Framework Convention on
Climate Change

17 April 2023

Addendum to the synthesis report for the technical assessment component of the first global stocktake:

Synthesis report on the information identified in decision 19/CMA.1, paragraph 36 (d)

Prepared by the secretariat under the guidance of the co-facilitators of the technical dialogue of the first global stocktake

Abbreviations and acronyms

AF	Adaptation Fund
AR6	Sixth Assessment Report (IPCC)
BA	Biennial assessment
BR	biennial report
BUR	biennial update report
CFMCA	Coalition of Finance Ministers for Climate Action
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CO_2	carbon dioxide
CRVA	climate risk and vulnerability assessment
CTCN	Climate Technology Centre and Network
DAR	Direct air capture
DFI	Development Finance Institution
EMDEs	emerging market and developing economies;
ETF	Enhanced Transparency Framework
EU	European Union
GCF	Global Climate Fund
GEF	Global Environment Facility
GFANZ	Glasgow Financial Alliance for Net Zer
GHG	Greenhouse Gas
GST	Global Stocktake
IPCC	Intergovernmental Panel on Climate Change
LDCs	Least Developed Countries
LDCF	Least Developed Countries Fund
LT-LEDS	long-term low-emission development strategy(ies)
MDB	Multilateral development banks
MRV	Measurement, Reporting and Verification
NAMAs	Nationally Appropriate Mitigation Actions
NAPs	National Adaptation Plans
NDC	nationally determined contribution
NDEs	National Designated Entities
NDR	Nationally determined requirements
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
OECD	Organization for Economic Co-operation and Development
PCCB	Paris Committee on Capacity-building
SCF	Standing Committee on Finance
SCCF	Special Climate Change Fund
SIDS	Small Island Developing States
TCFD	Task Force on Climate-related Financial Disclosures
TEC	Technology Executive Committee
UNEP	United Nations Environment Programme
USD	United States Dollar

I. Introduction and overview

A. Mandate for the synthesis report and objective of the addendum to report 23(d)

1. By its decision 19CMA.1, paragraph 23(d), the CMA requested the secretariat, under the guidance of the co-facilitators, to prepare a synthesis report on the finance flows, including the information referred to in Article 2, paragraph 1(c), and means of implementation and support and mobilization and provision of support, including the information referred to in Article 9, paragraphs 4 and 6, Article 10, paragraph 6, Article 11, paragraph 3, and Article 13, in particular paragraphs 9 and 10, of the Paris Agreement. This should include information from the latest biennial assessment and overview of climate finance flows of the Standing Committee on Finance.

2. Ahead of the third and final meeting of the first technical dialogue of the first GST, taking place in June 2023, this addendum aims to complement the synthesis report by highlighting new developments that have taken place and information that has become available since April 2022, and synthesizing additional information that is particularly relevant to the final phase of the technical assessment and the consideration of outputs component.

B. Scope of work

3. The updated information is addendum to the publication of synthesis report[1] for the technical assessment component of the first global stocktake in April 2022. This addendum includes synthesis of information contained in long-term low emission development strategies on finance, technology development and transfer, capacity building and international cooperation.

4. This addendum also includes new information from the various sources with regards to finance, technology and capacity building in line with paragraph 36(d) of decision 19/CMA.1 since publication of the GST synthesis report.

5. With regards to updating information on finance, following sources from various other processes are drawn up for this addendum:

(a) Fifth (2022) Biennial Assessment and Overview of Climate Finance Flows

(b) 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

(c) Synthesis of views regarding ways to implement Article 2, paragraph 1(c), of the Paris Agreement

(d) Mapping of available information relevant to Article 2, paragraph 1(c), of the Paris Agreement, including its reference to Article 9 thereof

6. With regards to updating information on technology development and transfer, information was gathered from the report by the secretariat on the First periodic assessment of the effectiveness and adequacy of the support provided to the Technology Mechanism in supporting the implementation of the Paris Agreement on matters relating to technology development and transfer (FCCC/SBI/2022/13).

7. With regards to updating information on capacity building the following source is used:

[1] Available at: https://unfccc.int/documents/461992

(a) 2023 synthesis report on the implementation of the framework for capacity-building in developing countries.

II. Information on Finance, technology development and transfer, capacity-building in submissions by Parties on long-term low emission development strategies[2]

8. Most (85 per cent) LT-LEDS referred to financial needs for implementing LT-LEDS, with 26 per cent providing costed needs, 26 per cent describing finance needs qualitatively and 33 per cent providing general statements on needs. Some LT-LEDs identified funding sources for implementing LT-LEDS, such as domestic finance, international support and private finance. The submissions also provided information on efforts taken by the respective government to increase finance flows through economic policy measures, financing mechanisms or financial instruments, such as taxes, levies, fiscal incentives and carbon pricing mechanisms. Many (54 per cent) LT-LEDS stated the importance of making the financial flows consistent with a pathway towards low-emission and climate-resilient development, of which 21 per cent were from developing countries.

9. Many LT-LEDS reported strengthening of the Party's international cooperation to accelerate the deployment and application of cutting-edge, critical and disruptive technologies, including through joint planning and mainstreaming of technological innovation. The joint development of sustainable energy consumption technologies, including energy-saving and energy-efficiency technologies, delivers low-cost emission reduction measures with significant synergistic benefits in the medium and long term.

10. In general, LT-LEDS considered capacity-building as a cross-cutting issue that is the overarching enabler of adaptation and mitigation actions and commitments. In addition, the LT-LEDS highlighted the importance of capacity-building for facilitating technology development, access to climate finance, public engagement and transparent communication of information. Overall, LT-LEDS deemed capacity-building crucial to the implementation of the LT-LEDS operational strategy.

A. Finance

1. Information related to finance flows pursuant to Article 2, paragraph 1 (c) of the Paris Agreement

1. This section provides an update on the overview of information available on the long-term goal outlined in Article 2, paragraph 1(c), of the Paris Agreement of making finance flows consistent with a pathway towards low GHG emissions and climate-resilient development. As noted by the SCF (UNFCCC SCF 2022b), compared with the various target setting and alignment tools developed for achieving net zero and decarbonization ambitions, there are comparatively fewer private financial sector initiatives dedicated to increasing adaptation and resilience investments or to formulating adaptation targets and commitments. .

(a) Global climate finance flows

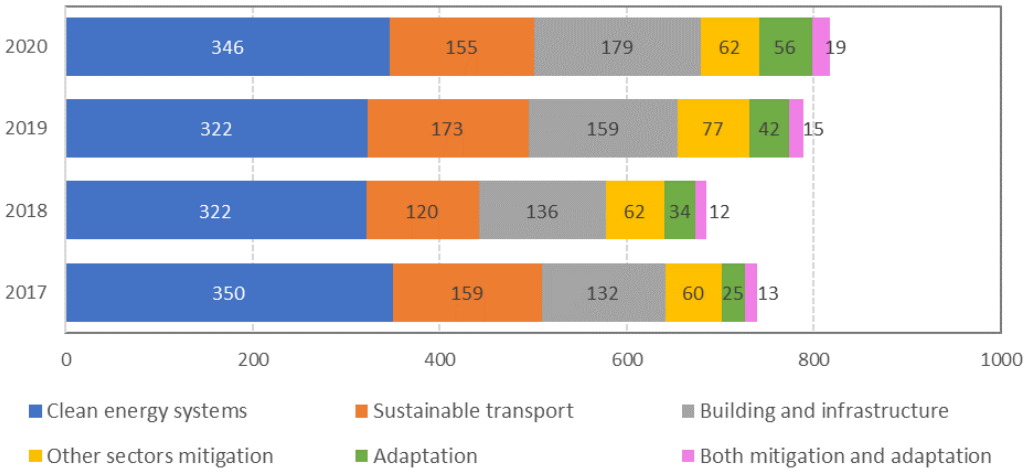
2. The Fifth Biennial Assessment and Overview of Climate Finance Flows by the UNFCCC SCF presents a comprehensive analysis of the state of global climate finance flows, climate finance trends, and their composition. It finds that global climate finance flows were 12 per cent higher in 2019–2020 than in 2017–2018,

[2] Available at: https://unfccc.int/sites/default/files/resource/cma_2022_08.pdf#page=33

reaching an annual average of USD 803 billion. Global climate finance estimates increased from USD 685 billion in 2018 to USD 789 billion in 2019 and USD 817 billion in 2020, for an annual average of USD 803 billion in 2019–2020. The increase was driven primarily by investments in the energy efficiency of buildings, sustainable transport investments, and adaptation finance. Figure 1 below provides a breakdown of global climate finance flows in 2015–2020 by sector.

Figure 1 **Global climate finance flows in 2015–2020**

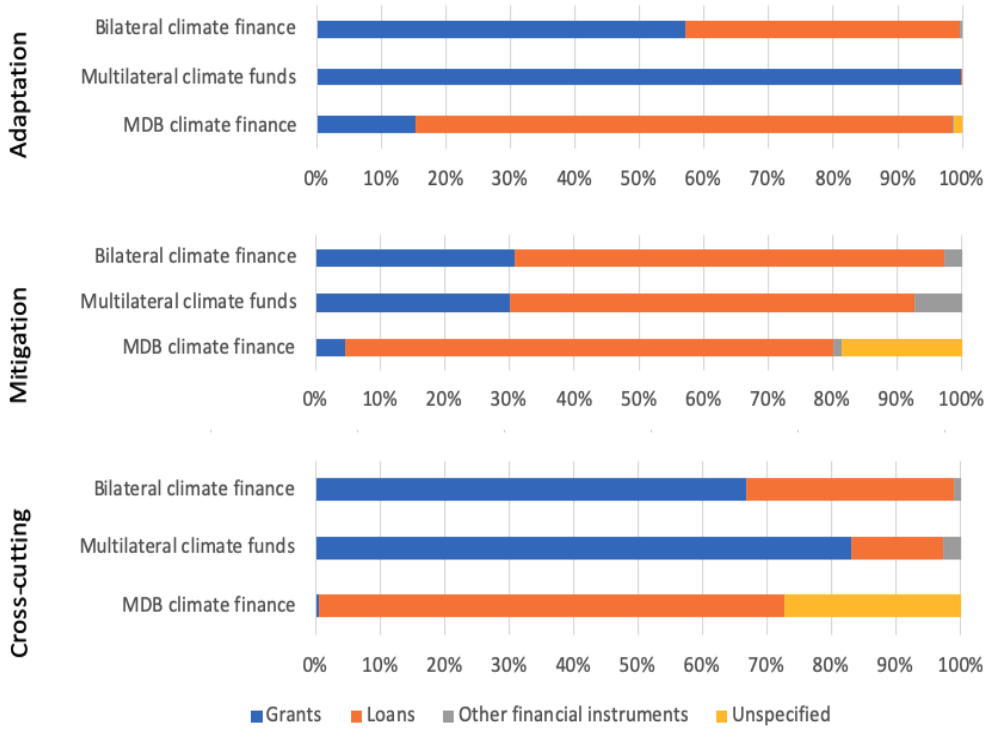
(Billions of United States dollars)



Source: UNFCCC SCF 2022a

3. Public adaptation finance is predominantly delivered through grants while public mitigation finance predominantly takes the form of loans. In 2019–2020, grants accounted for 57 and 99 per cent (USD 8.5 billion and USD 1.2 billion) of the face value of bilateral adaptation finance and of adaptation finance from multilateral climate funds respectively, compared with 64 and 95 per cent (USD 5.9 billion and USD 1.1 billion) respectively in 2017–2018. In 2019–2020, 15 per cent of adaptation finance flowing through the MDBs was grant-based (USD 2.1 billion) (see figure 2).

Figure 2 **Breakdown of climate finance by financial instrument, 2019–2020**



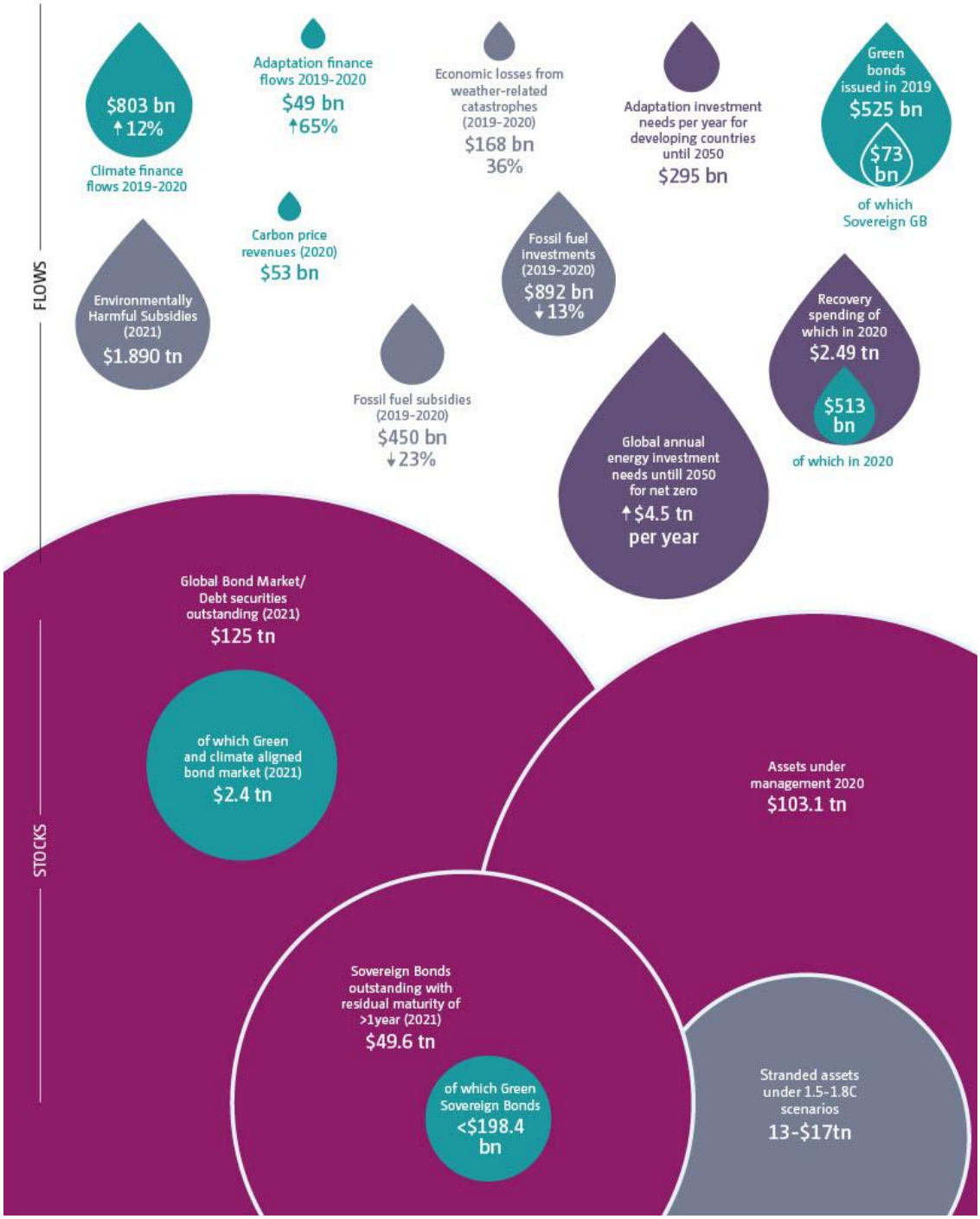
Source: UNFCCC SCF 2022a

(b) Information on consistency of finance flows

4. The fifth BA noted that a sole focus on positive climate finance flows will be insufficient to meet the overarching purpose and goals of the Paris Agreement. This does not mean that broader finance flows must all have explicit beneficial climate outcomes, but it does mean that they must integrate climate risks into decision-making and avoid increasing the likelihood of negative climate outcomes. The contribution of Working Group III to the IPCC Sixth Assessment Report (IPCC 2022) concluded that a significant proportion of overall finance flows and stocks have to be made consistent with the climate goals of the Paris Agreement, and highlighted the key role of capital reallocation in a global financial system, where sufficient liquidity is available to close global investment gaps.

5. Fossil fuel investments amounted globally to USD 892 billion annual average in 2019–2020, while fossil fuel subsidies amounted to USD 450 billion in 2019-2020. Stranded assets at risk under 1.5 to 1.8 scenarios amounted to USD 13 to USD 17 trillion (Hansen 2020). More can be done to ensure that finance flows are consistent with climate change objectives. Such efforts include the reform of fiscal policies, financial policies and regulations and the integration and management of climate risk for financial decision-making processes by private actors and the financial sector, with care taken in all circumstances to manage a just and equitable transition for all.

Figure 3 **Global climate finance in the context of broader finance flows, opportunities and costs**

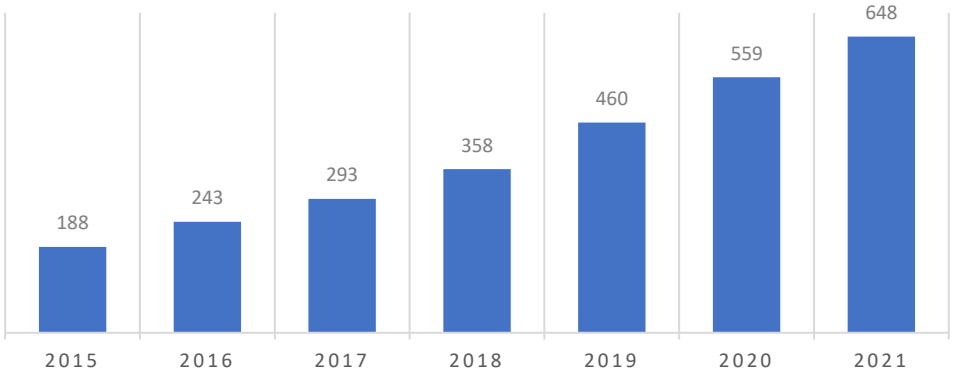


Source: UNFCCC SCF 2022a

(i) Information on government policy and regulations related to Article 2, paragraph 1(c), of the Paris Agreement

1. According to the SCF (2022b), there has been growth in the number of policies and regulations towards making finance flows consistent with the goals of the Paris Agreement. In 2021, there was a 16 per cent increase in the number of policy and regulatory measures for green finance, bringing the total to 648 measures registered in over 100 jurisdictions globally as per the Green Finance Measures Database. Of those, 37 per cent originate from developing and emerging economies and 63 per cent from developed countries. Notable examples include the establishment of the Regional Center for Sustainable Finance by Egypt's Financial Regulatory Authority, the initiation of China's emissions trading scheme, the implementation of the Australian Prudential Regulation Authority's Climate Vulnerability Assessment of the financial sector and the development of revised EU sustainability reporting standards through the European Financial Reporting Advisory Group.

Figure 4 **Growth in cumulative green finance policy and regulatory measures**



Source: UNFCCC SCF 2022b

2. Governments are increasingly active in devising domestic fiscal and budgetary practices and frameworks through which they seek to track and guide the scaling up of public and private finance flows that are considered to be green and in line with both the goals of the Paris Agreement and national policy priorities. Ongoing efforts by the Coalition of Finance Ministers for Climate Action include initiatives such as green or sustainable finance taxonomies, green budget tagging, domestic climate budget tagging systems, and sustainable finance strategies, as highlighted by the SCF.

(ii) Information on finance sector initiatives related to Article 2, paragraph 1(c), of the Paris Agreement

3. As outlined in SCF (2022b), there has been significant growth in existing initiatives and activities and the establishment of several new initiatives, in the financial sector with relevance to implementation of Article 2, paragraph 1(c), of the Paris Agreement. These include developments in the implementation of methodologies, approaches and tools.

4. The growth in the scope and coverage of private sector initiatives is illustrated in Figure 5 and described in SCF (2022b). Most notable initiatives include the Race to Zero and Race to Resilience campaigns led by the UNFCCC high-level champions, which has been actively mobilizing actors outside national governments to join the

Climate Ambition Alliance since its launch at COP 25. The cities, regions, businesses, investors and education institutions that take part in the campaigns collectively cover 120 countries, 25 per cent of global CO2 emissions and over 50 per cent of gross domestic product.

5. The United Nations backed Glasgow Financial Alliance for Net Zero (GFANZ) launched in April 2021, represents over 500 financial institutions with over USD 130 trillion assets under management through their participation in its sub-sectoral initiatives. These include the Net Zero Asset Owner Alliance; Net Zero Asset Managers initiative; Paris Aligned Investment Initiative; Net-Zero Insurance Alliance; Net-Zero Banking Alliance; Net Zero Financial Service Providers Alliance and the Net Zero Investment Consultants Initiative.

6. Several initiatives under the Race to Resilience campaign interlink with ambition under Article 2, paragraph 1(c), of the Paris Agreement. These are private sector led or multi-stakeholder platforms dedicated to insurance and other financial instruments that address climate and disaster risk management and reduction, with some fostering financial sector activity or capacity-building for climate resilience in the infrastructure, buildings or agriculture sectors specifically. Initiatives identified as such include the InsuResilience Global Partnership; the Insurance Development Forum; the ARISE Private Sector Alliance for Disaster Resilient Societies; the International Coalition for Sustainable Infrastructure; the Scale for Resilience; the Coalition for Climate Resilience Investment and the Munich Climate Insurance Initiative.

7. Private sector corporations and financial institutions increasingly adopt climate-related financial disclosures to report on climate risks and opportunities in the financial sector. The International Sustainability Standards Board was created in November 2021 by the International Financial Reporting Standards Foundation with the intention of providing global guidelines for sustainability-related disclosure standards, in addition to those of the well-established International Accounting Standards Board focusing on financial disclosures. New climate-related financial disclosure regulations issued or are in the process of development within national and regional jurisdictions include, among others, Australia; Brazil; Canada; EU; Hong Kong, China; New Zealand; Switzerland; the United Kingdom of Great Britain and Northern Ireland; and the United States of America.

8. The TCFD under the Financial Stability Board reports that, as at February 2022, 3,113 entities with a combined market capitalization of USD 29 trillion, including financial firms responsible for assets of USD 209 trillion, had indicated support for the TCFD set of voluntary disclosure guidelines and metrics. Between October 2021 and June 2022, about 500 additional companies have declared support for them. The recommendations of the TCFD have been developed further over the course of 2021 and 2022, and additional guidance on metrics, targets and transition plans and revised guidance on implementation were published (UNFCCC SCF 2022b).

Figure 5 **Financial sector initiatives related to sustainability or climate action**

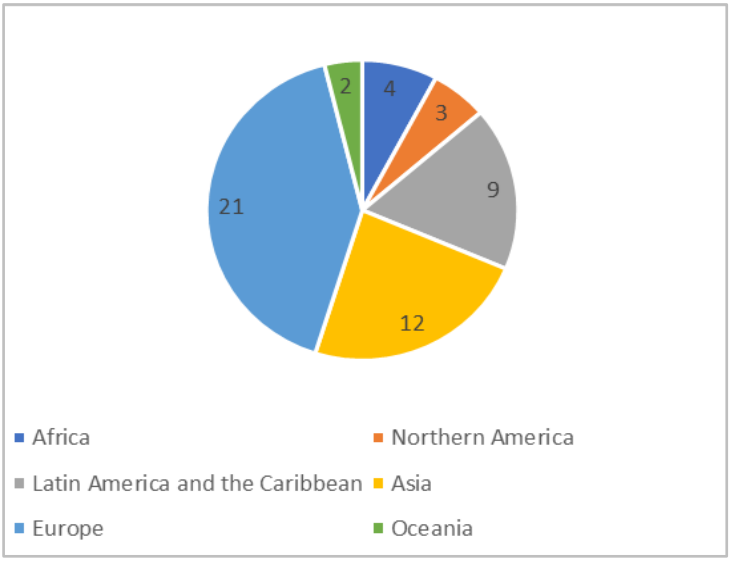
Source: UNFCCC SCF 2022b

9. With regard to public sector initiatives, the Coalition of Finance Ministers for Climate Action has grown its membership over time to 72 countries, with 11 countries, including Japan and the United States, joining in the year before COP 26, and an additional 7 countries joining since November 2021. On the basis of the six Helsinki Principles, the Coalition recognizes the important role of finance ministries in addressing the challenges arising from climate change and aims to foster collective action through supporting countries to mobilize and align the finance needed to implement their national climate action plans, establish best practices (such as climate budgeting and strategies) for green investment and procurement, and factor climate risks and vulnerabilities into economic planning.

10. The membership of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) considerably increased between May 2020 and May 2022: from 66 members and 12 observers to 114 members and 18 observers. In 2019, it defined six principal recommendations for central banks, supervisors, policymakers and financial institutions to enhance their role in the greening of the financial system and the management of climate and environment-related risks. NGFS published a variety of research outputs and methodologies in 2020–2022 based on these principles, including the second set of NGFS climate scenarios (June 2021), a report on supervisory practices and the use of climate scenarios (October 2021), a guide to climate-related disclosures for central banks (December 2021), a report on enhancing market transparency in green and transition finance (April 2022), updates on existing analyses and practices for climate-related risk differentials and credit ratings (May 2022) and a report on bridging data gaps (July 2022) as cited by the SCF (UNFCCC SCF 2022b).

11. In terms of geographical scope of private and public finance initiatives, member institutions based in 51 countries are represented across all initiatives, with Net-Zero Banking Alliance having the most diverse representation at 41 countries. In contrast, the Net Zero Investment Consultants Initiative includes representation from only three countries in North America and Europe. Only one country, the United Kingdom, is represented across all eight initiatives, while most countries with multiple coverage are in Europe and North America. Of the 51 countries represented, 21 countries are in Europe, 12 in Asia, 9 in Latin America and the Caribbean, 3 in North America, 4 in Africa and 2 in Oceania. The SCF's mapping demonstrates that the eight initiatives collectively have a footprint in every world region, but that many initiatives include actors whose headquarters are concentrated in Europe and North America.

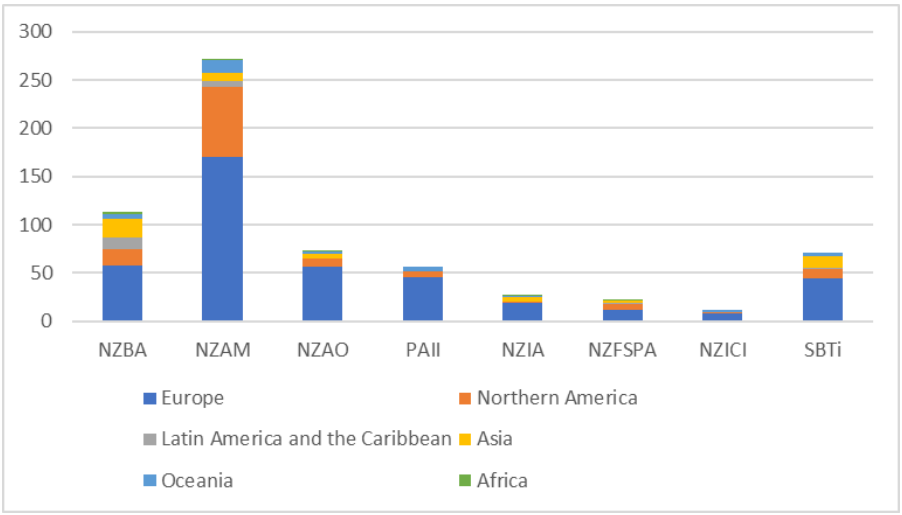
Figure 6 **Representation of countries, by region, in private finance initiatives, as at July 2022**



Source: UNFCCC SCF 2022b

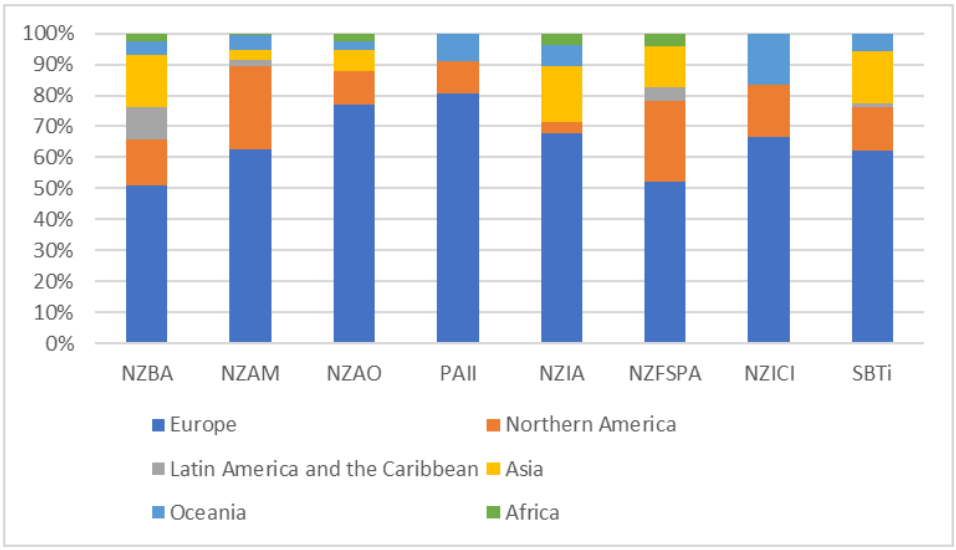
12. The analysis of the number of members or signatories in all initiatives from different regions and subregions undertaken as part of the mapping of depth of country and regional representation by the SCF indicates that only the Net Zero Banking Alliance and the Net Zero Asset Managers initiative have a global presence in all regions. Significant potential exists to include a broader representation of countries in Asia, Africa, and Latin America and the Caribbean, particularly for the Paris Aligned Investment Initiative and Net Zero Investment Consultants Initiative, for which these regions were not represented as at July 2022. Figure shows the regional composition of all eight initiatives, and **Error! Reference source not found.** shows the share of regional composition.

Figure 7 **Regional composition (number) of private finance initiatives, as at July 2022**



Source: UNFCCC SCF 2022b

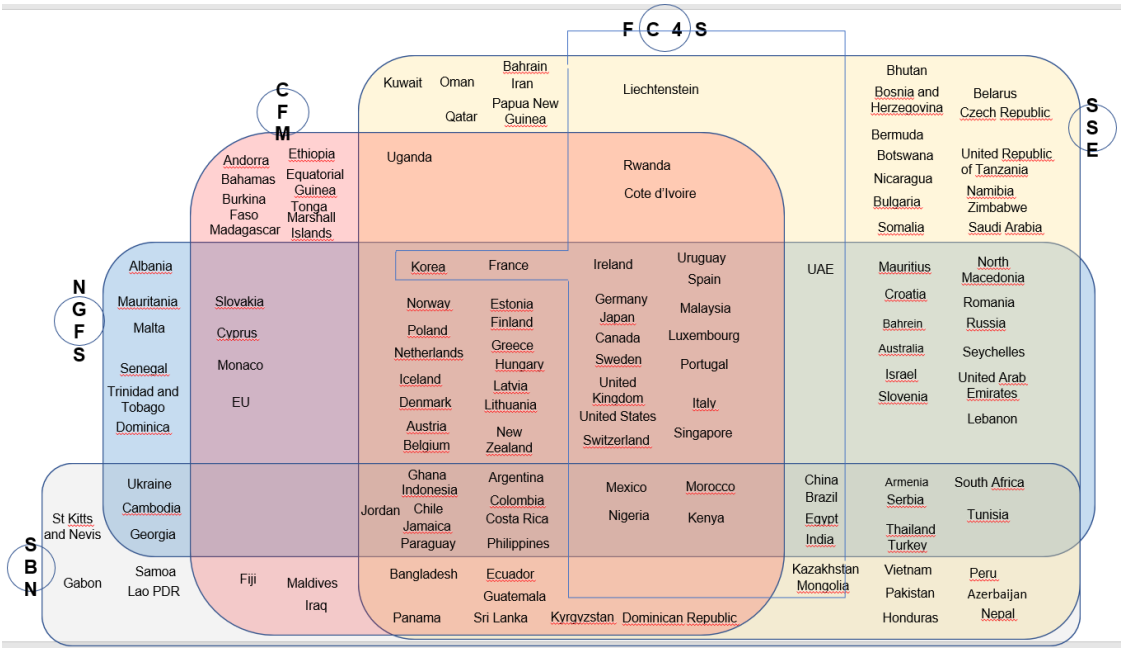
Figure 8 **Regional composition (share) of private finance initiatives, as at July 2022**



Source: UNFCCC SCF 2022b

13. An increasingly broad country representation in initiatives that work towards the goal of Article 2, paragraph 1(c), encompassing public finance actors, regulators and financial centres, was noted by the SCF. The country representation of five such initiatives, namely the Coalition of Finance Ministers for Climate Action, Network of Central Banks and Supervisors for Greening the Financial System, Sustainable Banking Network, United Nations Sustainable Stock Exchanges Initiative and the United Nations Development Programme Financial Centres for Sustainability is shown in **Error! Reference source not found.**.

Figure 9 **Country representation overlaps of five public sustainable finance initiatives, as at July 2022**



Source: UNFCCC SCF 2022b

(iii) Information on the views of Parties and non-Party stakeholders on ways to achieve the goal outlined in Article 2, paragraph 1(c), of the Paris Agreement

14. The SCF synthesis of views submitted upon the request of CMA3 on ways to achieve Article 2, paragraph 1(c), of the Paris Agreement including options for approaches and guidelines for implementation (UNFCCC SCF 2022c), points towards several convergences and divergences with respect to the matter. Almost all Parties noted in their submissions the absence of an agreed definition or common understanding of the scope of Article. The relevance of public and private, and domestic and international finance flows was recognized by almost all Parties, which also acknowledged the large scale of finance involved in achieving the goal articulated in Article 2, paragraph 1(c). Almost all Parties made a reference to the relationship between Article 2, paragraph 1(c), and Article 9 of the Paris Agreement on the provision and mobilization of financial support to developing countries.

15. Parties' views differed regarding the respective roles of public and private actors in contributing to the achievement of the goal, as well as whether these roles are different in developed and developing country Parties.

16. A number of options, focus areas and principles related to further operationalizing Article 2, paragraph 1(c), were identified in the submissions, including establishment of a new dedicated and separate space for discussing this matter under the intergovernmental process; identification of potential elements for implementation, consideration of the principles embedded in the Paris Agreement and the wider UNFCCC process, formulation of guiding principles or a reporting framework for tracking progress, the role of the SCF, as well as implementation of a structured approach to engage non-Party stakeholders.

17. In the submissions, potential linkages with other relevant Paris Agreement processes, including how further work may contribute to the ad hoc work programme on the new collective quantified goal on climate finance and assessment of collective progress through the global stocktake, were identified.

18. Many Parties identified policies, approaches and methodologies for implementing Article 2, paragraph 1(c), including those related to fiscal, macroeconomic and regulatory policy levers and incentives, financial instruments, voluntary standards and orientation of investments.

5. Summary

19. As noted above, understanding relating to the scope of Article 2, paragraph 1(c), of the Paris Agreement varies among Party and non-Party stakeholders. The information in this section reflects the action areas and interpretations of actors which they consider as relevant to Article 2, paragraph 1(c). An overview of efforts towards as well as the challenges and opportunities identified from the ongoing work cited as being relevant to implementing Article 2, paragraph 1(c) is captured in **Error! Reference source not found.**, drawing from the information reviewed in the mapping as well as studies that have analysed Article 2, paragraph 1(c), from diverse perspectives, such as those of regions, countries, and public and private sector actors.

Table 1 **Reported efforts, possible challenges and opportunities identified in implementing Article 2, paragraph 1(c), of the Paris Agreement**

Efforts	*Possible challenges*	*Possible opportunities*
Part 1: consistency of financial flows		
Scaling up of sustainable investment markets, including green bonds Integration of climate considerations into the financial sector as a whole	Continuing carbon intensity of current global finance flows	Scaled-up mobilization of climate-related finance flows, including to support just transition in developing and developed countries

Efforts	*Possible challenges*	*Possible opportunities*
Scaling up of global renewable energy capacities Maturity of financial markets for green technologies	Dependency on emission-intensive activities of economies and public budgets	Diversification of economies and national accounts, offering opportunities for building institutional, technological and human capacities for sustainable development
Development of green public financial management frameworks, including domestic green budgeting systems and taxonomies	Lack of climate-related domestic MRV systems for finance flows	Improved domestic public expenditure tracking Identification of climate-related investment needs at the national level Effective implementation and enhancement of transparency reporting under the Convention and the Paris Agreement
Emerging just transition frameworks	Lack of low GHG emission transition pathways that take into account development needs (poverty eradication, energy access and security, food and water security, etc.) while ensuring just transition	Sustainable and climate-resilient development pathways
Part 2: alignment of financial sector portfolios		
Paris alignment commitments, net zero targets and portfolio alignment methodologies Public sector and financial supervisory activities, including through CFMCA, NGFS and others	Lack of established standards and approaches, with greenwashing risks and limited methods to assess alignment of flows with national priorities and climate action plans	Global understanding of climate consistency of finance flows Prevention of greenwashing Paris alignment of national climate action plans and sectoral pathways
Real-economy commitments to net zero targets, including through SBTi, TPI, Climate Action 100+ and others	Difficulties in assessing real-economy impacts for decarbonization and climate resilience	Increased attention on climate-resilient and low GHG emission investments
Improved transparency on climate-related financial disclosures Geographical data initiatives	Lack of granular climate-related data for transition risk assessment (at the country, portfolio, entity and asset level)	Increased transparency and improved evaluation of climate-related impacts and risks at the portfolio, entity and asset level Improved micro- and macrolevel financial system stability
Green and sustainability-linked bonds issuance in developing markets	Underdeveloped financial sector, in particular private markets, in many developing countries Low relative level of resources (, capital, human) and institutional capacity among real-economy private sector entities in developing countries for climate mainstreaming and data provision as compared with developed countries	Financial market development and climate-related capacity-building
Part 3: physical climate resilience		

Efforts	*Possible challenges*	*Possible opportunities*
Emerging transparency on climate-related financial disclosures	Lack of granular climate-related data and methodologies for physical risk assessment (at the country, portfolio, entity and asset level)	Increased transparency and improved evaluation of climate-related impacts and risks
Geographical data initiatives		Improved financial system stability
Recognition of physical climate-related risks and exposure in the financial sector and development of risk management approaches	Limitations in the financial sector's risk management approach to mitigating physical climate risks on the ground	Increased adaptation and resilience investments
		Formulation of adaptation plans
Race to Resilience campaign with participation of financial institutions		Mainstreaming of CRVA

Source: UNFCCC SCF 2022b

2. Information on provision of means of implementation and mobilization of support

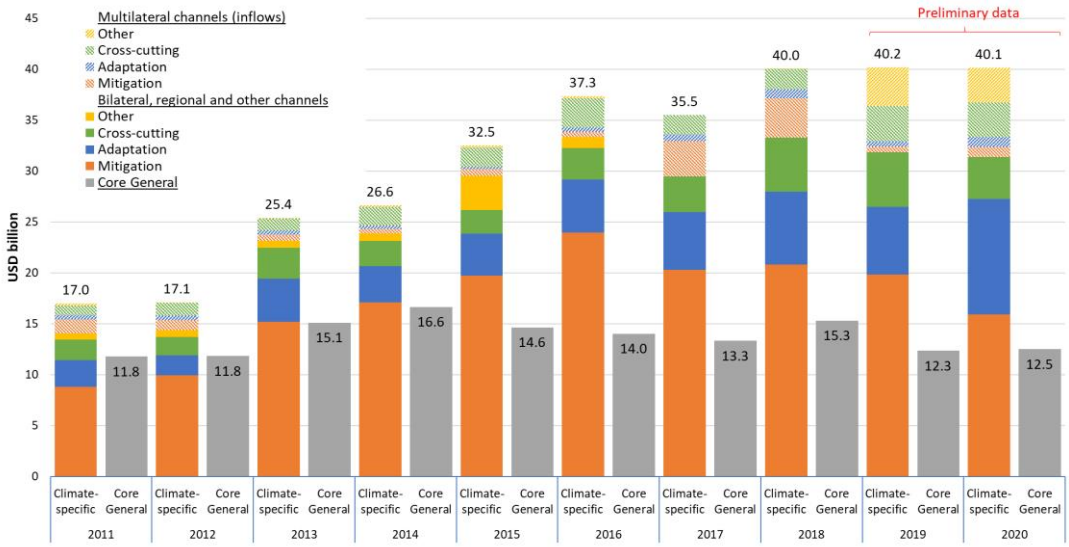
(a) Climate finance flows from developed to developing countries

(i) Biennial reports

20. According to the UNFCCC Standing Committee on Finance in its Fifth Biennial Assessment Report, based on preliminary data, climate-specific financial support reached an annual average of USD 40.1 billion in 2019–2020, an increase of 6 per cent on the 2017-2018 biennium (UNFCCC SCF 2022a). Climate-specific finance delivered through bilateral, regional and other channels represented 79 per cent of the total climate-specific finance with finance delivered through multilateral channels, 21 per cent, consisting generally of contributions or inflows to multilateral climate funds and multilateral financial institutions.

21. The share of adaptation finance of climate specific financial support through bilateral channels increased from 21 per cent on average in 2017–2018 to 28 per cent on average in 2019–2020, particularly due to significant increases in 2020 flows. In the 2019-2020 period, adaptation finance through bilateral, regional and other channels grew 40 per cent while mitigation finance decreased by 13 per cent.

Figure 10
Climate-specific finance and core general funding provided by Parties included in Annex II to the Convention to developing countries, 2011–2018, as reported in their biennial reports
(Billions of USD)



Source: UNFCCC SCF 2022a

(ii) Multilateral climate funds

22. The fifth BA reports the total commitment of USD 2.9 billion in 2019 and USD 3.5 billion in 2020 from the multilateral climate funds to climate projects in developing countries, including the UNFCCC funds. The annual average (USD 3.2 billion) represents an increase of 21 per cent over the 2017–2018 average.

23. GCF in its initial resource mobilization period conducted in 2014, received announced pledges of USD 10.3 billion from 45 countries, 3 regions and 1 city with USD 8.3 billion confirmed as of 31 July 2022, as highlighted by the SCF. In the first replenishment conducted in 2019 for the programming period between 2020 and 2023, the GCF received USD 10 billion in announced pledges from 32 countries and

2 regions, a decline of 3 per cent from the IRM. As of 31 July 2022, USD 9.87 billion has been confirmed, an increase of 19 per cent of confirmed pledges from the IRM. The second GCF replenishment will conclude in 2023.

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

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

(iii) Multilateral development banks

26. The fifth BA reports that MDBs committed USD 46.4 billion and USD 45.4 billion in climate finance in developing and emerging economies in 2019 and 2020. The annual average of USD 45.9 billion represents a 17 per cent increase compared to 2017-2018. The climate finance flow using two different approaches (1. Based on ownership shares held by developed countries in each MDB and 2. Based on shared of paid-in capital and callable capital of each MDB) is calculated as USD 29.3 – 30.5 billion in 2019 and USD 28.2-33.2 billion 2020.

(iv) Private climate finance mobilized

27. The SCF highlights that data on private climate finance flows to developing countries remain challenging to compile and assess. There is a methodological difference between measuring private finance for climate action in general and measuring climate finance mobilized through public interventions. With existing methodologies and approaches, tracking private finance mobilized by technical assistance or policy interventions is difficult. Further, data sources often do not specify whether private funds are sourced from private sector entities in developed or developing countries and whether these funds are received by public or private sector entities from developed or developing countries. OECD estimates that private climate finance mobilized by developed countries through bilateral and multilateral channels amounted to USD14.4 billion and USD13.1 billion in 2019 and 2020 respectively (UNFCCC SCF 2022a). The annual average of USD13.8 billion represents a 6 per cent decrease compared with the annual average of USD14.6 billion in 2017–2018.Thematic distribution of climate finance from developed to developing countries through bilateral and multilateral channels, including information on financial instruments

28. The fifth BA reports that more public finance flows from developed to developing countries are for mitigation than for adaptation, yet adaptation finance has grown significantly through bilateral channels and MDBs. In 2019–2020, on average, mitigation had a 57 per cent share of bilateral climate finance, a 37 per cent share of multilateral climate fund climate finance and a 62 per cent share of MDB climate finance, while adaptation had corresponding shares of 28, 19 and 36 per cent. Since 2017–2018, adaptation finance from bilateral channels has grown by 39 per cent and from MDBs by 48 per cent, while adaptation finance from multilateral climate funds has remained constant. The share of public climate finance flows contributing to both

adaptation and mitigation from multilateral climate funds rose to 35 per cent in 2019–2020 from 27 per cent in 2017–2018.

29. Public adaptation finance is predominantly delivered through grants while public mitigation finance predominantly takes the form of loans. In 2019–2020, grants accounted for 57 and 99 per cent of the face value of bilateral adaptation finance and of adaptation finance from multilateral climate funds respectively, compared with 64 and 95 per cent respectively in 2017–2018. In 2019–2020, 15 per cent of adaptation finance flowing through the MDBs was grant-based (USD 2.1 billion). Mitigation finance remains less grant-based in nature, with 31 per cent of bilateral flows, 30 per cent of multilateral climate fund approvals and less than 5 per cent of MDB investments taking the form of grants (UNFCCC SCF 2022a).

Table 2 **Characteristics of international public climate finance flows in 2019-2020 by channel, theme and financial instrument.**

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

Note: All values based on approvals and commitments. Abbreviations: MDB = multilateral development bank.

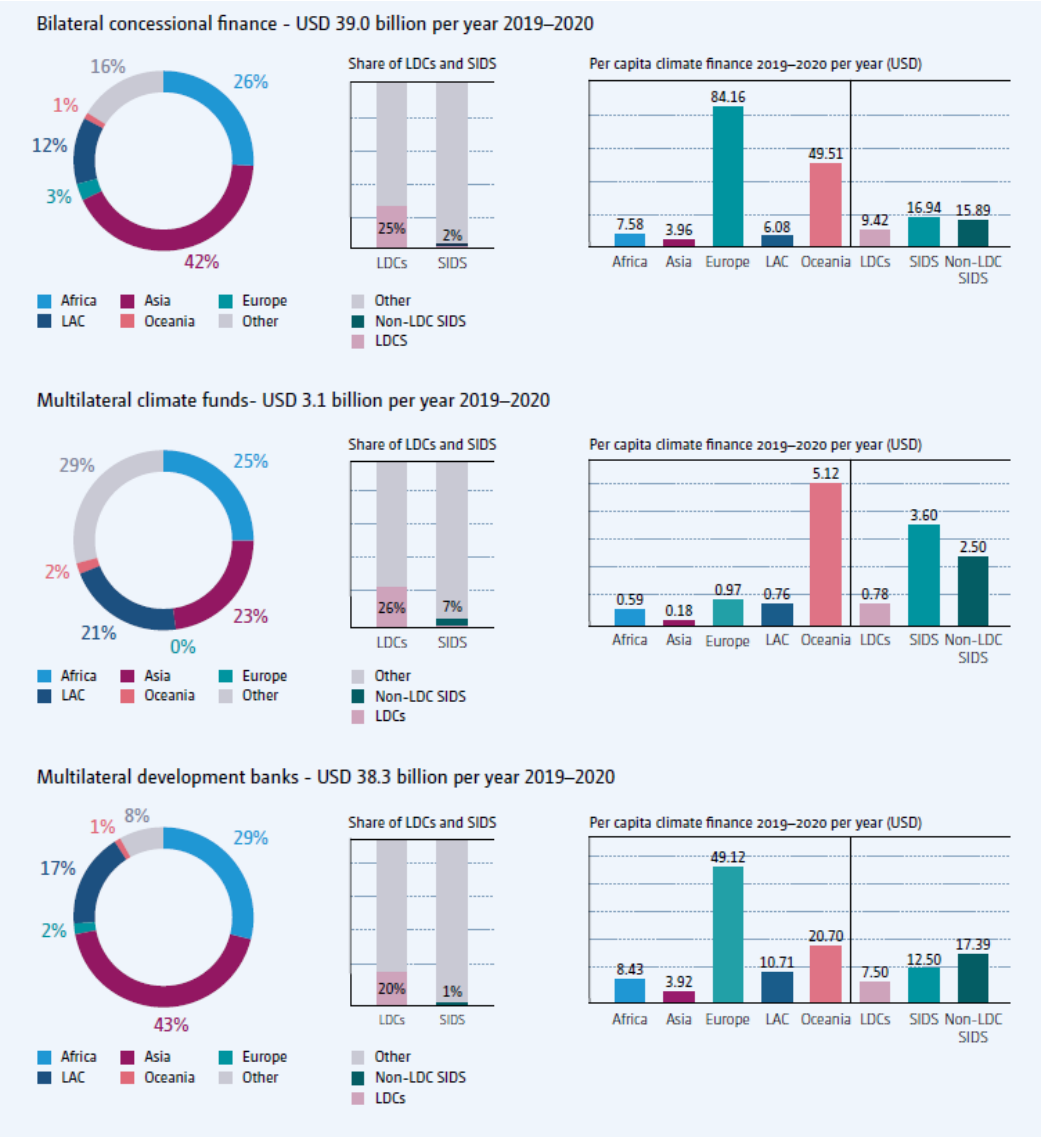
Source: UNFCCC SCF 2022a

Geographical distribution of flows from developed to developing countries

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

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

Figure 11 **Geographical distribution of climate finance by volume and on a per capita basis in 2019-2020**



Source: UNFCCC SCF 2022a

(b) Progress towards jointly mobilizing finance flows towards the goal of USD 100 billion

It is widely accepted, and was noted by Parties in the Glasgow Climate Pact, that the goal of developed country Parties to mobilize jointly USD 100 billion per year by 2020 has not been achieved in 2020. Since then, the SCF cites from OECD that mobilization in 2020 amounted to USD 83.3 billion in total, 16.7 per cent short of the goal (UNFCCC SCF 2022d). Information from bottom up needs assessments from developing country Parties highlight the need to in mobilizing additional climate finance to support efforts to pursue ambitious adaptation and mitigation pathways.

Information on trends in growth or declines of finance flows as provided by the SCF in its progress report towards the goal of USD 100 billion are outlined below.

(i) Bilateral finance

3. 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 (USD 31.4billion in 2020).

4. 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;

5. 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 from 2013-2020 (USD 31.4billion in 2020). The share of bilateral climate finance in the overall amounts reduced from 48 per cent in 2016 to 38 per cent in 2020;

6. 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.

(ii) Multilateral finance including multilateral climate funds and MDBs:

7. 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, 3.5billion in 2020). 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.

8. 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;

9. In the OECD report series, multilateral public climate finance attributable to developed countries reached USD 36.9 billion in 2020, compared to USD 15.5 billion in 2013. The share of multilateral public climate finance in the OECD's overall aggregate estimate grew from 32 per cent in 2016 to 44 per cent in 2020 mostly driven by MDBs and multilateral climate funds.

10. 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 estimated aggregate amount of USD 19-22.5 billion.

11. 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. This amount represents overall outflows from MDBs and therefore is not attributed to developed countries.

(iii) Total public finance:

12. 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, 68.3bn 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.

13. 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 (19-22.5bn in 2017/2018).

(iv) Export credits:

14. 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, 1.9bn in 2020. This has consistently represented between 2 to 4 per cent since 2016.

(v) Mobilized private climate finance:

15. 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, 13.1billon in 2020). 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.

16. 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.

17. 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

18. There is no UNFCCC estimate of total climate finance towards the goal. Estimates of aggregate climate finance towards the goal produced by others show the goal was not met in 2020. The OECD report series total aggregates have grown by 42 per cent since 2016 to 83.3billion in 2020.

19. Comparing aggregate 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.

Trends on how financing mobilized is linked to addressing needs

20. The needs of developing countries to meet the goals of the Paris Agreement remains significant, as highlight by the SCF (UNFCCC SCF, 2022d). On an annual basis, the IEA estimates annual investment of USD 1.36 trillion in the energy sector of emerging markets and developing economies as well as China from 2021-2025 in its sustainable development scenario (50 per cent probability of limiting temperature increase to 1.65C). The Race to Zero/GFANZ net zero financing roadmaps estimate annual mitigation 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.

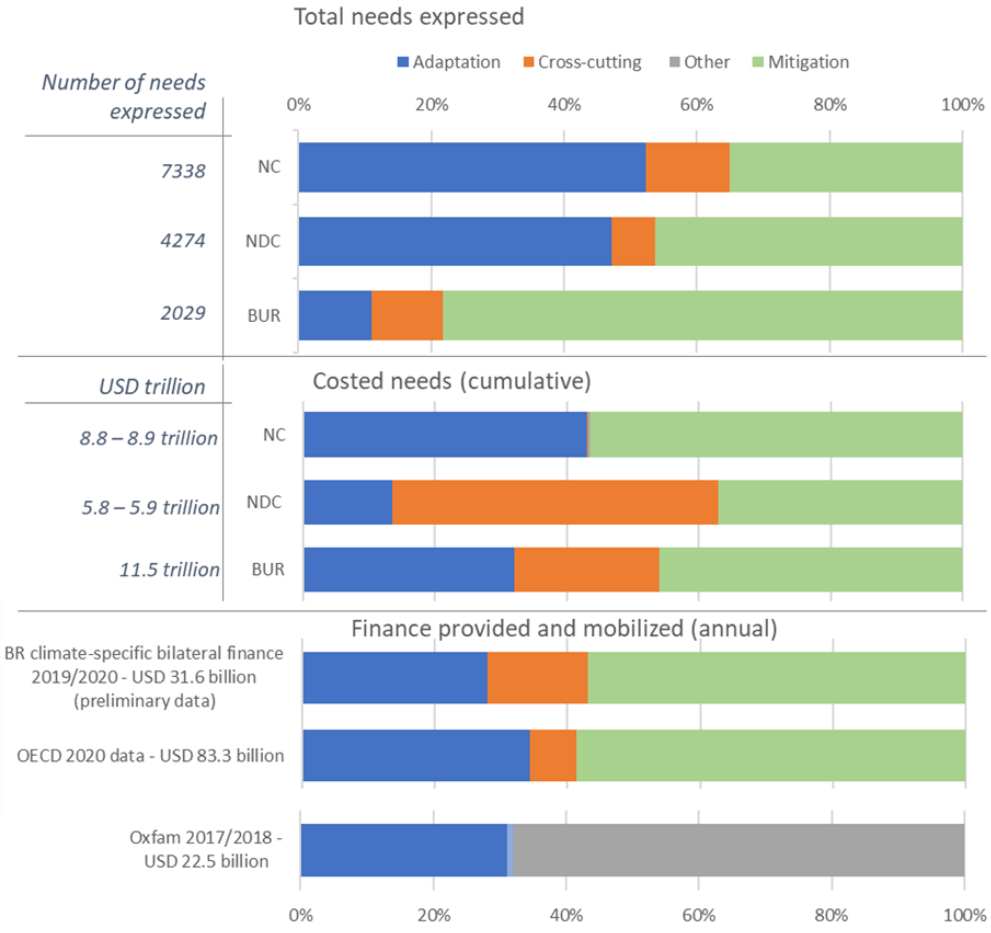
i. Balancing mitigation and adaptation needs

21. In terms of proportion 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. 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 remains predominant.

22. The share of adaptation in 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. 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. 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 typically receive a greater amount of grant financing than mitigation activities.

Figure 12 **Distribution of needs and finance provided and mobilized by theme**

Source: UNFCCC SCF 2022d



ii. Sectors

23. Sector-level distribution of climate finance flows across the sources of information are limited to the analysis in the OECD report series as cited by the SCF (UNFCCC SCF 2022d), 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.

iii. *Sources and instruments*

24. As per the SCF (UNFCCC SCF 2022d), more public finance through grants is often stated by developing countries as particularly needed for addressing capacity gaps, adaptation actions, and for developing countries with high debt burdens. Both the IEA scenario on energy sector investment need, and the Race to Zero/GFANZ net zero financing roadmaps (NZFR) for EMDEs from 2021-2025 envision a public/private investment split of 30/70 per cent from domestic and international sources of finance. Although based on a global investment needs, the breakdown of instruments needed in the NZFR scenarios illustrated grant finance amounting to 25 per cent of the total public finance. Public debt finance consisted of 46 per cent and equity finance of 29 per cent of public finance in the NZFR.

25. Trends based on the sources of information on finance provided follow conflicting results due to time lags and different reporting scopes. 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), as cited by the SCF (UNFCCC SCF 2022d). 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. 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 at 71 per cent, a ratio that was relatively constant since 2016 and is similar to the proportion in the NZFR scenario. Since 2016, the volume of both grants and loans have increased by 46 per cent.

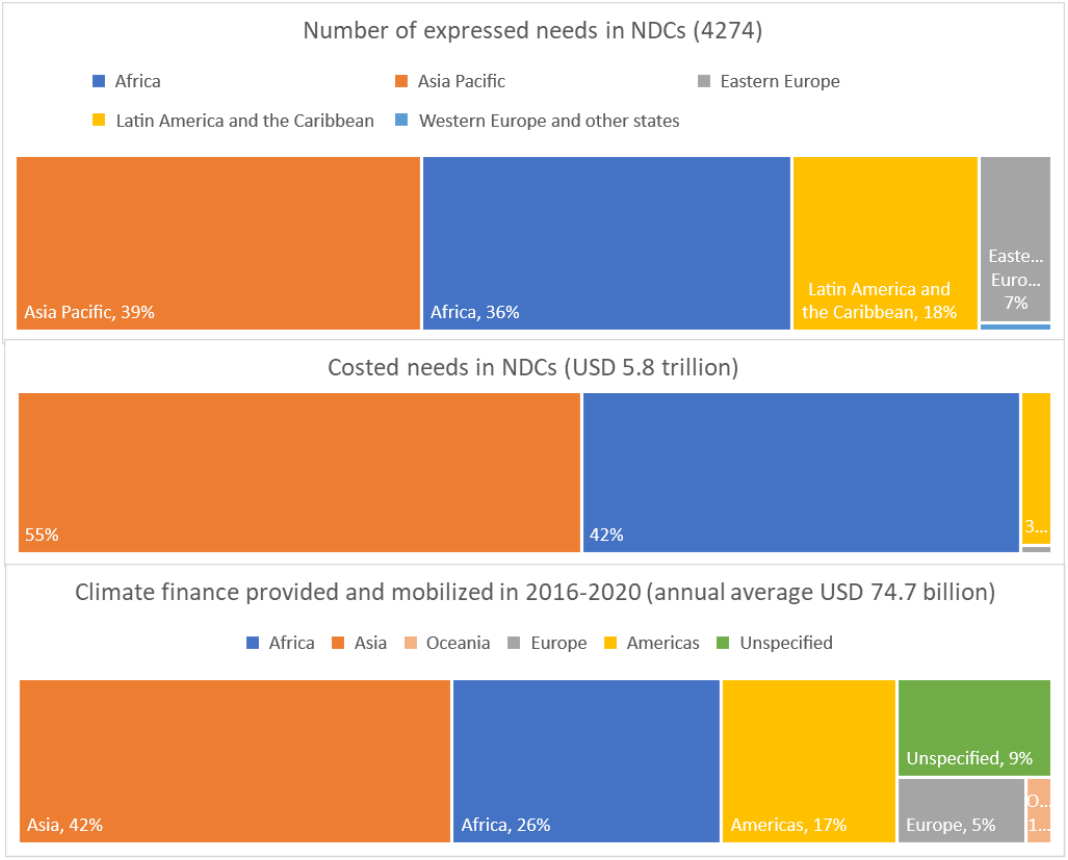
iv. *Geographical distribution*

26. In terms of regional distribution, the SCF highlights from the OECD that most climate finance flowed to Asia 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 (UNFCCC SCF 2022d).

27. In comparison to the 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.

28. As cited by the SCF from OECD, 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 (UNFCCC SCF 2022d). 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. 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. 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).

Figure 13: Geographical distribution of needs and finance flows



Source: UNFCCC SCF 2022d

v. Access and disbursements

29. Further issues linking finance provision and addressing the needs of developing countries includes access to financial resources and disbursements of climate finance committed. As noted by the SCF, 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) (SCF 2022d). The fifth BA (2022) 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.

30. The perspective of the discussion paper published by the India Ministry of Finance 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 report commitments of climate finance due to outstanding data gaps across climate finance providers on disbursement data, which render a trend analysis challenging.

II. Challenges and Lessons learned

31. The fifth BA revealed both progress and continuing challenges with respect to recommendations across the key areas of climate finance arising from previous

Biennial Assessments. Table 3 below provides a summary of this information (UNFCCC SCF 2022a).

Table 3: **Following up on recommendations from previous BAs: progress and challenges**

Area of recommendation	*Progress*	*Challenges*
Improve transparency of reporting of climate finance provided and received (a), (b), (c), (d)	Improved reporting tables agreed for implementation in 2024 Increasing number of developing countries reporting on climate finance received	Limited capacities and resources to track climate finance received and report on the impacts and outcomes of climate finance
Improve data coverage, granularity and tracking of flows from all sources, including developing country Parties, international financial institutions and private finance data providers (e), (f), (g), (h)	Increasing data coverage for financing of electric vehicles, climate finance mobilized and domestic climate finance reporting	Scarcity of data on energy efficiency, the AFOLU sector, buildings, industrial sectors and adaptation, in particular from the private sector, as well as on South–South cooperation
Align climate finance with national needs, plans, climate change frameworks and priorities, enhancing country ownership (j), (l), (p)	Significantly increased number of direct access entities and national implementing entities and other accredited entities of multilateral climate funds Growing number of national investment plans and strategies to target climate finance Publication of needs determination report	Finance flows channelled through regional and national entities remain low Lack of support for local-level access beyond national or regional entities Methodological, capacity and data limitations in development of project pipelines
Balance funding for mitigation and adaptation (l)	Increase in adaptation finance of 39 and 48 per cent through bilateral channels and MDBs respectively since 2017–2018 Achievement by GCF of a 50:50 balance in mitigation and adaptation on a grant-equivalent basis Most adaptation finance from bilateral channels and multilateral climate funds now in the form of grant finance	Difficulties in costing adaptation needs to inform assessments of balance Different accounting approaches applied for mitigation and adaptation finance to inform assessment of balance
Encourage the uptake of available resources to strengthen institutional capacities for programming climate action and tracking climate finance (k), (l)	21 dedicated access, readiness and project preparation support modalities offered by multilateral climate funds 48 identified national climate funds in countries that are not OECD members 48 jurisdictions with domestic climate finance tracking systems, and 35 taxonomies formulated by 30 jurisdictions and 5 international or national organizations	Different funding requirements of diverse climate finance actors Time lag in reporting from nascent domestic climate finance tracking
Improve tracking and reporting of the impacts of climate finance, including the incorporation of 'climate proofing' and climate resilience measures in line with new scientific information (n), (o)	Increased granularity of impact measurement frameworks (three multilateral climate funds have adopted revised frameworks since 2018) Wide availability of expected results reporting	Limited ex-post results data in reporting chains Limited availability of climate finance specific portfolio-level impact reporting from MDBs and bilateral sources Trade-offs between results measurement comparability and

Area of recommendation	*Progress*	*Challenges*
	Initial development of transformational change indicators	context-specific impact measurement (including at the country, local and sectoral level) Limited approaches for measuring transformational change
Improve tracking and reporting of gender-related aspects of climate finance (m)	Gender mainstreaming in governance and operational frameworks of climate finance contributors (all multilateral climate funds with revised frameworks or policies since 2018)	Limited implementing capacities and availability of gender-disaggregated data on outcomes and impacts
Update data sets and information relevant to Article 2, paragraph 1(c), of the Paris Agreement (i), (q)	Global proliferation of private and public sector actor approaches for aligning finance flows	Lack of data on implementation of Paris alignment approaches and on common standards in approaches to prevent greenwashing – this complicates evaluation of approaches

Source: UNFCCC SCF 2022a

32. Several key challenges and lessons learned from implementing 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 were identified by the SCF in its progress report (UNFCCC SCF 2022d). These findings are summarized in paragraphs 34 -47 below.

33. **Mobilization of private finance to and in developing countries underperformed relative to expectations**: A key challenge to achieving the goal, as noted in Climate Finance Delivery Plan, is the mobilization of private finance to and within developing countries as this channel which underperformed relative to expectations in the 2016 Roadmap. Various aspects in attracting and mobilizing private sector investment have been identified including cross-cutting enabling environment (e.g. macro-economic, policy and currency stability; bankable project pipelines; financial market depth; procurement regimes), the role of grant finance in de-risking projects and mobilizing private finance, and the particular role of MDBs and guarantees instruments to scale up private finance. Hence, further disaggregated analyses 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.

34. The extent of private finance mobilization will depend on many factors across both developed country and developing country Parties and multilateral financial institutions. 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). 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 the climate finance portfolio 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;

35. **The role of international public climate finance remains critical.** A focus on a volumetric goal related to inputs for climate action (financing), rather than outcomes, can skew incentives, both for providers and recipients of climate finance. The IPCC (2022) 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.

36. A variety of different financing instruments are 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 2022). Loans are useful instruments to finance capital-intensive projects with clear revenue streams to support debt repayments. A key challenge for grant finance and other concessional finance is the high level of demand for both mitigation and adaptation activities. Grant finance and other risk-sharing instruments can de-risk 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 that over time can generate autonomous private capital flows. At the same time, grant finance is necessary to support the activities where revenue streams are typically less prevalent to support private sector participation, such as some adaptation activities (IPCC 2022).

37. 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. Furthermore, the advantage of long-term and predictable financing plans 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;

38. **Increasing access to capital requires innovation:** Access to capital is identified as a significant challenge by developing countries in order to address their needs. This can relate amongst others to the complexity of requirements for accessing international climate finance through multilateral climate funds that is often a resource and time-consuming process stretching beyond the length of election cycles. The IPCC 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.

39. **Significant knowledge gaps hinder a thorough assessment of progress on the three dimensions of the goal:** From the foregoing analysis of the three pillars 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 of implementation, it is evident that the developments under the UNFCCC have evolved in a staggered manner with not many direct links being made. This makes the task of analysing correlations and connections across the three pillars difficult, especially in terms of a two-way relationship between action and support.

40. The provision and mobilization of climate finance in relation to the USD 100 billion per year goal has been examined under the UNFCCC by the SCF and also by actors outside, though definitional and methodological differences have led to divergent conclusions. The issue of mobilizing private finance is also complex, including in relation to attribution to developed countries and the measurement of private finance mobilization by specific public interventions. Furthermore, given the "collective" nature of the goal, individual accountability of a given developed country is to the developed country group responsible for the commitment rather than directly to the wider group of Parties to the Paris Agreement. This speaks to issues around transparency of implementation with regard to mobilizing finance to meet the goal.

41. 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 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.

42. Furthermore, the question of balance between mitigation and adaptation finance flows to address needs requires further examination. Various sources of information equate balance of adaptation and mitigation to at least a 50:50 allocation whereas it may apply differently 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. 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.

43. 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, changes in emissions may be attributed to several other factors than mitigation action, including changes in economic growth or other events. Indeed, some types of mitigation targets (e.g. intensity targets) are designed to capture a number of different factors – both potentially affected by climate finance – making questions of attribution potentially even more complex. The leads to questions around the ways and means to link finance delivered as part of the goal with transparency of implementation on meaningful mitigation actions.

44. There is a divergence in the reporting on climate finance provided and mobilized, on the one hand, and that received, on the other. Reporting and capacity challenges may 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. Particularly since climate finance benefitting a developing country may support many activities across a range of actors. Good quality and accessible data on climate finance flows both provided and mobilized and received is important to provide accountability and to overcome any perception or knowledge gaps in understanding whether flows are addressing needs.

45. **Features of robust goal-setting include outlining their specificity as well as how they may be measured at the outset 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. Looking forward, the implementation of the ETF will support greater information and understanding on 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 goal based on this information and other sources.

46. In this context, it is important to note numerous challenges in the availability of granular data to support assessing progress towards the goal that include i) the

approximately 2-3-year time lag in reporting of information on finance flows under the ETF from 2024 onwards that affects a common understanding on progress and efforts to reconcile flows with needs and priorities; ii) a common understanding and information on the geographical scope of contributors and recipients to the goal; iii) limitations on the availability of granular data on multilateral climate finance and private finance mobilized due to confidentiality concerns, in particular for data-sharing from the MDBs; iv) the impact of currency and foreign exchange rate fluctuations on the accounting and measurement of progress towards the goal; and finally v) the role of data from disbursements as compared to commitments, where 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.

A. Forthcoming reports of relevance to the Global Stocktake

47. The following reports were mandated by their respective bodies for completion in 2023 and are expected to be available for consideration in the first Global Stock Take in 2023.

a) Synthesis of information contained in the Biennial Communications received in accordance with Article 9, paragraph 5, of the Paris Agreement

48. Recognizing the importance of predictability and clarity of information on financial support for the implementation of the Paris Agreement, CMA 1 requested developed country Parties to submit, starting in 2020, the biennial communications referred to in Article 9, paragraph 5, of the Paris Agreement, including the information specified in the annex to decision 12/CMA.1. It encouraged other Parties providing resources to biennially communicate such information on a voluntary basis.

49. CMA 1 also requested the secretariat to prepare, starting in 2021, compilation and synthesis of the information included in the biennial communications. This compilation and synthesis will be considered at CMA 3 and will inform the global stocktake.[3]

50. The final version of synthesis report will published online.[4]

b) Further work on Article 2.1c

51. The CMA at its 4th session requested the SCF to continue its work regarding ways to achieve Article 2, paragraph 1(c), of the Paris Agreement, including options for approaches and guidelines for implementation, in accordance with decision 10/CMA.3, paragraph 2, for consideration by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its fifth session and invited Parties and stakeholders in the financial sector to make further submissions thereon via the submission portal by 30 April 2023;

52. The SCF, at its thirtieth meeting, discussed and agreed on the workplan and timeline, scope, outline and format of the work. The SCF agreed to work intersessionally to produce a zero-order draft ahead of SCF 31 based on the outline agreed upon at SCF 30, followed by a pre-final draft prepared ahead of SCF 32 with the view to finalizing it at the SCF32 (Oct-Nov 2023) for consideration at CMA 5.

[3] As per decision 12/CMA.1, annex.

[4] https://unfccc.int/topics/climate-finance/workstreams/ex-ante-climate-finance-information-post-2020-article-95-of-the-paris-agreement

53. The work of the SCF will be published on the SCF page[5]

c) Sharm El Sheikh Dialogue on 2.1c

54. Under the Sharm el-Sheikh dialogue to exchange views on and enhance understanding of the scope of Article 2, paragraph 1(c), of the Paris Agreement and its complementarity with Article 9 of the Paris Agreement launched at COP27, two workshops will be organized in 2023 between Parties, relevant organizations and stakeholders, the deliberations of which would be captured in a report.

d) Commitment to doubling adaptation finance

55. The CMA requested the SCF to prepare a report on the doubling of adaptation finance, in line with paragraph 18 of decision 1/CMA.3 for consideration by CMA 5.[6]

56. Decision 1/CMA.3, paragraph 18, 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, in the context of achieving a balance between mitigation and adaptation in the provision of scaled up financial resources, recalling Article 9, paragraph 4, of the Paris Agreement.

57. At its thirtieth meeting, the SCF discussed and agreed on the work plan and timeline, scope, outline and format of the work. The SCF agreed to work intersessionally to produce a zero-order draft ahead of SCF 31 based on the outline agreed at SCF 30, followed by a pre-final draft prepared ahead of SCF 32 with the view to finalizing it at the SCF32 (Oct-Nov 2023) for consideration at CMA5.

58. The work of the SCF will be published on the SCF page[7]

[5] Available at https://unfccc.int/SCF

[6] In accordance with paragraph 42 of the draft decision entitled "Sharm el-Sheikh Implementation Plan" proposed under agenda item 2 of CMA 4.

[7] Available at https://unfccc.int/SCF

B. Technology development and transfer

6. Parties through decision 1/CP.21 paragraph 69 agreed to undertake the first periodic assessment of the effectiveness and adequacy of the support provided to the Technology Mechanism in supporting the implementation of the Paris Agreement on matters relating to technology development and transfer. The periodic assessment is to be conducted in accordance with the scope and modalities contained in the annex to decision 16/CMA.1.

7. Parties through decision 16/CMA.1, paragraph 4 decides that the outcomes of the periodic assessment should serve as an input to the global stocktake referred to in Article 14 of the Paris Agreement.

8. At CMA4 in Sharm el-Sheikh, Parties concluded the periodic assessment and decided (dec 20/CMA.4, paragraph 8) that the main challenges identified in the period assessment to be given consideration under the global stocktake.

1. Periodic assessment of the Technology Mechanism

9. Among the key outcomes of the periodic assessment is the identification of several successes and challenges in terms of the effectiveness and adequacy of the support given to the Technology Mechanism in supporting the implementation of the Paris Agreement on matters relating to technology development and transfer. This section will provide an overview of the successes and challenges.

10. As far as **successes** are concerned, the periodic assessment notes that the Technology Mechanism has created early signs of favourable conditions to enable developing countries to adopt new and existing technologies, as evidenced by the implementation of recommendations on policy, strategy and actions resulting from CTCN technical assistance projects. Meetings and events organized by the Technology Mechanism are recognized as facilitating networking and collaboration for the development and transfer of technology between developed and developing countries, which is further facilitated through the CTCN's multi-country approach to implementing technical assistance. The TEC and CTCN have collaborated with a wide range of stakeholders to implement their respective work plans to support the implementation of the Paris Agreement and have been working closely with each other under the Technology Mechanism to improve coherence and synergy. In particular, the CTCN enjoys a positive perception among stakeholders regarding the relevance and quality of its services and its unique profile of supporting small projects that are usually not supported by other centres or initiatives. A significant increase in requests for technical assistance indicates the increasing recognition of CTCN's work and its benefits for developing countries.

11. In terms of support received, the periodic assessment notes that the TEC has benefited from the support of the UNFCCC secretariat to implement its mandate and functions, while the CTCN has benefited from being hosted by UNEP. In addition, there has been an increase in in-kind and pro bono support provided to the CTCN, as well as funding from new sources (e.g. NDC Partnership and Adaptation Fund). Stakeholders consider both bodies to be cost-effective with regard to their respective mandates, facilitated by organizational structures, rules of procedure, activity planning and respective monitoring and evaluation systems that contribute to optimizing their operations. Moreover, both bodies have successfully implemented their respective work plans, sometimes exceeding set targets.

12. The **main challenges** highlighted in the periodic assessment with regards to the effectiveness and adequacy of the support given to the Technology Mechanism are[8]:

[8] Unless otherwise stated, the main successes are extracted from FCCC/SBI/2022/13, para 68.

(a) The Technology Mechanism's role in facilitating the transformational changes towards climate resilience and low GHG emission development envisioned in the Paris Agreement is considered to be constrained by the large scale of action required to achieve the purpose and long-term goals of the Paris Agreement, coupled with the limited resources allocated to the Mechanism;

(b) Assessing the impacts of the Technology Mechanism in quantitative terms is complex, as they are intended to catalyse systemic change, which is not visible in the short term and would require a more sophisticated and resource-intensive monitoring and evaluation system (notably for the TEC);

(c) Limitations in terms of dissemination and use of TEC products by the CTCN, NDEs and Parties have been observed;

(d) The engagement of the private sector and the research community in the work undertaken by TEC and the CTCN could be enhanced. The TEC and the CTCN have engaged the private sector in various thematic areas. However, according to interviewed stakeholders, collaboration under the Technology Mechanism could be more extensive with the private sector, particularly on adaptation projects. […] This is consistent with the finding from the second independent review of the CTCN that private sector involvement in CTCN projects is low despite the sector accounting for nearly half of Network members (para. 45). Some of the stakeholders interviewed and surveyed were of the view that engagement under the Technology Mechanism with the research community in general and the IPCC in particular could be enhanced in order to strengthen the link between research and implementation of emerging technologies (para. 74);

(e) There is a lack of follow-up activities for the technical assistance projects of the CTCN, owing to the limited resources of the CTCN to scale up technology deployment and the limited engagement and capacity-building of a wider range of local stakeholders during the implementation phase to scale up on their own, which creates uncertainties with regard to the sustainability of long-term outcomes and impacts. The interviews and surveys carried out for this assessment (see para. 8(b)(ii–iii) of the Periodic assessment) found that stakeholders believe that technical assistance is still limited in its capacity to assist in identifying and making available financial resources to support climate technology, particularly in terms of leveraging financing from the private sector (para. 30);

(f) NDEs lack political support and visibility in order to raise their profile within Government and the private sector, and would benefit from additional financial, material and human resources from both the Technology Mechanism and their national host institutions in order to fulfil their roles;

(g) The CTCN has faced challenges in implementing its resource mobilization strategy by diversifying its funding streams (e.g. it did not receive any financial support from MDBs, the private sector, or philanthropic or innovative sources) and being financially autonomous (owing to a lack of regular and predictable funding and earmarking that tends to shift the focus of the CTCN towards specific activities or locations), which has had a negative impact on its ability to respond to requests for technical assistance;

(h) A lack of resources allocated to CTCN technical assistance with an adaptation focus or supporting hardware implementation has been noted by stakeholders, although not all stakeholders agree that the Technology Mechanism should support hardware implementation;

(i) Although opinions of those surveyed and interviewed differed on whether financial, human and technical resources provided to the TEC and the CTCN are sufficient to achieve their mandates, the CTCN would have been able to respond to more country needs if increased resources were available, as well as conduct more follow-up activities and ex post project evaluations.

(j) Several challenges have beset CTCN funding over the past five years (para 59):

a. The CTCN has faced challenges in diversifying its funding streams (bilateral, [9] and private sector, and philanthropic sources of support) for multi-year and annual contributions since 2017 and its resource mobilization targets have not been met[10];

b. A total of 14 different donor countries have engaged with the CTCN since 2017 (6.75 donors on average per year). Some potential donor countries active in climate finance have opted to support other mechanisms;

c. The CTCN has benefited from enhanced cooperation on its activities with the operating entities of the Financial Mechanism, as found in the second independent review of the CTCN[11].

d. The CTCN did not obtain any financial support from MDBs, the private sector, or philanthropic or innovative sources. This was reiterated by the stakeholders interviewed, who stated that CTCN activities did not benefit equally from major sources of bilateral, multilateral, private sector or philanthropic support;

e. In-kind and pro bono support provided to the CTCN has increased thanks to Parties providing staff to the CTCN secretariat or directly implementing technical assistance on behalf of the CTCN. The target of USD 2 million per year set out in the 2018 resource mobilization strategy for in-kind and pro bono support was not reached, though the revised target of USD 0.5–1 million in the 2020 and 2021 annual operating plans was.

f. Financial autonomy remains a challenge for the CTCN, with 74 per cent of the funding received in 2017–2021 already earmarked and the possibility that donor requests will result in the allocation of unearmarked funds to specific tasks being ever-present. This tends to shift the focus of the CTCN towards specific activities or locations. In addition, CTCN funding tends to be irregular, [12] and complicated to manage financially, which resulted in the CTCN underdelivering on its annual operating plan budgets by 17 per cent on average in 2017–2019. The lack of predictability was also noted in the contribution of Working Group III to the AR6, citing the first independent review of the CTCN.[13] However, the CTCN managed to implement 99 per cent of its planned annual budget in 2020[14] and 109 per cent in 2021[15] (para 63).

g. Overall, most stakeholders interviewed and surveyed considered that resources mobilized were insufficient for implementing TEC and CTCN activities. According to the interviewed and surveyed stakeholders, the CTCN and the TEC would have been able to respond to more country needs if increased resources were available (para 66).

(k) According to the contribution of Working Group III to the AR6, much more can be done to enhance technology transfer and capacity-building under the UNFCCC, and some areas covered by the CTCN and the TEC, such as knowledge development and legitimacy in

[10] FCCC/CP/2021/3, para. 34.

[11] FCCC/CP/2021/3, para. 18

[12] Contribution of Working Group III to the AR6, p.16-69.

[13] See www.ctcn.org/sites/www.ctcn.org/files/Agenda%20item%2014._CTCN%20AB17_Report%20of%20the%0CTCN%20Director.pdf.

[15] See www.ctc-n.org/sites/www.ctcn.org/files/Day%202_12.1_Director%27s%20presentation_Rose%20Mwebaza_0.pdf.

technological innovation systems, would need much more support to address the transformational changes envisioned in the Paris Agreement.[16] (para 66).

[16] 101 Contribution of Working Group III to the AR6, p.16-71.

C. Capacity-building

59. The Conference of the Parties requested the secretariat to produce annually a synthesis report on activities undertaken to implement the framework for capacity-building in developing countries established under decision 2/CP.7.[17]

60. The Conference of the Parties also requested the secretariat to make the report available to the SBI at its sessions coinciding with the annual Durban Forum on capacity-building to facilitate discussions at the Forum.[18] In addition, it decided that the report will serve as input for the work of the PCCB.[19]

61. The report summarizes information on the extent of the implementation of the capacity-building framework, thus enabling annual monitoring of progress and identification of areas where additional capacity-building support is required.

62. The information contained in the report relates to activities reported between March 2022 and mid-February 2023 in 32 BRs,[20] 19 BURs[21] and 32 NCs[22] and 8 NAPs.[23]

63. The report is limited in scope to reporting under the Convention in the context of the 15 priority areas of the capacity-building framework.[24] Therefore, information on capacity-building reported in NDCs and adaptation communications under the Paris Agreement, while noted, is considered beyond the scope of the report.

1. Key Findings of the Synthesis Report

64. Capacity-building remains integral to implementing the Convention, the Kyoto Protocol and the Paris Agreement, with capacity-building efforts described by Parties as strategic priorities and essential in all sectors.

65. Capacity-building is progressing at the institutional, systemic and individual level: national policies and government entities dedicated to addressing climate change are increasingly being established; climate change expertise in developing countries is growing through training of local staff by international governmental bodies and non-governmental organizations; a growing number of Parties have conducted vulnerability and technology needs assessments and implemented adaptation and mitigation options; increasingly, awareness-raising and educational activities in relation to climate change, the environment and the Sustainable Development Goals are being undertaken, including to enhance resilience; the private sector and non-governmental organizations are increasingly being included in climate-related decision-making processes; and gender is increasingly being mainstreamed in climate and development policies. Parties highlighted the importance of regional and international cooperation for building capacity.

66. In terms of modalities for capacity-building, Parties highlights efforts such as training, workshops, joint research projects by higher education institutions, scholarships, sharing of best practices on adaptation and mitigation, collaborative platforms for sharing climate data, establishment of networks, and awareness-raising campaigns. In addition, they highlighted the ongoing importance of bilateral and

[17] Decisions 2/CP.7, para. 9(c), and 4/CP.12, para. 1(c). For the 2023 report, see: FCCC/SBI/2023/3.
[18] Decision 1/CP.18, para. 78.
[19] Decision 1/CP.21, para. 79.
[20] Available at https://unfccc.int/BR5 .
[21] Available at https://unfccc.int/BURs.
[22] Available at https://unfccc.int/NC8.
[23] Available at https://www4.unfccc.int/sites/NAPC/Pages/national-adaptation-plans.aspx.
[24] As per decision 2/CP.7, annex, para. 15.

multilateral support through United Nations agencies, other international organizations and financial institutions.

67. With regard to capacity-building needs, Parties reported requiring support for compiling GHG inventories and reporting thereon; improving regulatory frameworks; technology development and transfer; assessing and implementing mitigation and adaptation actions; enhancing institutional capacity and preparing NRs submit to prepare; building technical inventories and vulnerability and adaptation assessments, managing carbon sinks and using IPCC 2006 inventory software; accessing climate data; training on climate modelling; and data management. They also highlighted the need for sector-specific support, mentioning agriculture, water, forest and land use, disaster risk management, energy, transport, and tourism.

68. Parties provided details of support received or provided in the following areas: implementing activities under the Convention; preparing BURs, national climate change reports and other communications; using IPCC GHG inventory software; participating in international climate negotiations; accessing programme and project financing; applying scenario tools for mitigation actions; and collecting data and information. They highlighted support received or provided by sector, including waste management, energy, transport, agriculture and forestry.

69. Parties highlighted the importance of gender mainstreaming in work undertaken in the following areas: development and climate change, health, food security, disaster risk reduction and management, access to climate finance, MRV of mitigation actions, the importance of transparency, and implementation of nationally appropriate adaptation actions.

70. Many Parties have observed that the evolving nature of climate change, science and policy is leading to emerging or new areas for capacity-building not provided for under the capacity-building framework. Emerging or new areas include improving documentation and compilation systems for compliance with the enhanced transparency framework, developing educational and professional development programmes on climate change, strengthening climate resilience in health systems to climate-sensitive diseases, strengthening small and medium-sized enterprises to mainstream climate change in their business plans, supporting non-profit organizations in their climate change efforts, facilitating access to climate finance, developing systems to track the implementation of NDCs and cooperative approaches under Article 6 of the Paris Agreement, and promoting a just transition.

71. With regard to capacity-building support provided by Annex II and other Parties, the analysis of the data provided by the Parties revealed that most of the reported capacity-building projects targeted adaptation, followed by mitigation. Capacity-building support for adaptation included assisting developing countries in integrating climate resilience activities into new and existing infrastructure, ‘greening’ agriculture and forestry practices and promoting the sustainable development and use of water resources. Capacity-building projects supporting mitigation focused on increasing access to renewable energy and promoting energy efficiency to drive low-carbon energy and transportation and climate-resilient development solutions. Further, capacity-building support for technology development and transfer was primarily delivered as a component of projects targeting multiple areas.

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