$100 Billion Commitment. Oxfam GB. Available at https://programme.unfccc.int/drive/FTC/files/U_Climate%20Finance/Projects/Policy%20and%20Analysis/0.LIBRARY/4.100bn/Oxfam_2016_100bn-climate-finance-shadow-report.pdf.

Oxfam. 2018. Climate Finance Shadow Report 2018: Assessing progress towards the \$100 billion commitment. Oxfam GB. Available at https://programme.unfccc.int/drive/FTC/files/U_Climate%20Finance/Projects/Policy%20and%20Analysis/0.LIBRARY/4.100bn/Oxfam_2018_100bn-climate-finance-shadow-report.pdf.

Oxfam. 2020. Climate Finance Shadow Report 2020: Assessing progress towards the \$100 billion commitment. Available at <https://www.oxfam.org/en/research/climate-finance-shadow-report-2020>.

- Oxfam. 2021. Oxfam's estimate on climate finance by 2025. Oxfam GB. Available at <https://www.oxfam.org/en/press-releases/poorer-nations-expected-face-75-billion-six-year-shortfall-climate-finance-oxfam>.
- Oxfam. 2022. Additional information to Oxfam's climate finance shadow report 2020. Available at <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621066/Additional%20information.pdf?sequence=10&isAllowed=y>.
- Race to Zero. 2021. Net Zero Financing Roadmaps. UNFCCC Race to Zero campaign. Available at https://programme.unfccc.int/drive/FTC/files/U_Climate%20Finance/Projects/Policy%20and%20Analysis/0.LIBRARY/4.100bn/NZFRs-Key-Messages.pdf.
- Rozenberg J and Fay M. 2019. Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet. Sustainable Infrastructure Series. The World Bank. Available at <https://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-1363-4>.
- Tucker B and De Angelis K. 2020. Still Digging: G20 governments continue to finance the climate crisis. Oil Change International and Friends of the Earth United States. Available at <https://priceofoil.org/content/uploads/2020/05/G20-Still-Digging.pdf>.
- Tucker B and De Angelis K. 2021. Past Last Call: G20 public finance institutions are still bankrolling fossil fuels. Oil Change International and Friends of the Earth United States. Available at <https://priceofoil.org/content/uploads/2021/10/Past-Last-Call-G20-Public-Finance-Report.pdf>.
- UNEP. 2010. The Emissions Gap Report 2010. Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2° C or 1.5°? Geneva: UNEP. Available at <http://www.unep.org/resources/emissions-gap-report-2010>.
- UNEP. 2011. Bridging the Emissions Gap. Nairobi: UNEP. Available at <https://shop.un.org/books/emissions-gap-rpt-2011-86268>.
- UNEP. 2012. The Emissions Gap Report 2012. Nairobi: UNEP. Available at https://backend.orbit.dtu.dk/ws/files/35965184/Emissions_Gap_Report_2012.pdf.
- UNEP. 2013. The Emissions Gap Report 2013. Nairobi: UNEP. Available at <https://unepdtu.org/project/un-environment-emissions-gap-report/>.
- UNEP. 2014. Emissions Gap Report 2014. Nairobi: UNEP. Available at <https://www.unep.org/resources/emissions-gap-report-2014>.
- UNEP. 2015. Emissions Gap Report 2015. Nairobi: UNEP. Available at <https://www.unep.org/resources/emissions-gap-report-2015>.
- UNEP. 2016. Emissions Gap Report 2016. Nairobi: UNEP. Available at <https://www.unep.org/resources/emissions-gap-report-2016>.
- UNEP. 2016. Private sector finance for adaptation. In: The Adaptation Finance Gap Report. Nairobi: UNEP, pp.31–36. Available at <https://www.die-gdi.de/en/others-publications/article/chapter-4-private-sector-finance-for-adaptation/>.
- UNEP. 2017. Emissions Gap Report 2017. Nairobi: UNEP. Available at <https://www.unenvironment.org/resources/emissions-gap-report-2017>.
- UNEP. 2018. Emissions Gap Report 2018. Nairobi: UNEP. Available at <https://www.unenvironment.org/resources/emissions-gap-report-2018>.
- UNEP. 2019a. Emissions Gap Report 10 year summary. Emissions Gap Report Series. Nairobi: United Nations Environment Programme. Available at <http://www.unep.org/resources/emissions-gap-report-10-year-summary>.
- UNEP. 2019b. Emissions Gap Report 2019. Nairobi: UNEP. Available at <https://www.unenvironment.org/resources/emissions-gap-report-2019>.
- UNEP. 2020. Emissions Gap Report 2020. Nairobi: UNEP. Available at <https://www.unenvironment.org/emissions-gap-report-2020>.
- UNEP. 2021. Adaptation Gap Report 2020. Nairobi: UNEP. Available at <http://www.unenvironment.org/resources/adaptation-gap-report-2020>.
- UNEP. 2021. Emissions Gap Report 2021. Nairobi: United Nations Environment Programme. Available at <https://www.unep.org/resources/emissions-gap-report-2021>.
- UNFCCC. 2017. In-session workshop on long-term climate finance in 2017. Bonn. UNFCCC. Available at <https://unfccc.int/resource/docs/2017/cop23/eng/04.pdf>.
- UNFCCC. 2021a. FCCC/CP/2021/6. In-session workshop on long-term climate finance in 2020*. Summary report by the secretariat. Bonn. UNFCCC. Available at https://unfccc.int/sites/default/files/resource/cp2021_06E.pdf.
- UNFCCC. 2021b. First biennial communications in accordance with Article 9, paragraph 5, of the Paris Agreement. Compilation and synthesis by the secretariat. Bonn. UNFCCC. Available at <https://unfccc.int/documents/278119>.

UNFCCC. 2021c. First report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement. Bonn: UNFCCC. Available at <https://unfccc.int/topics/climate-finance/workstreams/determination-of-the-needs-of-developing-country-parties/first-report-on-the-determination-of-the-needs-of-developing-country-parties-related-to-implementing>.

UNFCCC. 2021d. Fourth biennial assessment and overview of climate finance flows. Bonn: UNFCCC. Available at <https://unfccc.int/topics/climate-finance/resources/biennial-assessment-and-overview-of-climate-finance-flows>.

UNFCCC. 2022a. Fifth biennial assessment and overview of climate finance flows. Bonn: UNFCCC. Available at <https://unfccc.int/topics/climate-finance/resources/biennial-assessment-and-overview-of-climate-finance-flows>.

UNFCCC. 2022b. Secretariat GST synthesis report: Synthesis report for the technical assessment component of the first global stocktake: Synthesis report on the overall effect of Parties' NDCs and overall progress made by Parties towards the implementation of their NDCs, including the information referred to in Article 13, paragraph 7(b), of the Paris Agreement Bonn: UNFCCC. Available at <https://unfccc.int/documents/461517>.



FOR FURTHER INFORMATION CONTACT

Climate Finance subdivision
Means of Implementation division

United Nations Climate Change Secretariat (UNFCCC)
Platz der Vereinten Nationen 1
53113 Bonn, Germany

E-mail: standingcommittee@unfccc.int



United Nations
Framework Convention on
Climate Change