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Biennial transparency reports and national inventory reports

Synthesis report by the secretariat

Summary

This report provides a synthesis of information reported by Parties in their first biennial transparency report submissions, including their national inventory reports. Submissions received as at 15 April 2025 were included in the synthesis. The structure of the report aligns with the reporting format set out in the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement, and as such, synthesizes information on greenhouse gas emissions and removals, information necessary to track progress in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement, information on climate change impacts and adaptation under Article 7 of the Paris Agreement, and information on financial, technology development and transfer, and capacity-building support.

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Contents

Abbreviations and acronyms

BTR	biennial transparency report
CH_4	methane
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CTF	common tabular format
CRT	common reporting table
ETF	enhanced transparency framework under the Paris Agreement
EU	European Union
F-gas	fluorinated gas
FX	flexibility
GDP	gross domestic product
GHG	greenhouse gas
IE	included elsewhere
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
ITMO	internationally transferred mitigation outcome
LULUCF	land use, land-use change and forestry
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
NAP	national adaptation plan
NDC	nationally determined contribution
NE	not estimated
NID	national inventory document
NIR	national inventory report
PaMs	policies and measures
QA/QC	quality assurance/quality control
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
WAM	‘with additional measures’
WM	‘with measures’
WOM	‘without measures’

I. Executive summary

1. This synthesis of the BTR1s submitted by Parties is the first report of the secretariat that provides an initial picture of Parties' progress in implementing the Paris Agreement and identifies areas in which additional efforts are needed to meet its goals. On the basis of information and data reported up until 2022, the report offers an insight into the diverse national approaches to implementation that countries were adopting, including enablers that have driven progress and successes that can be built on, but also barriers yet to be overcome.

2. Transparency is at the core of the Paris Agreement, and the ETF helps Parties build a strong evidence base to support climate-related policymaking and identify investment needs and opportunities. In its role in tracking progress in implementing and achieving NDCs, the ETF also promotes their effective implementation and fosters accountability and trust among Parties. Together with the NDCs and the global stocktake, the ETF forms the foundation for enhancing global ambition in climate action and support under the Paris Agreement over time.

3. The submission of more than 100 BTR1s is a milestone in ETF implementation, as BTRs underpin the enhanced global approach to reporting on GHG emission trends and projections, mitigation, adaptation, loss and damage and support provided, needed and received. Some countries also chose to include in their BTRs information on broader aspects of climate action, such as just transition, gender and youth considerations, and the involvement of non-Party stakeholders. It is hoped that the information presented in this BTR synthesis report will inform relevant processes and workstreams under the Convention and the Paris Agreement.

A. Progress in implementing the Paris Agreement

4. All Parties that submitted their BTR1s have taken steps to implement their NDCs, and many of them, guided by the goals of the Paris Agreement, are taking clear initial steps towards net zero and climate-resilient futures. On the basis of information and data reported up until 2022, 50 Parties,[1] accounting for well over half of global emissions, have made initial progress in achieving their 2030 NDC targets. While substantial further progress can be expected in the period since 2022, several Parties may need to accelerate their actions or make additional efforts to keep their 2025 or 2030 targets within reach. Given that the reported information covers only the beginning of the NDC implementation period, those Parties have some time for 'course correction' before its end.

1. Mitigation

5. Climate policies that align with the goals of the Paris Agreement are key to ensuring progress towards achievement of NDC targets and enabling transition to low-emission development. Many Parties plan to achieve their NDCs through domestic PaMs and actions alone, while others intend to use cooperative approaches under Article 6 of the Paris Agreement. Many developing countries emphasized the need for support to enable them to fully implement their NDCs.

6. Parties reported on almost 5,000 PaMs and actions, covering all gases and sectors, that they have planned, adopted or implemented to meet their NDC targets. Twenty-five per cent of those PaMs are recently adopted or planned – put in place to enhance mitigation efforts towards meeting the targets set out in Parties' NDCs and, in turn, the goals of the Paris Agreement. While the energy sector remains the mainstay of countries' portfolios of mitigation PaMs, several Parties have increased their mitigation efforts in the IPPU, agriculture, LULUCF and waste sectors, including by implementing policies with higher abatement costs than those previously implemented.

[1] Seventy-nine Parties were assessed for progress towards their NDC targets. The number of Parties assessed includes the EU but excludes its 27 member States because the EU and its member States have a joint NDC target.

7. Nevertheless, while keeping in mind that the data set is limited to a subset of reporting Parties representing 69 per cent of global emissions in 2021, GHG emissions increased between 2005 and 2021, a trend driven by economic and population growth and increased industrial activity and transportation. The BTR1s signal that Parties plan to strengthen mitigation PaMs that may reduce the impacts of these drivers of emissions.

8. The largest number of PaMs reported by Parties target GHG emissions from the energy sector, which is the main source of emissions in most countries and indeed globally. To transform their energy systems and transition to cleaner energy sources, Parties are prioritizing policies aimed at electrifying industry, transport and households using renewable energy sources; increasing renewable energy sources in the energy mix such that they constitute the largest share or in some cases entirely meet energy demand or growth in energy demand; replacing coal-fired power plants with new facilities that use renewable energy sources and natural gas; promoting the adoption of distributed renewable energy technologies in rural and remote areas; imposing bans on building new coal-fired power plants unless they are equipped with carbon dioxide capture and storage and accelerating the phaseout of existing unabated coal-fired plants; promoting nuclear energy; upgrading electricity grids to integrate renewable electricity (by introducing smart, flexible grid operations and increasing battery storage capacity) and to reduce power losses in transmission and distribution networks; introducing and scaling up emissions trading schemes and carbon and energy taxation; and promoting a modal shift in transport, the use of electric vehicles, and CO_2 emission performance standards for new passenger cars and vans.

9. Energy efficiency is also a central pillar of climate policy for most Parties, being a fast, cheap and highly effective lever for reducing emissions. Focus areas for energy efficiency include decarbonizing industry; improving the energy performance of buildings, including by promoting heat pumps; and integrating e-mobility into transportation. Applying digital technologies to grid management, fostering systemic efficiency and promoting a just energy transition are also identified by some Parties in BTR1s as being crucial to energy system transformation.

10. Beyond curbing CO_2 emissions from the energy sector, Parties have gained momentum in reducing CO_2, CH_4 and other GHGs emitted from other sectors. As the use of air conditioning increases, many Parties are adopting measures to substitute or reduce the use of hydrofluorocarbons with high global warming potential. Parties are also continuing to make efforts to reduce emissions from cement and steel production, which have a high abatement cost. In agriculture, Parties are focusing on improving soil carbon management, developing lower-emission plant and animal breeds, and introducing feeds and supplements that reduce CH_4 emissions from livestock. Initiatives to reduce deforestation and to increase reforestation and afforestation were reported by many Parties as LULUCF sector actions.

2. Adaptation

11. Climate change impacts manifest in every aspect of society, the economy and the environment, including in people’s health and livelihoods, and the reporting in the BTR1s shows that developed and developing countries alike are addressing these impacts. While reporting on adaptation is not mandatory, 91 BTR1s (about 90 per cent) contain an adaptation component, indicating the growing attention on adaptation as a part of climate change strategies. Most Parties show progress in adaptation, providing not only a comprehensive assessment of climate change impacts, risks and vulnerabilities in their BTR1s, but also information on adaptation strategies, including gender-responsive measures, being implemented to minimize them.

12. Overall, the BTR1s demonstrate that Parties are contributing to achievement of the dimensional and thematic targets of the global goal on adaptation.[2] Parties reported considering equity, inclusivity, Indigenous Peoples’ and local community knowledge systems, and other cross-cutting elements in adaptation action and planning, as well as integrating adaptation goals set out in NAPs and NDCs into both national development policies and sectoral strategies. Water resources were identified as the highest priority for

[2] Decision 2/CMA.5, paras. 9–10.

domestic adaptation action, and nature-based solutions are increasingly becoming a national adaptation priority. Food security and nutrition was the most frequently reported area for implemented adaptation action.

13. Almost all Parties highlighted their implemented or planned approaches and systems for monitoring and evaluation of adaptation action. While they vary in scope and structure, all such systems are used to inform decision-making about, improve the efficiency of and demonstrate accountability in adaptation planning and action. The progress in adaptation achieved so far, along with experience gained, allows for refinement of climate change adaptation plans and actions and for continuous learning and improvement as conditions change and knowledge evolves.

14. A number of Parties have taken steps to integrate data and information on loss and damage into national climate reporting. However, the lack of standardized methodologies for assessing loss and damage and guidelines for reporting thereon has led to different approaches to reporting and levels of detail of reported information in the BTR1s, precluding a standardized synthesis of trends in loss and damage. Nevertheless, these early efforts lay the foundation for enhanced future reporting.

3. Support

15. The BTR1s show that more financial, technology development and transfer, and capacity-building support for stronger climate action was provided and mobilized to developing countries in 2021–2022 than in previous bienniums. Financial support is largely flowing to the sectors where it is most needed, as defined by recipient countries, namely energy and transport in terms of mitigation support. In terms of adaptation, there is evidence in the agriculture sector that the proportionate share of financial support needed and received for that sector aligns with the share provided and mobilized, with less alignment across other sectors.

16. On financial support provided and mobilized, 37 Parties reported data for 2021–2022; 98.9 per cent of support was from developed country Parties and 1.1 per cent was from other Parties reporting information voluntarily. Annual average climate finance for the period amounted to USD 63.17 billion, of which 64.1 per cent was provided via bilateral, regional and other channels, 16.2 per cent was provided via climate-specific multilateral channels and 22.4 per cent was mobilized through public interventions.[3] Twenty Parties provided information on finance mobilized by public interventions. A significant amount of multilateral financial support was provided through the World Bank and other multilateral development financial institutions, as well as through the Adaptation Fund, the Global Environment Facility and the Green Climate Fund.

17. 37 developing country Parties reported finance needed for climate action (mostly before 2030), amounting to USD 3,396.23 billion, and 49 developing country Parties reported on climate finance received, amounting to USD 60.84 billion. Many developing countries are in the process of establishing systems for collecting and tracking information on financial support received and not all were yet able to report on financial support received, or needed, in the BTRs; however, for those that did, the provision of this information in CTF for the first time is useful for the clarity and transparency of observed trends.

18. A majority of climate finance was provided and mobilized through grants and concessional financial instruments, which aligns with the financial instruments highlighted as preferred by developing country Parties in their reporting on financial support needed. Regarding private sector climate finance mobilized by public interventions, 49.2 per cent was mobilized using grants as the main instrument.

19. Technology development and transfer support provided through 1,483 reported activities was focused on adaptation, including water and sanitation, and agriculture. Capacity-building support received, reflected in the 1,814 reported activities, was evenly distributed across adaptation, mitigation and cross-cutting themes.

[3] See the box in chap. VI.A.

4. Whole-of-society approaches to climate action

20. The BTR1s show that, to implement ambitious climate action, Parties are establishing institutions and coordination bodies, reflecting the cross-cutting nature of climate change and the whole-of-society approaches needed to address it. Most Parties reported establishing legal and regulatory frameworks and data management systems to underpin evidence-based climate-related policymaking and to enable unified, coherent policy implementation.

21. The engagement of a broad range of stakeholders, including government agencies, private sector entities, civil society organizations, non-governmental organizations, academic and research institutions, local communities and international organizations in climate action suggests a shift towards whole-of-society policymaking. Parties are also integrating the consideration of issues relating to gender, youth and Indigenous Peoples into climate action.

22. Enhanced understanding of the nexus of climate change, social and economic development, and the SDGs is increasingly reflected in the national policies of Parties, while such policies maintain a clear focus on the SDGs, particularly those related to clean energy, sustainable cities and communities, sustainable production and consumption and green growth. A number of countries highlighted in their BTR1s the social and economic co-benefits of climate policies and actions.

B. Enablers and barriers related to accelerating global implementation

23. While the BTR1s demonstrate success in implementing the Paris Agreement, they also identify challenges and barriers that still need to be addressed. Climate policies can be strengthened and action and support accelerated through scalable solutions that capitalize on lessons learned from successful approaches.

1. Support

24. As information on support needed and received was not provided in the BTR1s of all developing countries that need it, assessing the extent to which needs were met was difficult. Regarding financial support provided, mobilized, needed and received, many Parties reported facing challenges. Developing countries noted the absence of standardized definitions and classification systems for climate finance and the lack of centralized databases and infrastructure to enable assessment of and reporting on climate finance received. They also noted insufficient capacity for conducting assessments of financial needs, particularly for adaptation. With regard to reporting on finance mobilized by public interventions, several Parties reported that they are yet to establish national reporting systems for this purpose.

25. The portfolio of financial instruments to support developing country Parties in their climate action is growing, although at a slower pace than is necessary to fully meet needs. The slow pace is a particular problem for many developing countries, particularly the least developed countries and small island developing States, that have very limited financial means and high financial indebtedness. However, there are encouraging trends in climate finance that may enable stronger action: the shares of financial support going to mitigation, adaptation and cross-cutting action broadly correspond to the proportionate needs across these areas reported by developing countries, and international climate finance is increasingly being used to leverage private finance through co-financing.[4]

26. Developing countries identified persistent capacity gaps and capacity-building needs, including in accessing finance, identifying technology needs, establishing infrastructure for collecting comprehensive and reliable data and information, and ensuring the availability of qualified staff for BTR preparation.

[4] The information on financial support provided and mobilized, and needed and received is based on an incomplete data set. The number of Parties that reported financial support provided through bilateral, regional and other channels and through multilateral channels was 35 and 31 respectively, while the number of developing country Parties that reported on financial support needed and received was 36 and 47 respectively.

2. Scalable solutions

27. Numerous examples of successful PaMs presented in the BTR1s could be replicated by other Parties and scaled up to accelerate climate action and deliver exponential progress towards net zero – progress that is urgently needed to achieve the goals of the Paris Agreement.

28. Renewable energy and electric vehicles have emerged as the most scalable mitigation opportunities for many countries, and the results evident in the BTR1s arising from policies promoting them are remarkable. Rapid expansion in installed wind and solar power capacity to meet most of the growth in electricity demand, with corresponding growth in power generation from renewable sources, can be observed in many countries. Similarly, sales of electric vehicles are growing quickly, with their market share of new cars reaching as high as 90 per cent in some countries.

29. Promoting energy efficiency is another area where the BTR1s offer scalable solutions. Success in improving energy efficiency lies in implementing comprehensive, multi-pronged efforts, including introducing labelling to provide information on the energy consumption and efficiency of household appliances, providing incentives for faster uptake of new energy-efficient technologies in the building sector (such as heat pumps), promoting market-based instruments for energy efficiency, training the workforce in energy efficiency, and raising public awareness of energy efficiency by including the topic in educational curricula and delivering energy efficiency kits to households.

30. Most Parties reported on their laws, acts and regulations relevant to climate change, reflecting widespread efforts to establish formal legal and regulatory frameworks for climate action and to align those domestic frameworks with international commitments under the Paris Agreement. The information reported in the BTR1s shows that national climate laws and regulations have emerged as essential tools for ensuring systemic changes towards a green economy across all areas of a country's economy and society. In many countries, climate laws have made climate ambition a legally binding, long-term governance system. Climate laws have also proven important in aligning finance, both public and private, with climate goals, for example by establishing green budgets and redirecting investments to low-carbon projects.

3. Data and knowledge

31. The BTR1s reveal that Parties have data and knowledge gaps hindering them in evidence-based climate-related policymaking and decision-making on climate action. The rigorous reporting requirements under the ETF have proven challenging for some developing countries, largely owing to data gaps.

32. While the progress achieved by many developing countries in some areas cannot be overstated – for example reporting comprehensively on GHG inventories and providing information on financial, technology development and transfer, and capacity-building support needed and received – many face technical challenges and capacity-building constraints, primarily relating to the quality of available data; the application of methodologies for estimating GHG emissions, assessing the impacts of PaMs and developing GHG emission projections; and the development of comprehensive systems for monitoring GHG emissions. The BTR1s of some developing country Parties contain limited data on trends in GHG emissions, pointing to their lack of data and capacity to compile a comprehensive GHG inventory as a contributing factor. The BTR1s also provide limited data on GHG projections to 2030 and 2035. Only 30 Parties reported GHG projections, representing 31.7 per cent of total GHG emissions in 2020, and several developing country Parties chose to apply flexibility to reporting projections owing to capacity constraints.

33. Of the 66 developing country Parties that submitted a BTR1, 47 applied at least one flexibility provision. The challenges faced by developing countries underline the need for continuous capacity-building support (e.g. via the Capacity-building Initiative for Transparency) to strengthen institutional capacity for data collection and analysis and to address information and data gaps with a view to enhancing the quality of reporting in the BTRs.

34. Challenges, gaps and barriers featured prominently in the BTR1s of the 91 Parties that reported on climate change impacts and adaptation. Knowledge-based, technical challenges were reported by 72 Parties and institutional and governance challenges by 71 Parties. However, the BTRs also contain solutions: more than half of Parties reported good practices and lessons learned in adaptation, reflecting their gain in experience as they move through iterations of the adaptation cycle. Lessons learned relate to inclusive participation, institutional coordination and flexible, evidence-based approaches, while good practices relate to community-based adaptation, participatory planning and engagement with Indigenous Peoples and local communities.

4. Socioeconomic co-benefits of climate action, just transition and inclusiveness

35. Many Parties described the social and economic co-benefits of climate actions, such as improved public health, creation of jobs in green sectors, and enhanced food and water security. They also addressed the adverse social and economic consequences of climate impacts, such as poverty, inequality and forced migration. Some 43 per cent of Parties in their BTR1s emphasized synergy between climate policies and broader socioeconomic development goals such as improved livelihoods, health, employment and household consumption.

36. Some Parties are shifting political attention to socially fair just transition policies and strategies as part of their efforts to ensure that inclusive climate actions recognize and engage affected stakeholders. In the context of PaMs, some Parties reported on just transition policies designed to counter the negative impacts of structural changes to economies arising from energy transformation. Many of those Parties highlighted their establishment of committees or task forces for monitoring and addressing such impacts, along with funds to support measures in the just transition policies. Strategies to develop the renewable energy industry and tourism, as well as retrain workers, were reported as being targeted to coal-dependent regions and peat-producing areas.

37. It is evident from many BTR1s that engaging all stakeholders in climate policy planning and decision-making is a growing practice bringing unique insights, technical expertise and local knowledge to those processes. An inclusive approach to climate policymaking – an enabler for accelerated climate action – fosters collaboration and builds trust among stakeholders and ensures that policies are effective and sustainable. Climate policies that are inclusive and supportive of sustainable social and economic development also promote stakeholder confidence that arrangements have been put in place to ensure just and equitable transition and that no one will be left behind, thus enhancing broad acceptance of such policies and enabling accelerated implementation of climate action.

II. Introduction

A. Mandate

38. CMA 1 requested the secretariat to produce synthesis reports on Parties' BTRs and NIRs.[5]

B. Scope

39. This report synthesizes information from the 101 BTR1s and other components of BTR submissions (i.e. NIDs, CRTs and CTF tables) submitted by Parties as at 15 April 2025.[6]

[5] Decision 18/CMA.1, para. 6(a).

[6] The number of Parties that had submitted, as at 15 April 2025, at least one component considered in the synthesis is 109. On that date, 82, 98, 84 and 66 Parties respectively submitted NIDs, CRTs, CTF tables for NDC information and CTF tables for financial, technology development and transfer, and capacity-building support information.

The submissions include information and data up until 2022 and together represent some 75 per cent of total global GHG emissions in 2020.[7]

40. Details on reporting requirements and information covered under the different thematic areas are provided in each chapter or subchapter. The Parties that reported this information in their BTR1 and thus were included in the synthesis for that chapter or subchapter are listed in the annex.

41. The report highlights the collective progress of Parties and the challenges faced by them in fulfilling their commitments under the Paris Agreement. It underscores the critical role of transparency in fostering mutual trust and facilitating ambitious global climate action and support and offers insights into Parties' diverse national circumstances, institutional arrangements and capacities for climate-related reporting.

C. Structure of the report

42. The report provides a comprehensive overview of the information reported by Parties in their BTR1s. Its structure, which aligns closely with the thematic areas of the ETF and reporting format of the MPGs, is as follows:

(a) Chapter III provides a synthesis of the information on national GHG inventories, including total and sectoral emission trends;

(b) Chapter IV provides a synthesis of the information necessary to track progress in implementing and achieving NDCs, including on national circumstances and institutional arrangements; description of NDCs; PaMs implemented or planned, along with their expected and achieved emission reductions and an assessment of the economic and social consequences of response measures; GHG emission projections under various scenarios, along with the approaches and assumptions used in developing them; and progress of Parties in implementing and achieving their NDCs, by target type and using quantitative and qualitative indicators;

(c) Chapter V provides a synthesis of information related to climate change impacts and adaptation under Article 7 of the Paris Agreement, including on Parties' national circumstances, institutional arrangements and legal frameworks; impacts, risks and vulnerabilities; adaptation priorities and barriers; integrating adaptation into national policies and strategies; progress in implementing adaptation; monitoring and evaluation of adaptation actions and processes; and averting, minimizing and addressing loss and damage;

(d) Chapter VI provides a synthesis of the information on financial, technology development and transfer, and capacity-building support provided and mobilized, and needed and received, including financial support provided and mobilized through bilateral, regional and other channels and multilateral channels; thematic and sectoral distribution of financial support; and financial instruments and grant-equivalent support;

(e) Chapter VII provides a synthesis of information reported by Parties on broader aspects of climate action, including applying whole-of-society approaches to climate action, integrating diverse perspectives into climate action, and fostering synergies between climate action and the SDGs;

(f) Chapter VIII provides a synthesis of information on transparency arrangements, constraints and planned improvements related to reporting, including on the application of flexibility, capacity constraints, reporting-related capacity-building needs and future improvement plans.

[7] Based on total global GHG emissions in 2020, as estimated by the secretariat in document FCCC/PA/CMA/2024/10.

III. Information on greenhouse gas emissions and removals

43. In accordance with the MPGs,[8] each Party shall provide a national GHG inventory report either as a stand-alone document or as a component of the BTR.[9] Parties are required to report a consistent annual time series starting from 1990. However, developing country Parties may instead report GHG inventory data covering, at a minimum, the reference year/period for their NDCs and, in addition, a consistent annual time series from at least 2020 onward.[10]

44. Relatively few Parties reported GHG data for 1990 in their NIRs. As such, 2005, which was reported by more Parties and for which overall emissions are higher, was selected as the reference year for this synthesis.

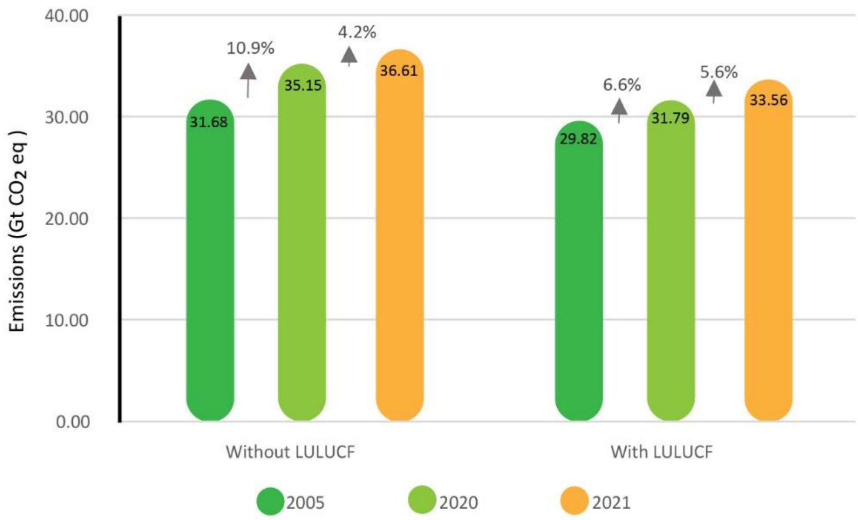
45. Information in this chapter is based on the GHG emissions and/or removals reported by 105 Parties in their BTRs and/or NIRs. Because quantitative data were not available for all Parties for the entire time series, data are presented for 81 Parties (unless otherwise specified) and only for 2005, 2020 and 2021. The 81 Parties represent a large share of total emissions in the reported years, and the three years were chosen to maintain a consistent set of Parties across those years.

A. Trends in total emissions

46. Between 2005 and 2021, total aggregate GHG emissions without LULUCF for the 81 Parties increased by 15.6 per cent, from 31.68 to 36.61 Gt CO_2 eq. These Parties represent about 69 per cent of total global emissions in 2021. Total GHG emissions with LULUCF increased by 12.6 per cent, from 29.82 to 33.56 Gt CO_2 eq (see figure 1).

47. The growth in emissions had several drivers, including increased economic activity (particularly following the coronavirus disease 2019 pandemic), population growth, greater use of private vehicles, expansion of livestock and agricultural production, increased frequency of extreme weather events that intensified energy demand for cooling and heating, increased use of hydrofluorocarbons in refrigeration and air conditioning, and biomass carbon loss from wildfires, storms and deforestation.

Figure 1
Total greenhouse gas emissions in 2005, 2020 and 2021 for 81 Parties

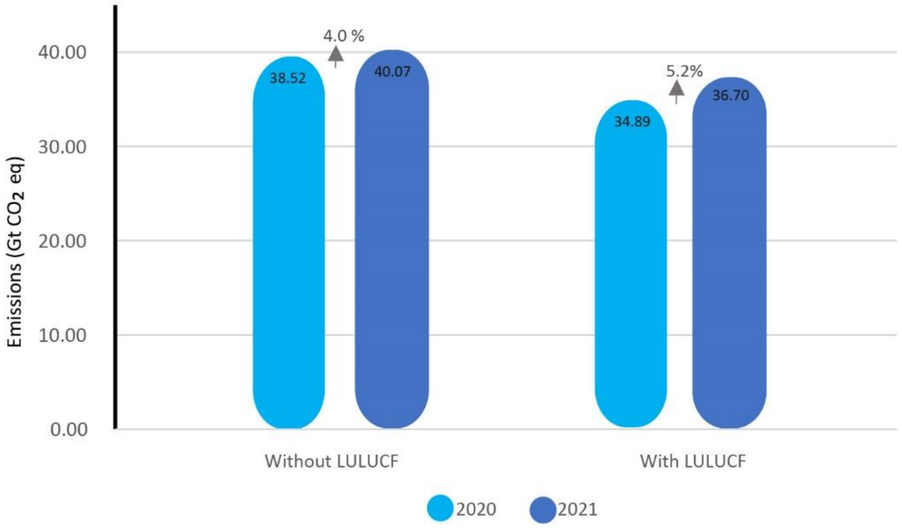


Note: The totals presented in this figure refer to 81 Parties that reported information for 2005, 2020 and 2021 and represent a large share of total emissions in those years.

[8] Decision 18/CMA.1, annex.
[9] Decision 18/CMA.1, annex, para. 12.
[10] Decision 18/CMA.1, annex, para. 57.

48. Figure 2 shows the GHG emissions for 2020 and 2021 for the 105 Parties. GHG emissions increased between 2020 and 2021 by 4.0 per cent without LULUCF (from 38.52 to 40.07 Gt CO_2 eq) and by 5.2 per cent with LULUCF (from 34.89 to 36.70 Gt CO_2 eq), primarily as a result of the post-pandemic surge in economic activity, with domestic transport and power generation being the main drivers.

Figure 2
Total greenhouse gas emissions in 2020 and 2021 for 105 Parties



Note: The totals presented in this figure refer to 105 Parties that reported information for both 2020 and 2021.

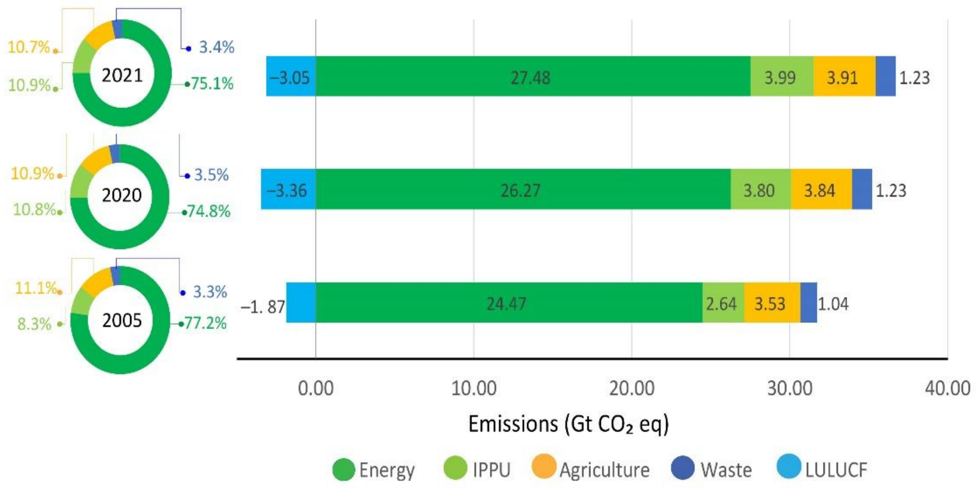
B. Trends in sectoral emissions

49. In 2005, 2020 and 2021, the energy sector was the largest contributor to total GHG emissions for the 81 Parties, while the waste sector accounted for the smallest share (see figure 3). In 2005 and 2020, the agriculture sector had the second largest share of emissions, followed by the IPPU sector. However, in 2021, emissions from the IPPU sector surpassed those from the agriculture sector, largely owing to increased industrial activity following the pandemic.

50. Emissions for all sectors increased between 2005 and 2021, with the largest absolute increase occurring in the energy sector (by 3.0 Gt CO_2 eq, or 12.3 per cent). Emissions in the IPPU, agriculture and waste sectors rose by 50.8, 10.9 and 18.6 per cent respectively. The mitigation policies and legislation put in place by Parties contributed to a reduction in emissions; however, the gains were offset by the effects of factors such as population growth (13.8 per cent) and GDP increases (46.6 per cent) in this group of countries. Net removals from LULUCF showed a significant increase of 63.4 per cent over 2005–2021 (from 1.87 to 3.05 Gt CO_2 eq) owing to reduced land clearing, expansion of forests, fewer fires, and implementation of deforestation and fire control action plans.

51. Between 2020 and 2021, emissions increased across all sectors except waste, for which emissions decreased slightly (by 0.03 per cent). In the energy sector, emissions rose by 4.6 per cent, while the IPPU and agriculture sectors saw increases of 5.0 and 1.7 per cent respectively. Net removals decreased by 9.2 per cent, driven by faster soil carbon decay under wetter conditions and the ageing of forests.

Figure 3
Total greenhouse gas emissions in 2005, 2020 and 2021 for 81 Parties, by sector



IV. Information necessary to track progress in implementing and achieving nationally determined contributions

52. In accordance with the MPGs,[11] Parties reported in their BTR1s the information necessary to track progress in implementing and achieving their NDCs.[12] The synthesis in this chapter covers information from the BTRs submitted by 102 Parties.

A. National circumstances and institutional arrangements

53. The information reported by Parties on national circumstances provides a broad context for their GHG emission trends and climate actions. Parties included geographical, climate, demographic, economic and energy profiles of their countries with details on, for example:

(a) Land area, physical features of the landscape, climate zones and natural resources;

(b) Vulnerability to climate change; exposure to climate risks and natural hazards (e.g. drought, floods, sea level rise); and the role of forests, coastal areas and other ecosystems in mitigation and adaptation;

(c) Population size, density and growth trends; urbanization; age distribution; migration trends; and social development indicators (health, education, poverty and inequality);

(d) GDP and GDP growth rate; development status and needs; production and consumption patterns; trade and place in international markets; trends and developments in sectors key to NDC implementation (energy, transport, agriculture, IPPU, waste, services) and their contribution to growth; dependence on fossil fuels, agriculture, forestry or extractive industries;

(e) The energy mix (e.g. renewables, fossil fuels, hydro, biomass, nuclear), renewable energy sources and the role of renewable energy in energy transition, dependence on energy imports versus availability of domestic resources, level of electrification, access to energy and energy efficiency;

[11] Decision 18/CMA.1, annex, paras. 59–103.
[12] Parties' NDCs are available at the NDC registry (https://unfccc.int/NDCREG).

(f) The roles of Indigenous Peoples' knowledge, traditional knowledge and local practices in and public attitudes to climate action.

54. The information provided on institutional arrangements describes the systems Parties have in place for climate policymaking, data management and reporting. Parties typically included in their descriptions the designated ministry or agency with overall responsibility for implementing the Convention and the Paris Agreement and coordinating with the entities responsible for developing and implementing sectoral PaMs; the entity with oversight for BTR preparation and other climate-related reporting; and the entity responsible for maintaining the GHG inventory system. Details were also included on institutional frameworks for tracking mitigation actions and support; stakeholder involvement in climate-related reporting and implementation of PaMs, with an emphasis on the inclusion of actors from civil society, academia, the private sector and subnational governments; and efforts to enhance institutional capacity to meet requirements under the ETF.

55. Parties provided information on legal, institutional, administrative and procedural arrangements for domestic implementation, monitoring, reporting, archiving of information and stakeholder engagement related to implementing and achieving their NDCs, including regulatory frameworks and policies mandating data-sharing relevant for implementation of NDCs between authorized entities, implementation of climate action and compliance with the ETF.

56. Information reported on legal arrangements typically includes laws and regulations stipulating NDC targets and assigning roles and responsibilities for monitoring and reporting on progress in implementing NDCs, including for data collection for that purpose. Regarding institutional arrangements, descriptions often include details on the ministry or agency leading the coordination of NDC implementation and interministerial committees or working groups on cross-sectoral coordination thereof; monitoring, verification and reporting systems for GHG inventories and for mitigation and adaptation actions and PaMs; and independent oversight bodies. Some Parties reported engaging stakeholders in NDC development, including via public consultations and multi-stakeholder advisory groups (comprising representatives of civil society, the private sector, academia and Indigenous Peoples).

57. Parties also highlighted barriers to and challenges in implementing their NDCs. These include limited technical capacity; lack of relevant statistical data, trained personnel and private sector participation; and the need for data systems for monitoring and evaluating the progress of interventions and their impacts.

B. Description of nationally determined contributions, including updates

58. In accordance with the MPGs, Parties in their BTRs provided a description of their NDCs against which progress in implementation and achievement will be tracked. This information in most cases includes type of target(s); target year(s) or period(s); reference point(s), level(s), baseline(s), base year(s) or starting point(s) and their respective value(s), time frame(s) and periods for implementation; scope and coverage (sectors and gases); and intention to use cooperative approaches.[13]

59. Parties have a wide range of targets that, for the purpose of this synthesis, can be grouped into three categories: targets based on GHG emission reduction or limitation (e.g. base-year emission reduction target, baseline scenario target, fixed-level emission target); targets based on non-GHG outcomes (e.g. increase in renewable energy production, increase in forest area); and targets based on implementation of mitigation actions, including mitigation co-benefits from implementing economic diversification plans and adaptation actions.

60. Most Parties reported 2021–2030 as the implementation period for their NDCs and 2030 as the target year. Some Parties also indicated an interim target year(s), for instance 2025, and a few Parties reported having an implementation period with a starting year before 2020. Regarding reference point(s), base year(s) and baseline(s), Parties selected those that

[13] Decision 18/CMA.1, annex, para. 64.

are relevant for implementation of their NDC but also, more importantly, those for which they have reliable, accurate data.

61. More information on Parties' NDCs can be found in the report prepared by the secretariat synthesizing information from the latest NDCs.[14]

C. Mitigation policies, measures, actions and plans related to implementing and achieving nationally determined contributions

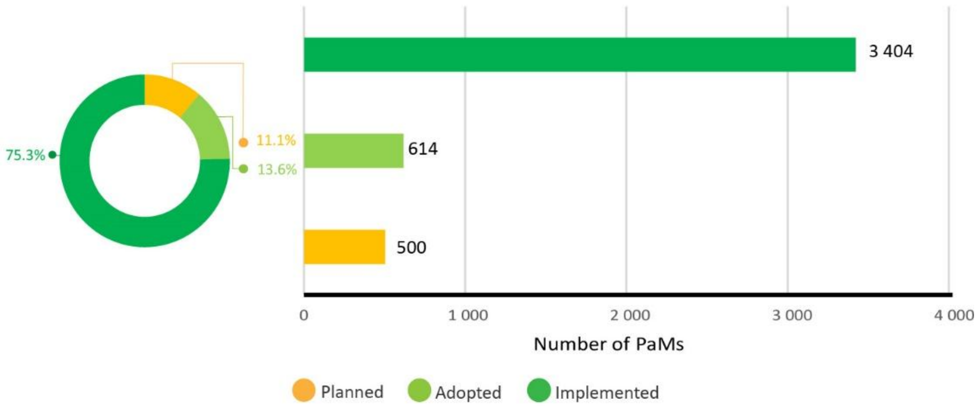
62. Parties reported in their BTRs and CTF table 5 information on PaMs that support implementation and achievement of their NDCs. This information includes, for each policy or measure, the name, description, objectives, starting year of implementation, implementing entity or entities, sectors affected, gases affected, status of implementation and type of instrument.[15]

63. Eighty-two Parties submitted information on PaMs in CTF table 5. An additional eight Parties included information on PaMs in tabular format in the BTR. Together, these 91 Parties provided information on 4,816 PaMs, which is the basis of the synthesis presented in this subchapter.

1. Synthesis of policies and measures

64. Most PaMs were reported as implemented (75.3 per cent), but a significant number were reported as adopted (13.6 per cent) or planned (11.1 per cent), which likely reflects the actions spurred by NDC targets and put into place by Parties to meet them (see figure 4).

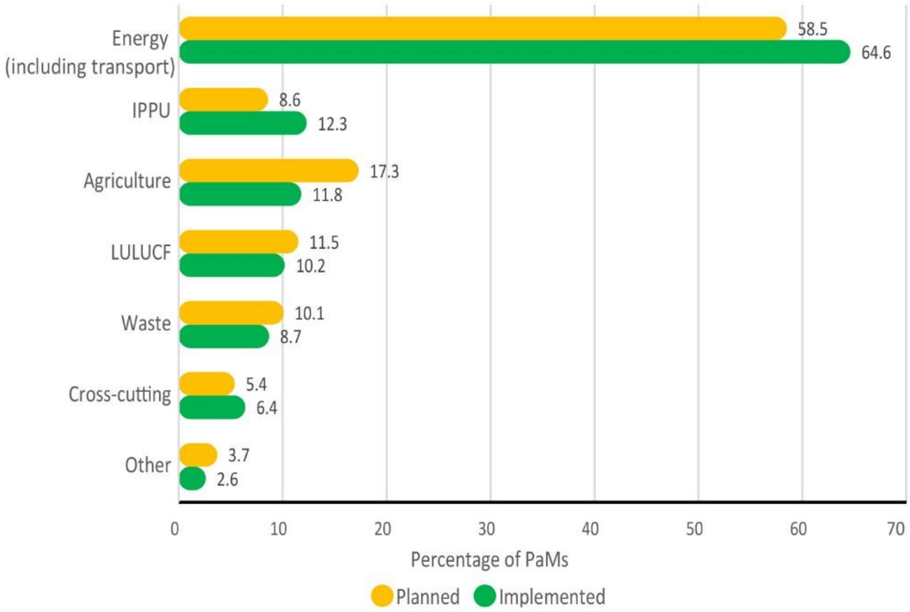
Figure 4
Policies and measures reported as planned, adopted or implemented



65. A sectoral breakdown of planned and implemented PaMs (see figure 5) provides some insight into Parties' more recent actions, which likely include those implemented to achieve their NDC targets. While the distribution of implemented and planned PaMs is similar across sectors, the shares of planned energy and IPPU PaMs are lower than those implemented, while the shares of planned waste, agriculture and LULUCF PaMs are higher than those implemented. This could indicate that Parties are first focusing on wider-reaching, less complex or lower-cost energy and IPPU PaMs, before considering sectors for which abatement is more complex or costly.

[14] FCCC/PA/CMA/2025/8.
[15] As per decision 18/CMA.1, annex, paras. 80–82.

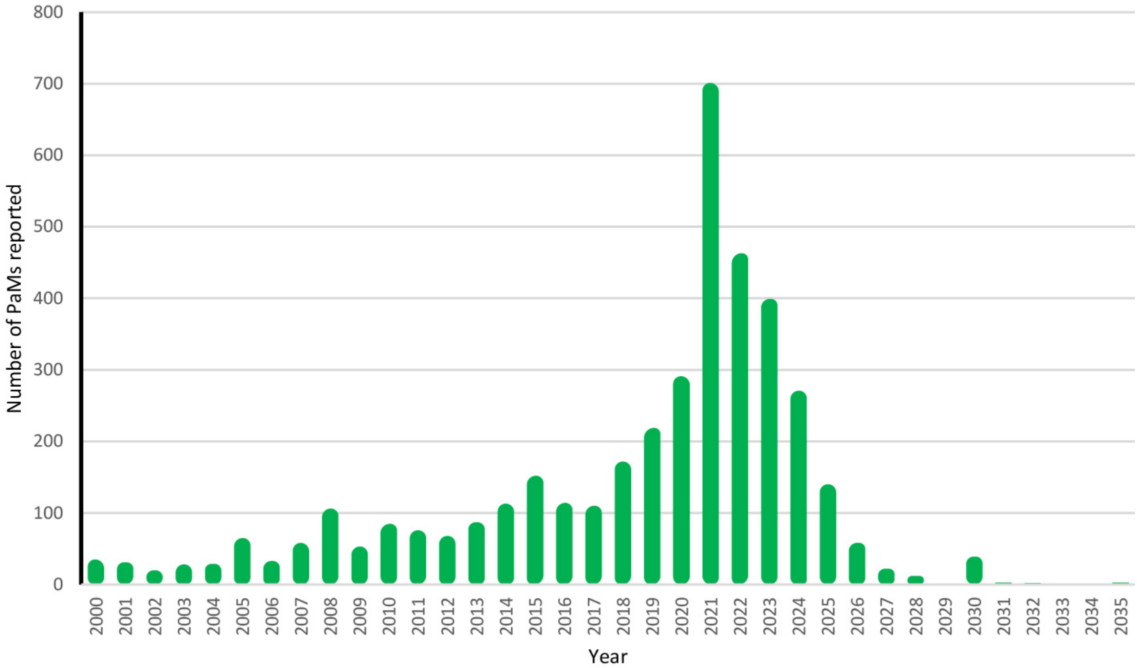
Figure 5
Planned and implemented policies and measures reported, by sector



Note: PaMs reported with multiple sectors are counted under each sector.

66. Although Parties reported a wide range of starting years for their PaMs, a clear trend can be observed, namely a dramatic increase in the number of PaMs starting in 2018, with a peak in 2021. Given that most Parties' NDC implementation periods begin in 2021, this finding indicates that Parties have developed and put into place new PaMs to support the achievement of their NDC targets. Figure 6 shows the distribution of starting years for 2000–2035 for all PaMs reported.

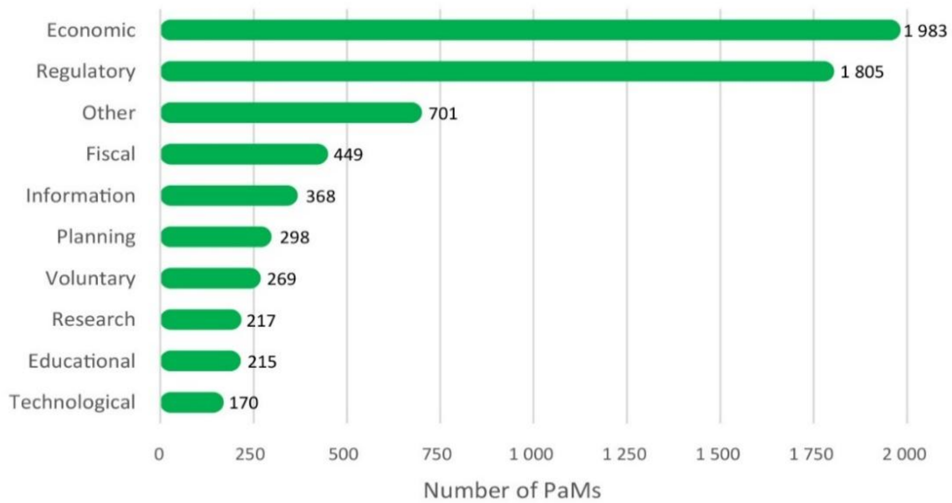
Figure 6
Starting years of policies and measures reported



67. Parties also reported the type of instrument associated with each policy or measure. Regulatory and economic instruments, or combinations including one of them, were the most frequently reported, in approximately equal proportion. Regulatory PaMs include product

efficiency standards, prohibitions on new connections to natural gas networks, CH_4 capture mandates for landfills and biofuel blending requirements. PaMs reported as economic instruments include cap-and-trade programmes, funding for low-emission agriculture pilot projects, rebates for battery storage systems, grants to install solar photovoltaic systems in apartment buildings and payments for reforestation of land. PaMs reported as being a combination of regulatory and economic instruments include cap-and-trade systems and renewable electricity mandates with feed-in tariffs. In all, Parties reported more than 700 types of instrument or combinations thereof. The most frequently reported instrument types, either alone or in combination with others, are shown in figure 7.

Figure 7
Policies and measures reported, by most reported instrument type



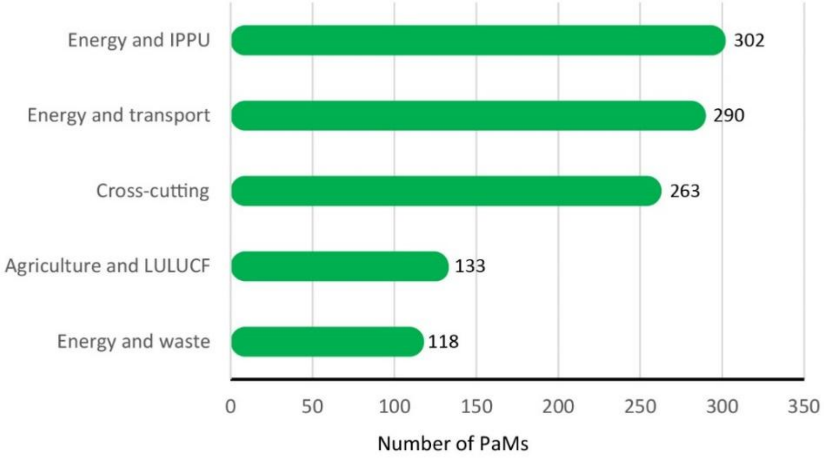
Note: PaMs reported with multiple instrument types are counted under each instrument type.

(a) Cross-cutting

68. Parties reported many PaMs that involve multiple sectors, either by reporting the sector as cross-cutting or by reporting more than one sector. PaMs classified in this manner include framework laws; climate funds; strategies for achieving net zero or low-carbon economy, a circular economy or green jobs; carbon capture; carbon pricing; and research and development on clean technologies. Some Parties reported PaMs aimed at integrating climate action with economic development, such as strategies for growing battery manufacturing and other mitigation-related industries, increasing the competitiveness of manufacturing industries through efficiency gains or energy transition, and achieving low or zero carbon infrastructure development. Carbon pricing measures include cap-and-trade programmes, carbon taxes and carbon border adjustment mechanisms for imports. Climate funds include those financed by revenue from energy or carbon taxes, auction proceeds from cap-and-trade programmes or government revenue.

69. The PaMs reported as addressing multiple sectors were most frequently combinations for which natural synergies exist between the sectors. Figure 8 shows the most common combinations, led by energy and IPPU. This combination includes building codes, product standards, low-emission industry strategies, emissions trading schemes, decarbonization strategies and clean hydrogen production. Measures that address both energy and transport include emissions trading schemes, energy taxes, electrification, clean fuel standards and fossil fuel phaseout.

Figure 8
Policies and measures most reported as cross-cutting or addressing multiple sectors



70. Colombia enacted a carbon tax in 2016 aimed at discouraging fossil fuel use and encouraging energy efficiency. The tax is proportional to the amount of potential GHG emissions generated by a fuel and increases annually by 1 per cent, after inflation. A certified emission offset mechanism, by which 50 per cent of the tax can be avoided, was also introduced.

71. In 2008, New Zealand introduced the New Zealand Emissions Trading Scheme. The Scheme covers liquid fossil fuels, synthetic GHGs, the stationary energy sector, and the IPPU, forestry and waste sectors. Specific activities under the IPPU sector include iron, steel and clinker production. Forest owners are eligible to earn emission units that represent the carbon sequestered by their forest and are liable to penalties if deforestation occurs.

(b) Energy sector

72. The largest number of reported PaMs (more than 2,000 of the 4,816 considered in the synthesis) were targeted at the energy sector, including transport, which is proportionate with the emissions generated by the sector. The PaMs reported relate to retrofitting buildings to improve energy efficiency, renewable energy sources, energy taxes, nuclear power, power plant efficiency, net zero buildings, building energy codes, electric vehicles, coal phaseout, product efficiency standards and energy labelling.

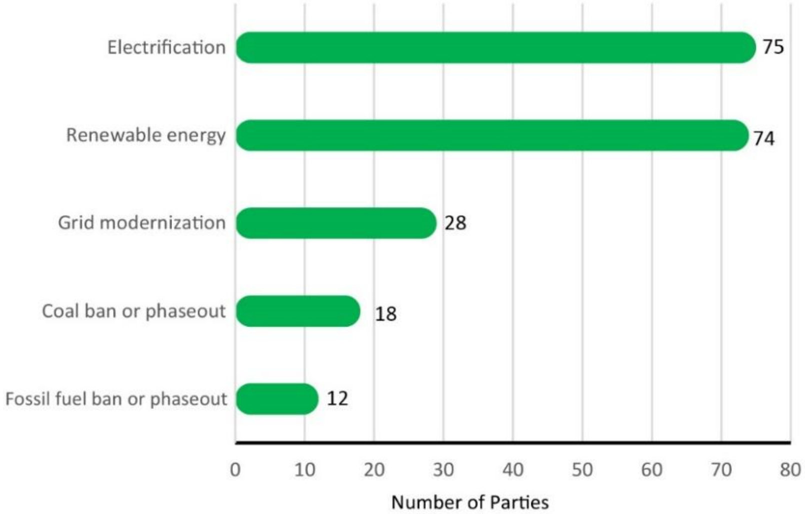
73. In 2023, the EU strengthened its CO_2 emission performance standards for new passenger cars and vans from 2030 onward. The new standards increase the performance levels by 55 per cent for cars and 50 per cent for vans in 2030 and by 100 per cent for both cars and vans in 2035, resulting in a reduction in total CO_2 emissions from cars and vans by 32–33 per cent by 2030 and 54–66 per cent by 2035 compared with the 2005 levels.

74. Chile reported on its multi-pronged efforts to increase energy efficiency, including introducing labelling to provide information on energy consumption and efficiency of household appliances, workforce training in energy efficiency, delivering energy efficiency kits to households, improving energy efficiency standards for public education buildings, and promoting market-based energy efficiency through financing via energy service companies.

75. Parties reported addressing emissions from aviation and maritime transport by, for example, introducing fuel blending requirements and incentives, improving aircraft fuel efficiency, establishing emissions trading schemes, providing grid electricity for docked ships and increasing monitoring and reporting of fuel use and emissions. While international transport is not covered under the Paris Agreement, some Parties reported on relevant measures in this regard: 37 Parties mentioned participating in the Carbon Offsetting and Reduction Scheme for International Aviation and 17 Parties reported making efforts to reduce emissions from international navigation, particularly shipping, that align with the recommendations of the International Maritime Organization.

76. The reporting indicates that transformation of the energy system is planned or under way for many Parties. Many Parties reported PaMs related to electrification of end uses that have traditionally been powered by fossil fuels. Increased electrification provides a pathway to replacing fossil fuels with electricity generated with renewable energy. Examples of relevant PaMs include promoting the use of electric light- and heavy-duty vehicles, the electrification of industrial processes and the use of electric heat pumps for heating buildings. Parties also reported policies related to modernizing power grids to support the integration of more renewable electricity generation, for example increasing grid monitoring and control points, upgrading transmission lines, upgrading information systems and adding battery storage. A small number of Parties reported banning or phasing out some uses of fossil fuels, such as coal-fired power plants and oil-fired boilers in residential and commercial heating systems. Figure 9 shows the number of Parties that reported one or more PaMs relevant to energy transformation.

Figure 9
Policies and measures relevant to energy transformation reported



Note: Coal ban or phaseout does not include Parties that have already ceased using coal and therefore do not have PaMs related to it.

77. In China in 2022, new renewable energy installations accounted for 76 per cent of all newly added power generation capacity. Renewable energy uptake was supported by, for example, a five-year plan for renewable energy development, the Renewable Energy Scale-Up Program and a strategy to install solar photovoltaic systems in social housing and government buildings.

78. France has introduced competitive pricing for decarbonized electricity and will reduce incentives for the use of fossil fuels in order to encourage further electrification. The expansion of heat pumps is planned by phasing out the use of oil-fired boilers in commercial buildings by 2030. Incentive mechanisms are also planned to gradually replace gas-fired boilers with heat pumps and support for the installation of gas-fired heating systems was eliminated in 2025. Other PaMs aimed at phasing out fossil fuels in France include plans to cease coal-fired power generation by 2027 and oil-fired power generation by 2030.

79. The Republic of Korea reported that it has formulated and implemented power grid plans optimized for accommodating increasing electricity demand and an evolving power mix while establishing the foundation for smart, flexible grid operations to ensure stability of power supply. The country’s Special Act on Activation of Distributed Energy mandates distributed energy installation in some new or renovated buildings in grid-congested areas, introduces power grid impact assessment systems to manage demand at large facilities and provides financial incentives to promote distributed energy development.

80. Canada reported that it is striving to achieve the phaseout of traditional coal-fired electricity by 2030 and is amending relevant regulations in this regard. Many of its provinces

have action plans to phase out the use of coal, including New Brunswick (in its latest climate action plan), Alberta (Climate Leadership Plan), and Nova Scotia (2030 Clean Power Plan).

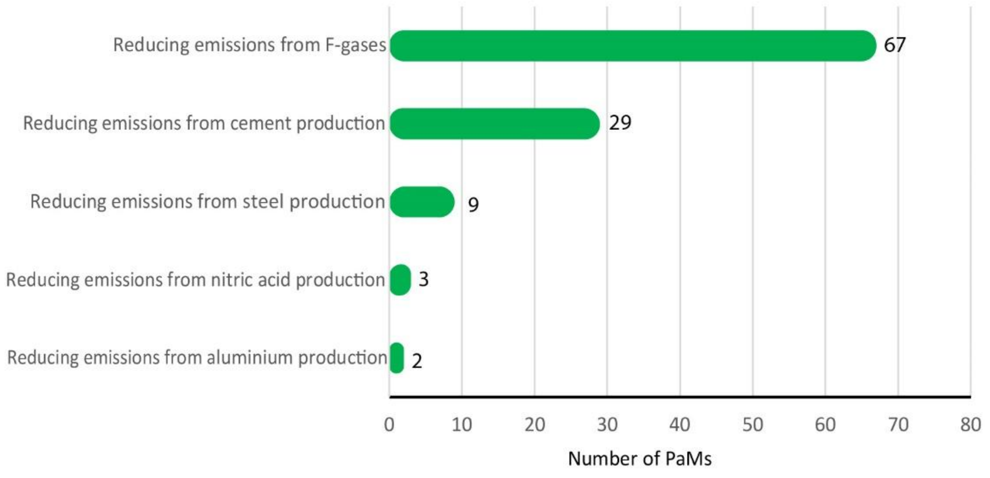
81. Many Parties reported significant recent progress in electrifying transport. In the Hong Kong Special Administrative Region of China, the share of electric cars (both battery-only and plug-in hybrids) in new registrations reached 78 per cent in the first quarter of 2024. Electric cars reached about 22 per cent of all new cars registered in the EU in 2022. In Norway, electric vehicles reached 90 per cent of new car registrations in 2024. The share of electric cars in new registrations in Uruguay reached 7 per cent in the first quarter of 2024, more than double the share in 2022. Increases in electric vehicle sales were supported by PaMs such as sales rebates, tax exemptions, registration fee discounts, discounted parking or tolls, new public charging stations and financial incentives for private chargers.

82. Some Parties reported on just transition policies designed to counter the negative impacts of structural changes to economies arising from energy transformation. Many of those Parties highlighted their establishment of committees or task forces for monitoring and addressing such impacts, along with funds to support workers impacted. Strategies to develop the renewable energy industry and tourism and the arts, as well as retrain workers, were reported as being targeted to coal-dependent regions and peat-producing areas.

(c) Industrial processes and product use sector

83. Parties reported a variety of PaMs aimed at reducing IPPU emissions, the most common being those addressing emissions from refrigerants and other F-gases by promoting substitutes and reducing escaped gases. Some PaMs are aimed at restricting or phasing out refrigerants with high global warming potential (e.g. R-134a, R-404a and R-410a) or replacing them with low global warming potential alternatives (e.g. R-290 and R-600a). Other commonly reported measures include those targeted at specific industrial processes, such as nitric acid production and aluminium smelting. Some Parties reported PaMs targeted at increasing recycling or the use of material substitutes in industrial processes, including cement production. Figure 10 shows commonly reported PaMs under the IPPU sector.

Figure 10
Policies and measures for the industrial processes and product use sector most reported



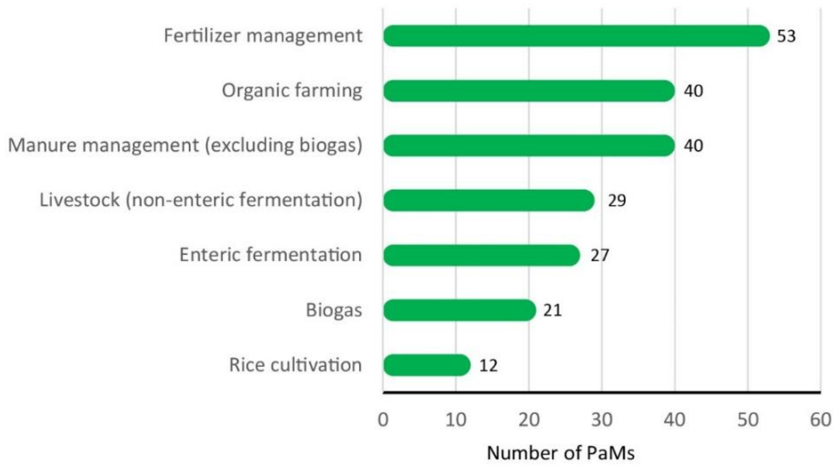
84. In the Netherlands, emissions from the IPPU sector decreased by 47.2 per cent over 1990–2022. This reduction was supported by the European Union Emissions Trading System, especially with regard to nitrous oxide emissions, which declined by 90.1 per cent in the same time period, but was also enabled by programmes focused on reducing emissions of non-CO_2 GHGs as the EU industrial emissions directive and the EU F-gas regulation. A reduction in F-gas emissions of 83.4 per cent over 1990–2022 was achieved. Other IPPU PaMs include targeting renewable energy projects and grid upgrades for industry clusters, an investment subsidy for deploying innovative technologies in green chemistry and for electrification within the industry, and a national CO_2 pricing system for industry.

85. To reduce its IPPU emissions, Tunisia has targeted efforts towards three of the largest sources of emissions in this sector. For the cement production industry, it is making efforts to reduce the clinker to cement ratio (to produce cement with lower emissions). Efforts are also being made to add catalytic scrubbers at a nitric acid plant to reduce nitrous oxide emissions. To reduce F-gas emissions, the Party has launched an import control system and certification programmes for workers in the refrigeration industry.

(d) Agriculture sector

86. Parties reported on a range of PaMs aimed at reducing emissions in the agriculture sector, mostly in the areas of manure management, enteric fermentation in livestock (CH_4 emissions), fertilizer use, rice cultivation and livestock production (see figure 11). Examples include introducing or promoting feed additives and breeding programmes to reduce CH_4 emissions from livestock, incentives for anaerobic digesters for manure management systems, precision fertilization systems to optimize fertilizer use and holistic organic farming methods.

Figure 11
Policies and measures for the agriculture sector most reported



87. In the Niger, the agricultural sector accounted for nearly 75 per cent of emissions in 2022, and the country has developed strategies for sustainable land and water management and climate-smart agriculture. Other PaMs in place include scaling up good practices, restoring degraded pastoral land and improving livestock production techniques.

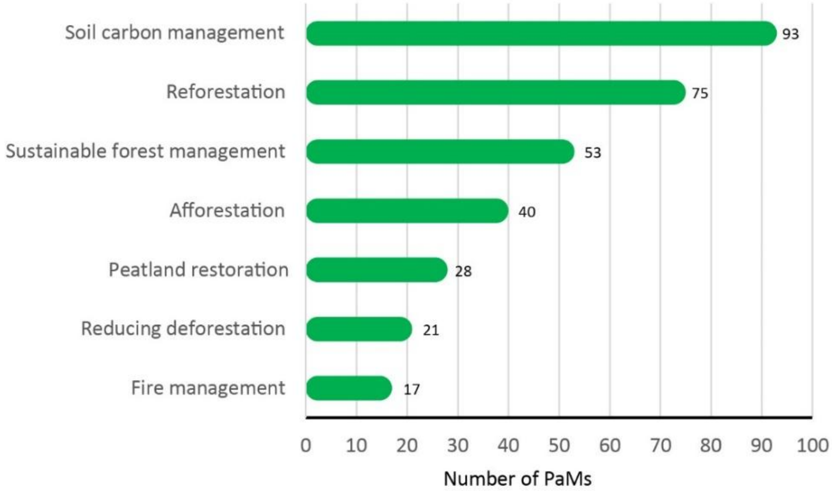
88. Australia has several programmes in place to incentivize climate-friendly agriculture, including the Climate-Smart Agriculture Program, a programme focused on collecting and combusting CH_4, a programme focused on CH_4-reducing livestock feed and the National Soil Carbon Innovation Challenge. In addition, it has several state-level agriculture emission reduction pledges and road maps to increasing sustainable agriculture.

(e) Land use, land-use change and forestry sector

89. Parties reported on a range of PaMs aimed at reducing emissions and enhancing removals in the LULUCF sector, mostly in the areas of soil carbon management, forest stock increase (through the reduction of deforestation and forest degradation), afforestation, reforestation, sustainable forest management, forest fire management and peatland restoration (see figure 12).

90. As part of their BTR1s, six Parties submitted REDD+ technical annexes in accordance with Article 5 of the Paris Agreement and the MPGs, in total reporting REDD+ results of about 250 Mt CO_2 eq (different results periods and REDD+ activities were covered by each submission). The REDD+ technical annex submissions reflect continued efforts by developing countries to halt and reverse deforestation and forest degradation and their intention to seek and obtain results-based finance for REDD+ activities.

Figure 12
Policies and measures for the land use, land-use change and forestry sector most reported



91. Brazil reported that it promotes the reduction of deforestation with policies such as the Action Plan for the Prevention and Control of Deforestation in the Amazon, the Amazon Fund and the National Plan for the Recovery of Native Vegetation, which apply mainly to permanent preservation areas and legal reserves, but also to degraded areas of public land (conservation units and Indigenous Peoples' land). These policies resulted in a 22 per cent reduction in deforestation in the Amazon in 2023 and an additional 40.5 per cent reduction from January to May 2024. Brazil plans to further restore natural vegetation and expand sustainable forestry.

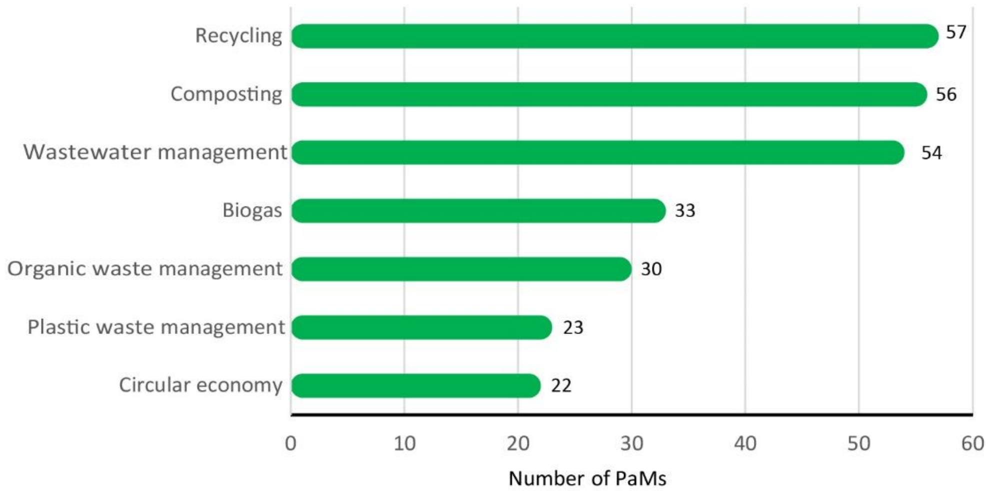
92. In Denmark, the LULUCF sector shows a declining trend in emissions, indicating progress towards net zero, especially since 2007, with the forest sector as a net sink. Relevant PaMs include the updated National Forest Programme, the eco-scheme on biodiversity and sustainability, a ban on burning straw residuals, a strategy to plant windbreaks to increase woody biomass, plans to promote public and private afforestation, subsidies to restore peatlands and the Danish Climate Forest Fund. Denmark is striving for 20–25 per cent forest cover by the end of the century (forest cover is 15 per cent as at 2025).

(f) Waste sector

93. Parties reported a variety of measures aimed at reducing emissions in the waste sector. The most frequently reported PaMs focus on reducing or diverting materials entering the solid waste stream, which include PaMs targeted at increasing recycling, reducing food and other organic waste, managing plastic waste and promoting a circular economy. Other focus areas are improvement of wastewater treatment and capture of biogas from both solid waste and wastewater. In these areas, examples of PaMs include increasing the coverage and efficiency of wastewater treatment, building anaerobic digestors for organic waste, establishing mandates for recycling and waste sorting, improving CH_4 management and capture at landfills, and introducing incentives for industry to establish circular economy programmes. Figure 13 shows the number of reported PaMs in the most common areas.

94. In Egypt, the Waste Management Regulation Law 202/2020 was created to, inter alia, minimize waste and increase recycling and composting. Currently, 35 per cent of collected solid waste undergoes treatment at mechanical and biological treatment plants, producing 4.3 Mt organic fertilizer and 1.7 Mt refuse-derived fuel. Other projects include a planned waste-to-energy plant that will generate 30 MW of power, the El Hammam wastewater treatment plant (for reuse of wastewater) and the recently completed Bahr Al-Baqar wastewater treatment plant (one of the largest agricultural drainage and wastewater treatment plants of its kind worldwide). Treated water is used for irrigation to combat water shortages attributable to climate change.

Figure 13
Policies and measures for the waste sector most reported



95. In Japan, CH_4 emissions decreased by 76 per cent in the waste sector between 1990 and 2022 owing to improvements implemented under the Waste Management and Public Cleansing Act, which provides a robust framework for the sector, and the modernization of landfills, including the adoption of a semi-aerobic landfill structure to reduce CH_4 emissions from decomposing organic waste. Total GHG emissions from waste decreased by 44 per cent in 1990–2022. Other initiatives relate to promotion of biomass plastics, reduction of waste incineration, waste separation, recycling, and a ban on direct landfilling of organic solid waste.

2. Expected and achieved greenhouse gas emission reductions of policies and measures

96. Of the 4,816 PaMs reported, quantified estimated achieved and/or expected emission reductions were included for 2,122 (43.9 per cent). For 272 PaMs, estimates were provided indirectly, meaning they were included in the estimates for another policy or measure (i.e. reported as “IE”). In total, 73 Parties reported estimated emission reductions for at least one of their PaMs. Parties reported estimates for 26 different years; 2030 was the most frequently reported, with 1,345 PaMs reported by 46 Parties having a total estimated emission reduction of 7.2 Gt CO_2 eq for that year.[16] Some Parties provided estimated emission reductions but did not identify a year, which is permitted under the MPGs. Of the PaMs reported with estimated emission reductions, 1,672 included expected reductions and 655 included achieved reductions. Fourteen Parties applied the flexibility provision under the MPGs for 244 PaMs, which were reported as “FX”. Parties use different methodologies for calculating estimated emission reductions; estimates are often calculated using a hypothetical baseline that might compare emissions under a policy in 2030 against market conditions decades earlier. Therefore, estimated emission reductions for 2030 should not be interpreted as incremental savings compared with the present level of emissions, which can be lower.

3. Mitigation co-benefits resulting from Parties’ adaptation actions and/or economic diversification plans and assessment of economic and social consequences of response measures

97. Each Party with an NDC that consists of adaptation actions and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement shall provide the information necessary to track progress in implementing and achieving the domestic PaMs implemented to address the social and

[16] To avoid double counting, estimates of emission reductions reported by the EU were included in the total, but not those of EU member States.

economic consequences of response measures,[17] and such information is to be provided in CTF table 12.

98. Each Party is also encouraged to provide detailed information, to the extent possible, on the assessment of economic and social impacts of response measures.[18]

99. Ten Parties reported information on domestic PaMs implemented to address the social and economic consequences of response measures in CTF table 12. The sectors and areas associated with the response measures include transport, oil and gas, energy efficiency, LULUCF, IPPU, agriculture, waste, water and urban planning.

100. CTF table 12 includes both positive social and economic impacts, such as improved public health, biodiversity conservation, increased access to electricity, energy savings, improved urban mobility, enhanced food security, job creation, diversification of the economy, and negative impacts, such as resource strain, displacement of workers, decline in sector revenues, increased energy costs and shift in emissions sources.

101. Key challenges in and barriers to addressing climate policy impacts include financial, technology, knowledge and institutional capacity constraints at both the national and the subnational level; a reluctance to shift to sustainable practices; limited community engagement and participation in the implementation of response measures; fragmented policy frameworks; shortcomings in governance of the implementation of response measures; and weak market demand for sustainable products.

102. Parties also reported actions they have implemented to address the impacts of response measures, which include targeted subsidies, incentives and grants to encourage adoption of the new technologies; improved access to finance for implementing response measures; investments in infrastructure, technology and knowledge transfer, capacity-building and research support; robust certification processes for the new technologies; enhanced governmental and sectoral coordination on the implementation of response measures; and efficient resource use and monitoring.

103. Of the Parties that did not report any information in CTF table 12, 29 reported information on the assessment of economic and social impacts of response measures, at various levels of detail, in a dedicated chapter of the BTR. The reported information relates to the impacts of the response measures, with co-benefits being the most frequently reported impacts, as well as their assessment.

D. Projections of greenhouse gas emissions and removals

104. In accordance with the MPGs, Parties are required to report projections under the WM scenario and may also report projections under the WAM and WOM scenarios. Those developing country Parties that need flexibility in the light of their capacities are encouraged to report such projections or may decide to report projections using a less detailed methodology and coverage.[19]

105. Projections are indicative of the impact of mitigation PaMs on future trends in GHG emissions and removals, and according to the MPGs shall not be used to assess progress in implementing and achieving a Party’s NDC unless a reported projection is identified as a baseline for an NDC target.[20]

106. The WM scenario considers the effects of PaMs that have been either implemented or adopted, whereas the WAM scenario includes, in addition to implemented or adopted PaMs, the effects of PaMs planned at the time that the projections were prepared. The WAM scenario is usually reported by Parties that have recognized the need to introduce additional measures or strengthen existing measures to attain their NDC targets. Under the WOM

[17] Decision 18/CMA.1, annex, para. 78.
[18] Decision 18/CMA.1, annex, para. 90.
[19] Decision 18/CMA.1, annex, paras. 92–102.
[20] Decision 18/CMA.1, annex, para. 93.

scenario, PaMs implemented, adopted or planned after the year chosen as the starting point for the scenario are not considered.

107. Fifty-three Parties, including the EU and 23 of its member States, reported GHG projections under the WM scenario for 2030, of which 33 Parties also reported projections under the WAM scenario and 16 Parties also reported projections under the WOM scenario for the same year (2030). To avoid double counting for the EU and its member States and because not all EU member States had submitted a BTR1 by the cut-off date for inclusion in this report, only the projections reported by the EU are included in the synthesis.[21] This means that the synthesis for this subchapter includes 30 Parties that reported GHG projections under the WM scenario for 2030. These Parties represent 31.7 per cent of total global emissions in 2020.

108. To obtain a data set that allows approximate comparison of total GHG emissions across the WM and WAM scenarios, for 16 Parties that did not report projections for the WAM scenario, values from the WM scenario were used as a proxy for 2030, resulting in an adjusted WAM scenario. Because the methodologies and assumptions used for producing the WOM projections varied significantly across Parties and relatively few Parties produced them, an aggregate analysis of the WOM scenario was not undertaken.

1. Approaches and underlying assumptions

109. Parties reported applying a wide range of approaches, key underlying assumptions and drivers, parameters and models for preparing projections of GHG emissions and removals.

110. Examples reported by Parties on the key assumptions and drivers behind their emission projections relate to the economy (e.g. economic growth), population trends, demographic factors, structural changes in the economy (e.g. a shift from manufacturing to services), a reduction in the energy intensity of economic output, carbon intensity (i.e. a decrease owing to a shift to less-carbon-intensive fuels), energy prices, infrastructural choices, technology innovation and development, and, to some extent, behavioural changes.

111. The main drivers considered in projecting future aggregate and sectoral GHG emissions are consistent with those underpinning historical trends and include demographic, economy-wide and sector-specific factors.

112. Parties also reported assumptions about the development of individual sectors, the prices of coal and natural gas, the extent of electrification of heating and transport, and heating and cooling degree days. Less information was provided on factors and activities that affect projected emissions for each sector, with Parties reporting activity data for some emission drivers, such as industrial production, number of livestock and number of households.

113. Parties used models that can be broadly classified as (1) macroeconomic models used for estimating economy-wide emissions and (2) models used for estimating emissions for specific sectors (such as energy-related GHG emissions, non-energy-related GHG emissions, and GHG emissions and removals from LULUCF).

2. Projected aggregate total emissions for 2030

114. Projected aggregate total GHG emissions, without LULUCF, under the WM scenario (i.e. including the effect of implemented and adopted PaMs) are expected to be 14,778.32 Mt CO_2 eq in 2030, which is 8.0 per cent below Parties' aggregate emissions in 2020.[22]

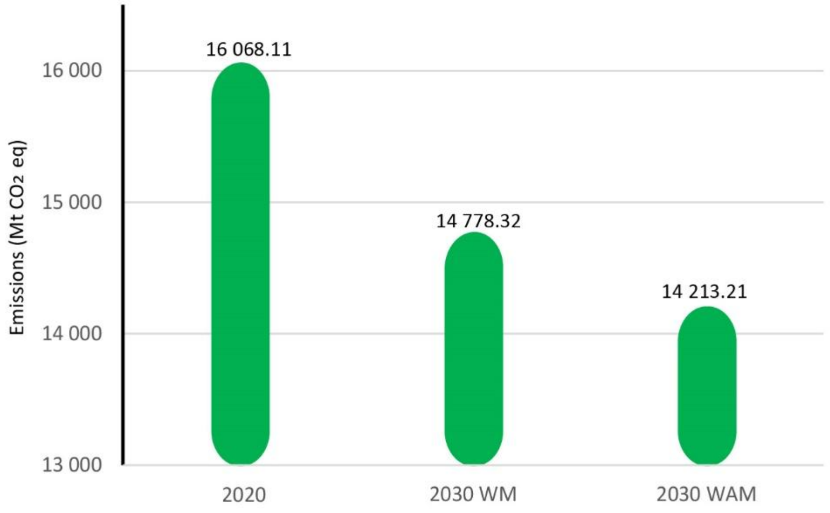
115. Projected aggregate total GHG emissions, without LULUCF, under the adjusted WAM scenario (i.e. including the effect of planned PaMs in addition to those implemented and adopted) are expected to be 14,213.21 Mt CO_2 eq in 2030, which is 11.5 per cent below the 2020 level. Expected GHG emission reductions stemming from planned PaMs are estimated at 565.1 Mt CO_2 eq in 2030. Figure 14 shows Parties' total historical and projected GHG emissions without LULUCF under the WM and adjusted WAM scenarios.

[21] As at 15 April 2025, four EU member States had not submitted a BTR1.

[22] The most recent historical year for all Parties that reported projections is 2020.

Figure 14

Historical and projected greenhouse gas emissions of Parties, without land use, land-use change and forestry, under the 'with measures' and 'with additional measures' scenarios



Note: An adjusted WAM scenario was used for the analysis.

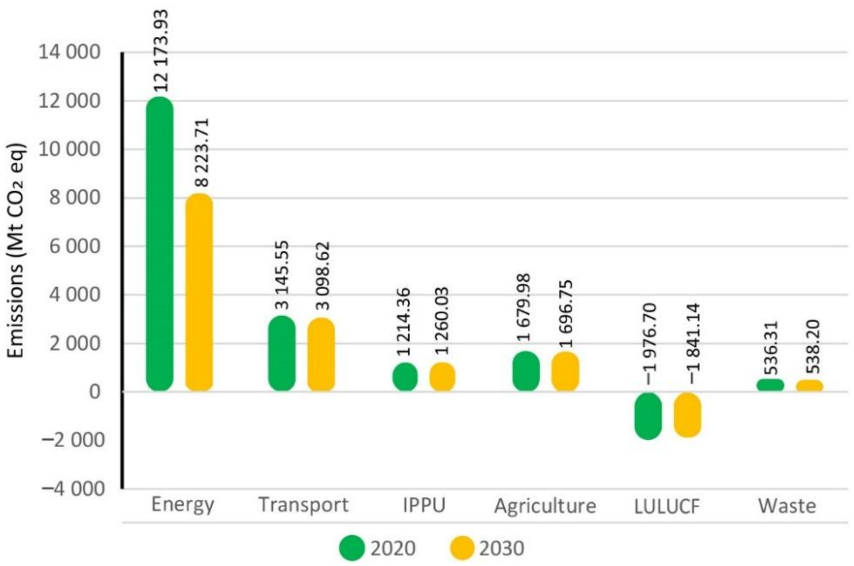
116. Projected aggregate total GHG emissions including emissions and removals from the LULUCF sector under the WM scenario are projected to be 13,120,07 Mt CO_2 eq in 2030, which is 11.6 per cent below the 2020 level of 14,840.32 Mt CO_2 eq.

3. Projected emissions for 2030 by sector

117. Parties reported projections for 2030 under the WM scenario for the sectors energy (without transport), transport, IPPU, agriculture, LULUCF and waste. In comparison with the 2020 levels, emissions from energy and transport are projected to decrease by 32.4 and 1.5 per cent respectively, while emissions from IPPU, agriculture and waste are projected to increase by 3.8, 1.0 and 0.4 per cent respectively. Net removals in 2030 from the LULUCF sector are expected to decrease by 6.9 per cent. Figure 15 shows historical and projected sectoral GHG emissions and removals under the WM scenario.

Figure 15

Historical and projected greenhouse gas emissions and removals of Parties under the 'with measures' scenario, by sector



118. It is expected that the energy sector, including transport, will remain the dominant source of GHG emissions in 2030, contributing 76.4 per cent of total emissions without LULUCF.

E. Progress in implementing and achieving nationally determined contributions

119. In accordance with the MPGs, Parties generally reported comprehensive information on progress in implementing and achieving their NDC targets, of which there is a wide range of types, and on quantitative and qualitative indicators used to track progress.[23] However, gaps in reporting affected the completeness and transparency of information reported in the BTRs and thus posed a challenge for the synthesis.

120. The assessment of progress provided in this subchapter covers 79 Parties, which together represent approximately 75 per cent of global GHG emissions in 2020.

1. Types of nationally determined contribution targets and indicators

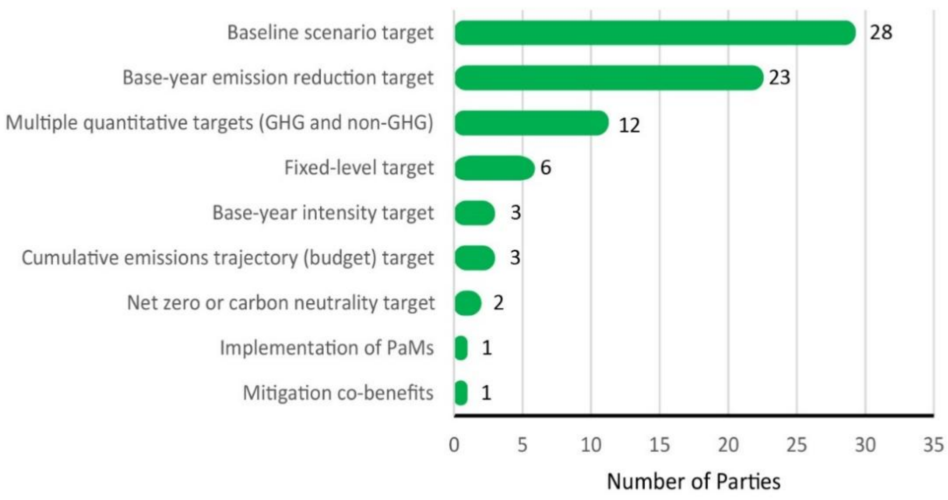
121. In accordance with the MPGs, each Party shall provide a description of its NDC, including description and type of NDC target(s), and shall identify the indicator(s) it has selected to track progress in implementing and achieving its NDC. Indicators shall be relevant to a Party's NDC and may be either qualitative or quantitative.[24]

122. Parties reported a wide range of quantitative and qualitative NDC targets, both GHG-based and non-GHG-based. Some Parties have multiple NDC targets, which means that the total number of NDC targets exceeds the number of Parties' NDCs.

123. Some Parties reported unconditional and conditional components of NDC targets. Achievement of conditional components is contingent on financial, technology development and transfer, and/or capacity-building support being received. Only unconditional components were considered for this synthesis.

124. The 79 Parties included in the synthesis[25] reported a range of NDC target types. Figure 16 shows their distribution.

Figure 16
Nationally determined contribution target types reported



[23] Decision 18/CMA.1, annex, paras. 65–79.
[24] Decision 18/CMA.1, annex, para. 65.
[25] This number includes the EU but excludes its 27 member States because the EU and its member States have a joint NDC target.

125. In total, 248 indicators, most of them quantifiable, were reported by 79 Parties in their BTRs. Sixty Parties selected one indicator for tracking progress and 19 Parties selected between 2 and 37.

126. Examples of indicators for GHG-based targets include total annual net emissions, total annual emissions excluding LULUCF, cumulative net emissions, GHG emission reductions, CO_2 emissions from certain sectors, CH_4 emission trends, mitigation GHG emission levels for certain sectors, carbon intensity of energy and deviation from baseline scenario projections.

127. Examples of indicators for non-GHG-based targets include share of non-fossil fuels in primary energy consumption, total installed capacity of wind and solar power, hydrogen economy development, carbon capture, utilization and storage, total energy consumption, renewable energy production, percentage of forested area, energy supply from renewable sources and percentage of fossil fuel consumption by vehicles.

128. Some Parties selected a set of indicators comprising key indicators and supporting indicators not directly linked to the NDC target but relevant for sectoral mitigation objectives or implementation of mitigation PaMs, actions and plans that support NDC implementation and achievement. In such cases, only the key indicators were included in the assessment.

2. Methodological approaches for assessing progress

129. As per the MPGs, Parties shall compare the most recent information for each selected indicator in the NDC implementation period with the reference point(s), level(s), baseline(s), base year(s) or starting point(s) to track progress in implementing and achieving its NDC targets and provide this information in a structured summary.[26]

130. The assessment of progress of individual Parties and the synthesis of overall progress takes into account the information reported on a comparison of indicators against reference point(s), level(s), baseline(s), base year(s) or starting point(s), as relevant, as well as against target level(s), where applicable and feasible. Assessing progress produces three possible categories of results: (1) indicator value is between the reference point and the target level, indicating progress has been made but further efforts are needed depending on the observed level and/or trend of the indicator (most commonly observed); (2) indicator value is above or below the target level, depending on the type of the target (e.g. increasing the share of renewable energy, GHG emission reduction), indicating the target has been achieved (some cases observed); and (3) indicator value is above or below the reference point, depending on the type of target, indicating additional efforts to reverse the trend and align the current trajectory with the target are needed (not observed).

131. This comparison enables an understanding of progress and remaining effort needed in achieving NDC targets. It reveals information on whether a Party's distance to achieving its target has increased or decreased during the reporting period, for instance, amount of GHG emissions to be reduced, available emission budget remaining, renewable energy to be installed, area of forest land to be restored, activities being developed or adopted, strategic plans to be implemented and legislation to be enacted.

132. In the case of baseline scenario targets, the indicator level is compared with the baseline or 'business as usual' level(s) in a particular year(s) of the implementation period. The baseline scenario excludes most or all mitigation actions (implemented, planned and adopted) and as such, usually leads to a hypothetical increase in emissions in the future. Consequently, NDC targets set as 'below' or 'deviating' from the baseline scenario usually allow for an increase in emissions during the implementation period.

133. For Parties with fixed-level or peaking targets, the reference point is not applicable, hence the indicator is compared only against the target level. For peaking targets, which allow for an increase in emissions until they reach a plateau and start declining, a target level is difficult to pinpoint unless it is explicitly stated. Parties usually report only the future year by

[26] Decision 18/CMA.1, annex, paras. 69 and 77.

which peak emissions are expected, therefore, it is not possible to assess progress in implementing this type of target, only in achieving it.

134. In the case of cumulative emissions trajectory (budget) targets, the main criterion for assessing progress is whether the budget is being used in a proportional manner, that is, whether actual emissions during the reporting period are in line with the proportional share of the budget relative to elapsed time in the implementation period. This analysis provides an understanding of whether a Party is using too much of its budget too early and is thus potentially delaying emission reductions to later years in the implementation period.

135. An analysis of trends in indicators during the reporting period provides information on whether a Party's distance to achieving a target is increasing or decreasing over time, indicating whether the Party is on track in, for instance, reducing GHG emissions on a year-to-year basis, increasing the share of renewable energy in the final energy consumption or carrying out activities included in mitigation or adaptation strategies, plans and programmes.

136. For the BTR1s, information on indicators was expected to be provided for the first two years of the NDC implementation period, which for most Parties is 2021 and 2022. Analysing information from only two years limits the representativeness of indicator trends, particularly considering that emissions for 2021 and 2022 were influenced by the effects of the pandemic and subsequent economic recovery. Furthermore, some Parties provided information on indicators for only one year of the implementation period, which does not allow a trend analysis. Information on indicators in future synthesis reports will not face the same limitation because the BTRs will cover a greater span of the implementation period.

137. Information on indicators reported by some Parties was not fully complete and/or transparent and consequently, assessment of progress for those Parties was not feasible. In the case of incomplete information, no gap-filling methods or external sources were used to fill data gaps. In the case of information not being transparent, the data in the CTF tables were cross-checked with the text in the BTR.

138. Of the 79 Parties included in the synthesis, 20 did not include CTF table 4 in their submission (or provided a table with all cells blank), which is the structured summary of information necessary to track progress in implementing and achieving NDCs. In such cases, relevant information was extracted, to the extent possible, from the text of the BTR.

139. For 11 Parties, it was not feasible to assess progress towards their target(s) owing to missing or inconsistent information on indicators or reference point(s) and baseline(s) being reported. This left 68 Parties for which assessment of progress was feasible to conduct.

3. Synthesis of information on progress

140. It is evident from the information reported in the BTR1s that all Parties included in the synthesis have started implementing their NDCs by utilizing existing or establishing new institutional, legal, administrative and procedural arrangements for this purpose and by planning, adopting and implementing economy-wide and sectoral mitigation actions and PaMs (see chap. III.C above for details).

141. Mitigation actions and PaMs are key levers that Parties use to implement and achieve their NDCs and their selection and prioritization depends on the national context and on the sectors and activities that contribute to national emissions. In chapter III.C.1 above, the overall increase in the number of adopted and planned PaMs compared with implemented PaMs in the recent period (with a peak observed in 2021) was noted, as was the shift away from PaMs in the energy and IPPU sectors towards planned PaMs targeting the agriculture, LULUCF and waste sectors. This trend coincides with the start of the NDC implementation period, which for most Parties is 2021–2030, and indicates that Parties are expanding their portfolios of PaMs to support achievement of their NDC targets.

142. The implementation of NDCs is strongly influenced by underlying socioeconomic drivers of emissions, for instance growth or decline in population and GDP, energy intensity

of GDP, CO_2 intensity of energy, energy prices and structural changes in the economy.[27] These drivers can support but also counteract the mitigation effects of implemented PaMs.

143. As this is the first cycle of BTRs and the information reported covers only the beginning of the NDC implementation period, the assessment of progress should be considered as an initial stage of implementation, allowing Parties that have increased the distance to achieving their target time for ‘course correction’. Nevertheless, awareness of the risks of postponing the efforts needed to achieve NDC targets is crucial even at this stage.

144. Of the 79 Parties included in the synthesis, 60 accounted for the contribution of the LULUCF sector towards achieving their NDCs or specified LULUCF-related NDC targets (e.g. increasing the area of forest land, increasing forest stock volume and restoring areas of degraded forest land). This high number shows the important role of the LULUCF sector in NDC implementation and achievement.

145. Regarding participation in cooperative approaches that involve the use of ITMOs, only two Parties reported transfers of ITMOs. Most Parties reported that participation in cooperative approaches was not applicable in this reporting period, while some Parties reported that projects are still at an initial stage of development and reporting on ITMOs will be included in the next BTR submission.

146. Some Parties indicated in their reporting that they have yet to build capacity in, enhance institutional arrangements for and establish coordination of data collection and management and thus fully comply with the requirements of the MPGs and effectively monitor progress in implementing their NDCs.

147. In terms of overall progress, 50 Parties for which assessment was feasible to conduct have made progress by decreasing distance to their targets in this initial period of implementation of NDCs by, for example, decreasing emissions, maintaining emissions below a baseline scenario, making proportional use of an emission budget or increasing the share of renewables in energy consumption. These 50 Parties represent 58.6 per cent of global GHG emissions in 2020.

148. Eighteen Parties have either temporarily increased the distance to their targets by, for example, increasing emissions or using an emission budget but not in a proportional manner or, in cases of Parties with multiple NDC targets, showed mixed progress, with some indicators on track and some for which additional efforts are needed to align with the targets. Possible reasons underlying this trend include that economic drivers and growing energy consumption, particularly in the post-pandemic recovery period, have outpaced implementation of mitigation actions and PaMs, or that significant institutional, legal and technology barriers and financial needs remain to be overcome or met respectively to enable stronger implementation of PaMs. A more detailed breakdown of assessment of progress per type of target is provided below.

(a) Parties with greenhouse-gas-based targets

149. A total of 65 Parties have GHG-based NDC targets. Their overall progress during the reporting period was, by type of target, as follows:

(a) Baseline scenario target: 28 Parties, of which 19 kept their indicator values below the baseline or ‘business as usual’ scenario. For nine Parties, assessment was not possible owing to lack of or limited data;

(b) Base-year emission reduction target: 23 Parties, of which 15 decreased the distance to their targets and 7 increased the distance to their targets. For one Party, assessment was not possible owing to lack of data;

(c) Fixed-level emission targets: six Parties, of which four reduced the distance to their targets (one Party was already below the target level) and one increased its distance to its target. For one Party, assessment was not possible owing to lack of data;

[27] Relevant information was also provided in the BTRs as part of the reporting on national circumstances.

(d) Base-year intensity targets: three Parties, all of which decreased the distance to their targets (one Party was already below the target level);

(e) Cumulative emissions trajectory (budget) targets: three Parties, of which one was using its emission budget in the reporting period proportionately with the implementation period and two were using an emission budget slightly above the proportional value;

(f) Net zero or carbon neutrality targets: two Parties, both of which maintained carbon neutral status.

(b) Parties with targets consisting of mitigation policies and measures, actions and plans, including those with mitigation co-benefits

150. Two Parties have targets consisting of mitigation PaMs, actions and plans including those with mitigation co-benefits. These Parties are progressing in implementing their mitigation PaMs, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, across various sectors and reported in their BTRs information on the scope of the PaMs and status of their implementation.

(c) Parties with multiple greenhouse-gas-based and non-greenhouse-gas-based targets

151. Twelve Parties have multiple GHG-based and/or non-GHG-based targets covering various sectors. Four Parties have decreased the distance to their targets for all selected indicators (with the exception of peaking targets, which were not assessed). Eight Parties demonstrated mixed progress.

152. The table below provides an overview of progress in implementing and achieving NDCs, by target type, in the BTR1 reporting period.

Progress in implementing and achieving nationally determined contributions in the reporting period of the first biennial transparency reports, by target type

	Number of Parties				
Type of NDC target	*With target type*	*Progress observed*	*Additional efforts needed*	*Mixed progress*[a]	*Not feasible to assess progress*[b]
Baseline scenario	28	19	0	0	9
Base-year emission reduction	23	15	7	0	1
Multiple GHG-based and/or non-GHG-based	12	4	0	8	0
Fixed-level emission	6	4	1	0	1
Base-year intensity	3	3	0	0	0
Cumulative emissions trajectory (budget)	3	1	2	0	0
Net zero or carbon neutrality	2	2	0	0	0
Implementation of PaMs	1	1	0	0	0
Mitigation co-benefits	1	1	0	0	0
Total	**79**	**50**	**10**	**8**	**11**

[a] Progress in achieving some targets is observed but additional efforts are needed to achieve other targets.
[b] Owing to lack of or incomplete data.

V. Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement

153. According to the MPGs,[28] each Party should provide information related to climate change impacts and adaptation under Article 7 of the Paris Agreement, as appropriate.

[28] Decision 18/CMA.1, annex, para. 104.

Providing such information is not mandatory, but 90 per cent of Parties included an adaptation component in their BTRs, with 5 per cent designating them as adaptation communications.

154. CMA 5, as part of the outcome of the first global stocktake, noted that most observed adaptation responses are fragmented, incremental, sector-specific and unequally distributed across regions, and that, despite progress, significant adaptation gaps still exist across sectors and regions and will continue to grow under current levels of implementation.[29] While the synthesis of information on climate change impacts and adaptation in this chapter confirms that significant gaps still exist, it also demonstrates progress – not only in vulnerability assessment and adaptation planning, but also in implementation of adaptation strategies, plans, goals and actions and the monitoring and evaluation thereof.

155. This chapter provides a synthesis of the information reported by Parties in their BTRs to address specific reporting requirements of the MPGs. The numbers and percentages used in this chapter refer to the number of BTRs that had an adaptation component (91), not to the total number of BTRs received (101).

A. National circumstances, institutional arrangements and legal frameworks

1. National circumstances

156. In the adaptation components of the BTRs, 73 per cent of Parties reported factors that contribute to their vulnerability to climate change. The factors are diverse, but the primary factor is geographical location (52 per cent of Parties), for example having within their borders extensive low-lying coastal areas, sensitive high-mountain regions and/or deserts. Parties also identified dependence on climate-sensitive activities such as rain-fed agriculture, tourism, fishing and energy generation (45 per cent) and dependence on natural resources such as fresh water, tropical rainforest resources, ecosystem services and transboundary rivers (36 per cent) as common factors. Other factors include poverty and economic challenges, demographic challenges, inadequate infrastructure, limited or lacking institutional capacity, the pandemic, inequality, political instability or insecurity, and a lack of livelihood diversity.

157. Eighty-eight per cent of Parties recognized disparity and disproportionality in the vulnerability of different social groups, for example the elderly (68 per cent), children and youth (65 per cent), women (53 per cent), Indigenous Peoples and local communities (46 per cent), people with disabilities (34 per cent), low-income populations (31 per cent), rural and urban populations (24 per cent) and displaced populations (7 per cent).

2. Institutional arrangements

158. All Parties reported on institutional arrangements for adaptation, highlighting their governance structures for coordinating adaptation policymaking, implementing measures and engaging stakeholders. The most common arrangements were national coordination bodies (53 per cent of Parties) and committees (58 per cent). Fifty-four per cent of Parties identified lead ministries or agencies for adaptation, which were often ministries for environment or climate change but also included ministries for agriculture, water resources, the interior, and planning and economic development. Forty-five per cent of Parties reported that climate change and adaptation has been integrated into sectoral ministries, for example by mainstreaming adaptation in agriculture, water resource and health policies. In addition, 58 per cent of Parties reported on subnational and local adaptation governance arrangements, for example the development and implementation of adaptation strategies at the provincial and municipal level.

[29] Decision 1/CMA.5, para. 15(c).

3. Legal frameworks

159. Ninety per cent of Parties reported on relevant laws, acts and regulations, reflecting widespread efforts to establish formal legal and regulatory frameworks for adaptation. These include national climate change and/or environmental protection laws incorporating adaptation provisions, and sector-specific regulations addressing sectors such as water management, agriculture, coastal protection and disaster risk reduction. Parties also reported on recent legislative updates aimed at strengthening adaptation-related mandates, improving mechanisms to enforce environmental protection, and aligning domestic frameworks with international commitments under the Paris Agreement.

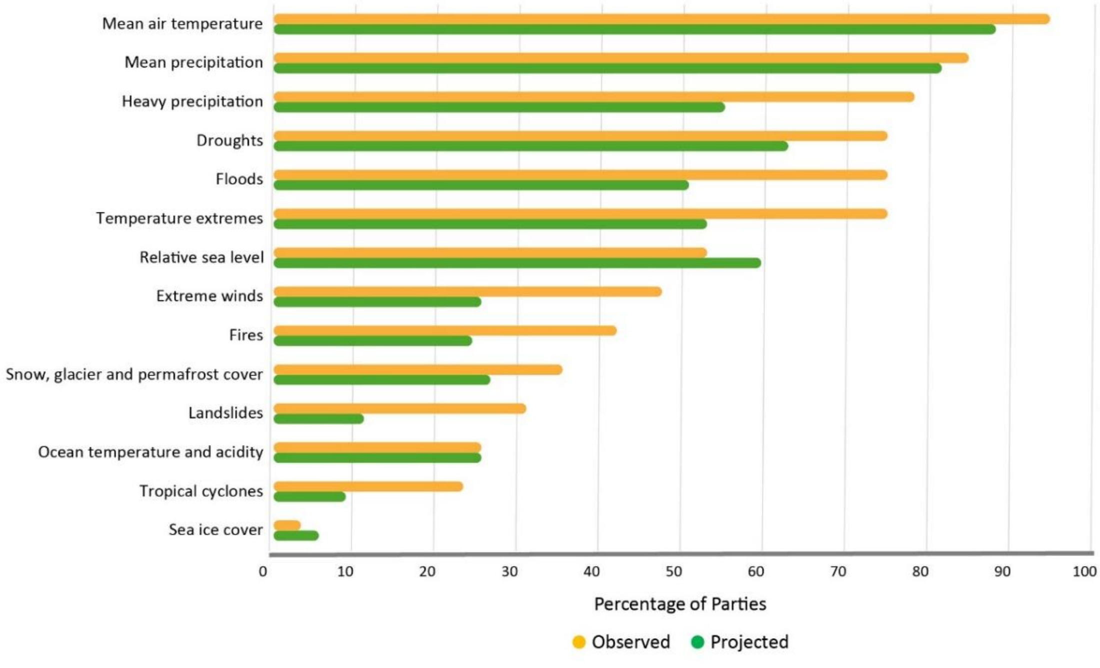
B. Impacts, risks and vulnerabilities

1. Observed and projected climate trends and hazards

160. Almost all Parties (98 per cent) reported on observed climate change trends. The most frequently reported observed trends are air temperature increase (95 per cent of Parties), precipitation change (85 per cent), heavy precipitation (78 per cent), drought (75 per cent) and flooding (75 per cent) (see figure 17).

161. Ninety-six per cent of Parties reported on projected climate change trends. Reporting on projected trends aligned closely with reporting on observed trends (see figure 17).

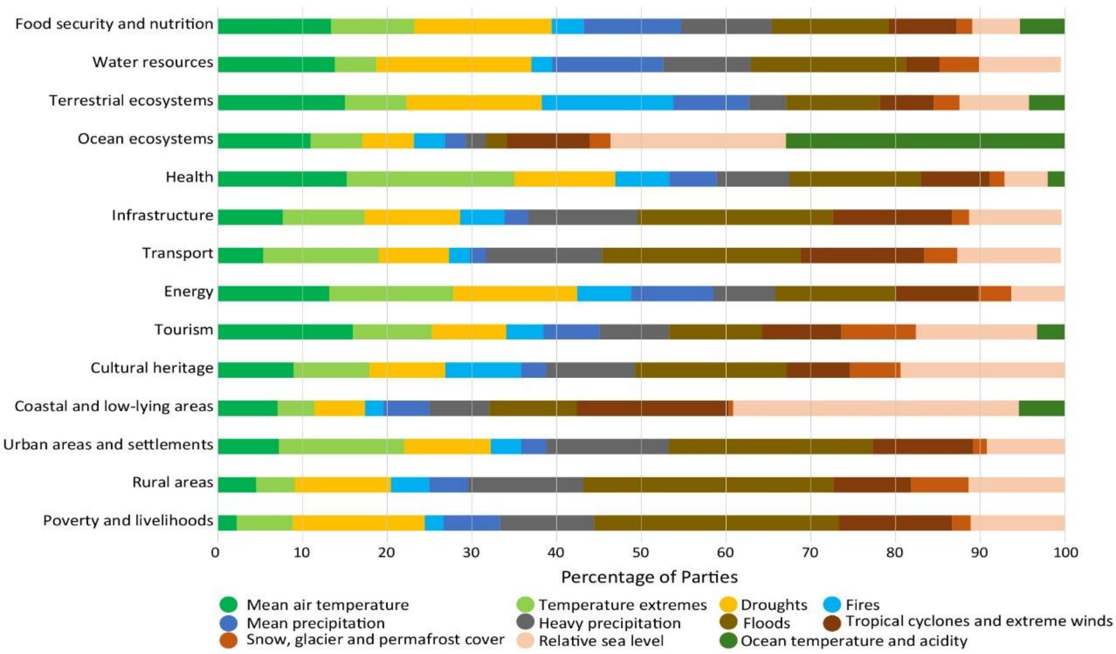
Figure 17
Observed and projected climate change trends and impacts reported



2. Observed and potential impacts of climate change

162. The sectors most vulnerable to observed and potential climate change impacts were reported as being food security and nutrition, health, water resources, terrestrial ecosystems, and urban areas and settlements. The most common hazards include increased frequency and/or intensity of floods, droughts, temperature extremes, heavy precipitation events, tropical cyclones and extreme winds, as well as rising sea level and associated coastal flooding and erosion, followed by increased frequency and/or intensity of fires, ocean warming and acidification, and decreased snow, glacier and/or permafrost cover. Figure 18 provides an overview of the main climate change hazards and their impacts on vulnerable sectors.

Figure 18
Climate change impacts on vulnerable sectors and areas reported



3. Approaches for assessing climate risks

163. Eighty-seven per cent of Parties reported on their approaches, methodologies and tools for assessing and understanding climate risks. The most frequently reported approach is the development of national climate risk assessments (46 per cent), which often integrate data and information from various sources such as climate modelling, vulnerability studies, and stakeholder inputs collected through scientific analysis, Indigenous and traditional knowledge systems, and participatory processes. Some Parties (34 per cent) noted the value of participatory and stakeholder approaches in improving the relevance and local ownership of adaptation interventions, updating national risk assessments and prioritizing climate risks.

164. Sectoral assessments were also commonly reported (by 42 per cent of Parties), for example, an integrated water sector risk analysis employing bottom-up stakeholder consultations and top-down modelling, an assessment of projected yield declines for staple crops, an evaluation of changes in river flows affecting irrigation and an analysis of the distribution of climate-sensitive diseases such as malaria and cholera. In addition, 20 per cent of Parties reported integrating climate risk analysis into disaster risk reduction efforts, for example by linking hazard mapping with development of climate change projections to prioritize investments in building resilience, strengthening community preparedness and evacuation planning, and guiding zoning regulations.

165. Fifty-six per cent of Parties reported on climate scenario modelling, which typically involved the application of scaled-down climate projections under multiple scenarios. For example, the Coupled Model Intercomparison Project Phase 6 ensemble models were used for developing future risk projections and the Representative Concentration Pathways were used for analysing sectoral emissions.

C. Adaptation priorities and barriers

1. Domestic priorities

166. Almost all Parties (96 per cent) reported on their domestic adaptation priorities, outlining a wide range of sectoral, cross-sectoral and institutional focus areas. Water resources were identified as the highest priority for adaptation (reported by 80 per cent of Parties), with measures including improving water-use efficiency, constructing drought-resilient water infrastructure, promoting integrated watershed management, protecting

groundwater resources, improving wastewater reuse systems and developing national water plans. Adaptation measures in the food security and nutrition sector (79 per cent) relate to promoting climate-smart agricultural practices, agroforestry systems, drought-tolerant crop varieties and heat-resilient animal breeds; diversifying fish and aquaculture species; and integrating climate risk assessments into national agricultural, livestock and fishery extension services. The reported measures for adapting terrestrial ecosystems (76 per cent) focus on expanding natural protected areas, enhancing ecological connectivity, promoting sustainable forest management and reforestation, and monitoring and controlling invasive species. Adaptation efforts in the health sector (74 per cent) are aimed at integrating climate projections into national health plans, developing early warning systems for waterborne and vector-borne diseases, 'climate proofing' health infrastructure and providing health professionals with training on heat-related impacts. Efforts related to adaptation policy and governance (51 per cent) commonly centre on mainstreaming adaptation in development policies, regulations and procedures at the national and subnational level, strengthening governance and institutional coordination, and mobilizing public and private finance to support adaptation initiatives. Priorities for urban areas and settlements (49 per cent) include developing new climate-proof building codes, promoting nature-based solutions to mitigate the impacts of heatwaves, incorporating climate risk assessments into urban design processes and introducing community awareness-raising programmes on climate risks and adaptation.

167. Various other domestic adaptation priorities were reported, related to energy (reported by 49 per cent of Parties), infrastructure (47 per cent), transport (40 per cent), tourism (35 per cent), coastal and low-lying areas (33 per cent), disaster risk management (32 per cent), ocean ecosystems (25 per cent), education (23 per cent) and cultural heritage (14 per cent).

2. Adaptation challenges, gaps and barriers

168. Ninety per cent of Parties reported on challenges, gaps and barriers related to adaptation. Knowledge-based and technical challenges (reported by 79 per cent of Parties) include limited climate data, insufficient adaptation information and lack of trained experts; for example, Parties reported gaps in hydrological data for drought planning, the need for specialized expertise in modelling coastal flooding and limited awareness of climate risks among stakeholders. Institutional and governance challenges (78 per cent) include limited institutional capacity to plan, implement and monitor adaptation measures; difficulties in mainstreaming adaptation into national and sectoral development frameworks; weak cross-sectoral coordination among ministries and across levels of government; and gaps in legal frameworks; for example, Parties highlighted fragmented responsibilities between national and subnational agencies, the absence of a formal national adaptation coordination mechanism and the difficulty of integrating adaptation into broader development and other national plans. Financial constraints (67 per cent) include insufficient domestic budgets and limited access to climate finance; for example, Parties experienced challenges in securing funds for local adaptation plans and in meeting co-financing requirements for international projects.

169. Monitoring and evaluation is also a key challenge, mentioned by 54 per cent of Parties. Challenges in this regard involve lack of frameworks, baseline data and technical expertise, for example, the absence of a national monitoring and evaluation system for adaptation and difficulties in tracking adaptation outcomes across sectors. Technology-related challenges (36 per cent) include the absence of climate-resilient infrastructure, insufficient forecasting systems and limited access to adaptive technologies; for example, Parties cited gaps in flood forecasting networks and limited availability of drought-tolerant seed varieties. Sociocultural challenges (14 per cent) include social resistance and inequalities in participation; for example, Parties identified cultural reluctance to alter traditional water management practices and gender norms limiting women's involvement in adaptation planning as barriers.

D. Integrating adaptation into national policies and strategies

1. National, subnational and community-level adaptation plans

170. All Parties discussed in their BTRs national-level adaptation strategies, policies, frameworks or plans, which provide national-level authority to act on adaptation, include provisions for strengthening capacity and guidance for implementing adaptation action, outline sector-level adaptation goals and targets, and support authorities in mainstreaming adaptation in sectoral plans and policies. Forty-seven per cent of Parties provided information on the process of developing and implementing their NAPs, and on the status thereof. More than half of Parties (54 per cent) reported that their NDCs include information on adaptation, describing a range of priorities and planned actions across priority sectors. In addition, 63 per cent of Parties reported on their disaster risk management plans and strategies, highlighting efforts to strengthen preparedness, reduce vulnerability and integrate consideration of disaster risk into broader climate change adaptation and development planning.

171. Seventy-eight per cent of Parties reported on subnational plans developed at the regional, state, provincial, local and/or community level. These plans aim to capture the context of local climate change impacts and local adaptation needs, goals and actions.

2. Adaptation approaches

(a) Integrating Indigenous Peoples' and local community knowledge into adaptation action

172. Sixty-nine per cent of Parties reported information on the role of Indigenous Peoples' and local community knowledge systems in adaptation planning and implementation, often underlining the importance of integrating such knowledge into NAPs, sector-level strategies and policies. Parties also highlighted the importance of combining Indigenous Peoples' and local community knowledge systems with scientific assessment, citing traditional and Indigenous practices for fire management, aquifer recharge, streambank stabilization, water management for drought resilience, and biodiversity monitoring as examples of such systems. The importance of knowledge co-production and exchange, including collaborative research and mutual learning, between scientists and Indigenous Peoples and local communities was emphasized. Examples include establishing partnerships between Indigenous rangers and researchers to conduct blue carbon mapping, improving traditional farming practices by incorporating the perspectives of Indigenous women, and combining local and traditional water management practices with modern technologies. The incorporation of Indigenous Peoples' and local community knowledge into domestic adaptation priorities was described by 25 per cent of Parties, and 24 per cent reported taking into account Indigenous Peoples' and local community knowledge when implementing adaptation measures for various sectors.

(b) Gender-responsive adaptation

173. In total, 81 per cent of Parties reported on efforts to mainstream gender consideration in adaptation planning and policymaking. Of those Parties, 60 per cent provided details on their planned or implemented gender-responsive adaptation measures across priority sectors for adaptation, particularly in food security and nutrition, terrestrial ecosystems and water resources. Examples include delivering training to women in climate-smart farming techniques and fishery management, designing extension services specifically for women farmers to improve their access to climate services, strengthening women's leadership in ecosystem conservation, formalizing partnerships with women's cooperatives in reforestation projects, and enhancing women's participation in sustainable water management and water harvesting system design. Twenty-five per cent of Parties demonstrated progress in formulating and adopting gender and climate change action plans and strategies and in establishing institutional arrangements (e.g. gender working groups) to facilitate the mainstreaming of gender consideration in climate policies, programmes and projects.

(c) Nature-based solutions

174. Almost all Parties (97 per cent) emphasized in their BTRs the importance of designing, promoting and implementing nature-based solutions. Nature-based solutions were often referred to in relation to terrestrial ecosystems (with a focus on protecting and connecting habitats and enhancing biodiversity corridors), urban areas and settlements, food security and nutrition, water resources, coastal and low-lying areas, and ocean ecosystems. Forty-two per cent of Parties supplied information on the co-benefits or synergies between adaptation and mitigation actions that nature-based solutions can foster; for example, the conservation of mangrove forests not only provides coastal protection, but also enables carbon sequestration.

175. Fifty-three per cent of Parties described how they had applied nature-based solutions to addressing their domestic adaptation priorities. Strategies and policies at the national and subnational level increasingly include institutional frameworks, guidelines and dedicated financial instruments for mainstreaming nature-based solutions in adaptation action. Parties also indicated that they have aligned nature-based solutions with community-based adaptation strategies, drawing on Indigenous Peoples' and local community knowledge in doing so, and emphasized the importance of integrating gender and equity considerations into the design and implementation of nature-based solutions. In terms of implementing nature-based solutions, 67 per cent of Parties reported having a portfolio of nature-based solution initiatives spanning a range of sectors.

E. Progress in implementing adaptation

1. Addressing adaptation priorities in accordance with the global goal on adaptation

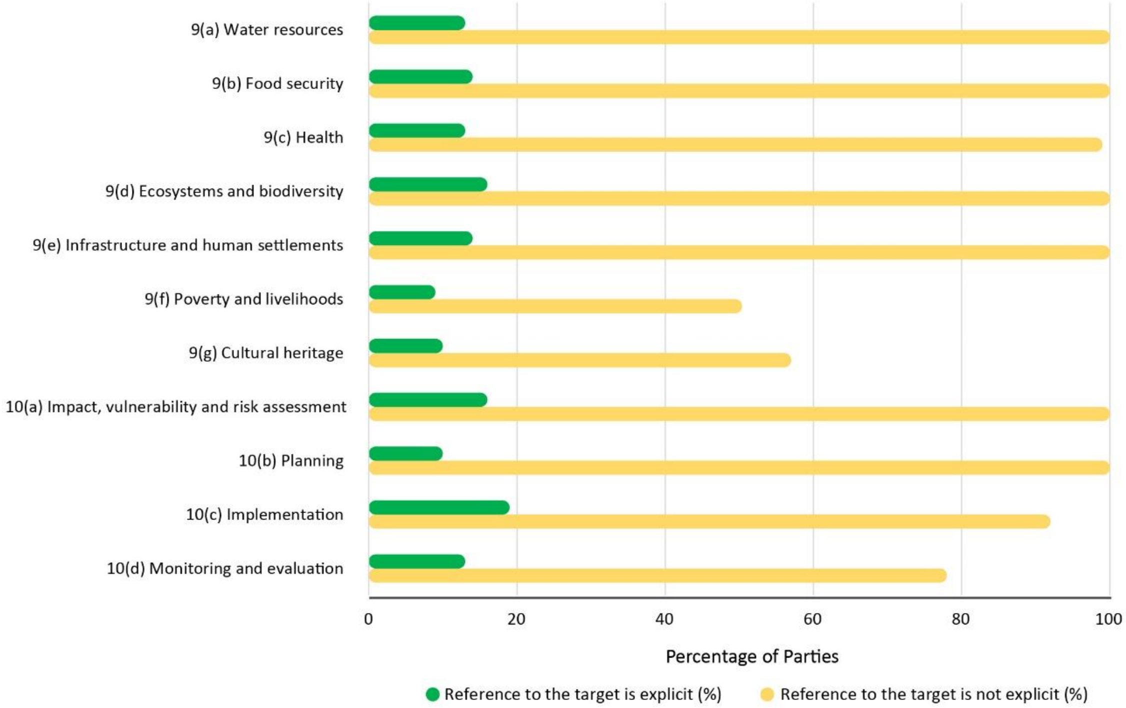
176. The MPGs stipulate that each Party should provide information, as appropriate, on the implementation of adaptation actions in accordance with the global goal on adaptation as set out in Article 7, paragraph 1, of the Paris Agreement.[30] In the adaptation components of their BTRs, 51 per cent of Parties described how their adaptation actions are guided by the provisions of the United Arab Emirates Framework for Global Climate Resilience, which was established to guide the achievement of the global goal on adaptation and the review of overall progress in achieving it.[31] Of those Parties, 30 per cent described how implementing adaptation measures in a specific priority area or sector contributes to achieving the thematic and/or dimensional targets of the global goal on adaptation.[32] Figure 19 illustrates the share of Parties who in their adaptation components explicitly link implemented adaptation efforts to the targets set out in the United Arab Emirates Framework for Global Climate Resilience, compared with the share of Parties who report on progress in addressing the topics without attributing them explicitly to the targets under the Framework.

[30] Decision 18/CMA.1, annex, para. 109(a).

[31] Decision 2/CMA.5, para. 7.

[32] Decision 2/CMA.5, paras. 9–10.

Figure 19
Explicit and implicit links between implemented adaptation measures and the targets set out under the United Arab Emirates Framework for Global Climate Resilience, as reported



Note: 9(a–g) and 10(a–d) refer to the thematic and dimensional targets of the global goal on adaptation set out in decision 2/CMA.5, paras. 9 and 10, respectively.

2. Implementing adaptation strategies, plans, goals and actions

177. Ninety-two per cent of Parties reported on their progress in implementing adaptation measures across several sectors or areas. Measures in food security and nutrition were most frequently reported, with 77 per cent of Parties describing, for example, developing climate-resilient crop varieties, 'climate proofing' irrigation systems, and training farmers in cultivating drought-tolerant maize varieties and expanding climate-smart rice cultivation. Seventy-three per cent of Parties reported progress in implementing actions related to water resources, including building new or upgrading water infrastructure, expanding drought-resilient water networks, improving rural water storage systems, implementing integrated watershed management and strengthening community-based water governance. Seventy per cent of Parties reported progress in terrestrial ecosystems, outlining actions such as applying Indigenous Peoples' knowledge systems in implementing biodiversity plans, reforesting coastal areas with mangroves and native climate-resilient tree species, and implementing nature-based solutions for flood and erosion control.

178. Sixty-eight per cent of Parties reported that they had further developed their national and subnational adaptation plans and strategies, including NAPs, sectoral adaptation strategies and climate risk assessments. Examples of efforts in this regard include institutionalizing adaptation planning and governance, improving adaptation planning and governance through multi-level coordination bodies, enhancing legal frameworks, integrating adaptation targets defined in NDCs and NAPs into broader development and climate policies, and expanding the provision of institutional and technical capacity-building.

179. Progress in urban areas and settlements (reported by 59 per cent of Parties) focus on implementing nature-based solutions to reduce the impacts of urban heat and flooding, 'climate proofing' housing, hazard mapping high-risk areas and raising community awareness of hazard risk, and developing urban plans that consider climate risks and adaptation. More than half of Parties (54 per cent) reported progress in implementing measures in the health sector, such as establishing a climate change advisory service within the health department, engaging with the public to raise its awareness of heat-related illnesses

and vector-borne diseases, addressing the climate change vulnerabilities of Indigenous Peoples and local communities, and ensuring fully operationalized early warning systems.

180. Progress in implementing adaptation actions was less frequently reported in the sectors or areas of energy (48 per cent), coastal and low-lying areas (46 per cent), disaster risk management (43 per cent), education (38 per cent), infrastructure (37 per cent), transport (37 per cent), ocean ecosystems (31 per cent), tourism (30 per cent), cultural heritage (30 per cent), rural areas (22 per cent) and poverty and livelihoods (13 per cent).

181. Eleven per cent of Parties reported, in a separate chapter of the BTR, progress in implementing adaptation actions set out in their NDCs. This information generally aligns with that provided in the adaptation progress chapter of the BTRs, although there are some differences in scope and emphasis. Both chapters focus on sectoral actions, particularly water resources, food security and nutrition, terrestrial ecosystems, and urban areas and settlements. They also both highlight the importance of institutional strengthening, capacity-building and integration of adaptation into national planning. However, in the adaptation progress chapter, Parties tended to provide more detailed, implementation-oriented descriptions, such as of specific projects, community-level actions and measurable outcomes, whereas in the NDC chapter, they more often presented high-level commitments or planned actions tied to national targets.

F. Monitoring and evaluation of adaptation actions and processes

1. Approaches

182. Eighty-four per cent of Parties reported on their current or planned monitoring and evaluation approaches and systems for adaptation. Monitoring and evaluation efforts vary in formality and scope, but regarding purpose, the vast majority of Parties use monitoring and evaluation to inform decision-making, improve efficiency and demonstrate accountability related to implementation of adaptation action.

183. While 6 per cent of Parties reported that they intend to develop a monitoring and evaluation system or approach in the future, 78 per cent of Parties described specific approaches, systems, processes or methodologies already in use to design and carry out evaluations of the implementation of adaptation actions and their outcomes. Examples include evaluating adaptation projects to assess their impacts and inform planning of future projects; applying a national monitoring and evaluation tracking system, as well as tools and methodologies, to the systematic review of implementation and effectiveness of the NAP; using monitoring and evaluation systems to improve the transparency and traceability of actions; developing indicators for monitoring progress towards adaptation goals; enhancing institutional arrangements related to the coordination of monitoring and evaluation activities; engaging stakeholders in the design and implementation of monitoring and evaluation systems; and using evaluation results to inform planning of future projects.

2. Results of adaptation actions

184. Thirty per cent of Parties reported on results arising from monitoring and evaluation, with most describing findings related to the impacts of their adaptation actions but a few describing development of adaptation planning and implementation processes rather than providing specific results. Those Parties reported on, for example, the effectiveness and sustainability of community-based adaptation actions and the strengths of and gaps in local implementation of adaptation; the improvement in transparency and oversight of adaptation action implementation; and the reduction in vulnerability of priority sectors such as agriculture, water, infrastructure, biodiversity and public health.

185. Fourteen per cent of Parties reported improved data, indicators and methodologies as direct results of their efforts to strengthen the evidence base for adaptation decision-making. Similarly, 13 per cent reported improved adaptation finance management and decision-making as a result of, for example, using monitoring and evaluation findings to better align finance sources with adaptation priorities or to justify additional investments. Seven per cent

of Parties reported improved institutional coordination, including better alignment across agencies or levels of government.

3. Quantified targets, and indicators for measuring progress in achieving them

186. In the adaptation components of their BTRs, 23 per cent of Parties reported that they had established quantified targets to facilitate monitoring of adaptation progress, and 24 per cent reported using indicators to track progress, particularly in food security and nutrition, terrestrial ecosystems and freshwater resources.

G. Information related to averting, minimizing and addressing loss and damage associated with climate change impacts

187. The MPGs state that each interested Party may provide, as appropriate, information related to enhancing understanding, action and support to avert, minimize and address loss and damage associated with climate change impacts (referred to in this subchapter as loss and damage), including on observed and potential climate change impacts, relevant activities and institutional arrangements to facilitate implementation of those activities.[33]

188. Seventy Parties in their BTRs referred to loss and damage, of which 61 provided information on loss and damage. The extent and depth of the information varied significantly, where a few Parties provided over 20 pages of information and more than 40 per cent of the Parties limited the information to one page or less and many of those Parties directed readers to the adaptation progress chapter(s) of the BTR or to the Party's NAP rather than providing a separate set of information. Many Parties elaborated on impacts and hazards more extensively compared with implemented activities and institutional arrangements. A synthesis of the information reported by the 61 Parties is presented in this subchapter.

1. Observed and potential climate change impacts

189. The reported observed climate change impacts broadly relate to national development, energy prices, energy demand, electricity availability, economic productivity, supply chains and logistics, tourism, infrastructure, public and private property, agriculture and livestock, food security, water availability, ecosystems and biodiversity, habitability, health and well-being, and mobility and displacement (including temporary displacement).

190. At the aggregate level, the observed impacts and potential impacts reported by Parties largely overlapped, where some Parties indicated that energy prices will be higher and the tourism sector is likely to see more loss in the future.

191. Parties did not, in general, clearly indicate how specific types of loss or damage are associated with observed or potential impacts reported in the BTRs,[34] with 34.1 per cent of losses reported under the general term economic loss (see figure 20).[35] The reported economic losses most often relate to impacts on the agriculture and livestock sectors (34 per cent), infrastructure (22 per cent), health and well-being (12 per cent), and water availability (11 per cent). Loss of life relates to impacts on health and well-being (34 per cent), infrastructure (19 per cent), the agriculture and livestock sectors (13 per cent), and displacement (13 per cent).

192. When reporting on climate change impacts and loss associated with them, Parties often included information on specific hazards; for instance, the hazards most often associated with economic loss were floods, droughts and storm surges (41, 29 and 22 per cent respectively). Loss of agricultural production is also associated most often with droughts and floods (60 and 30 per cent respectively), while the reported impacts on health and well-being are associated with floods, heatwaves and droughts (41, 32 and 27 per cent respectively). Reported activities are associated with 16 different hazards, with floods most

[33] Decision 18/CMA.1, para. 115.

[34] For example, "affected people" are mentioned without quantification or elaboration of how they are affected by the events described.

[35] Includes losses reported as a specific monetary amount, in a generic manner (e.g. "billions of (currency) in damages") and with no estimation.

frequently reported followed by droughts and storms (34, 19 and 13 per cent respectively) (see figure 21). Approximately 30 per cent of the reported activities are associated with multiple hazards, ranging from two to six.

Figure 20
Loss associated with climate change impacts reported, by type

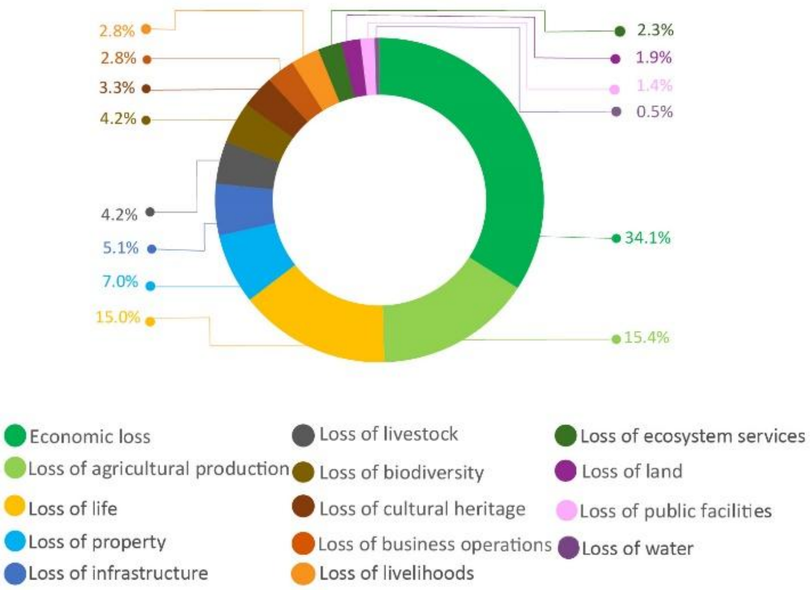
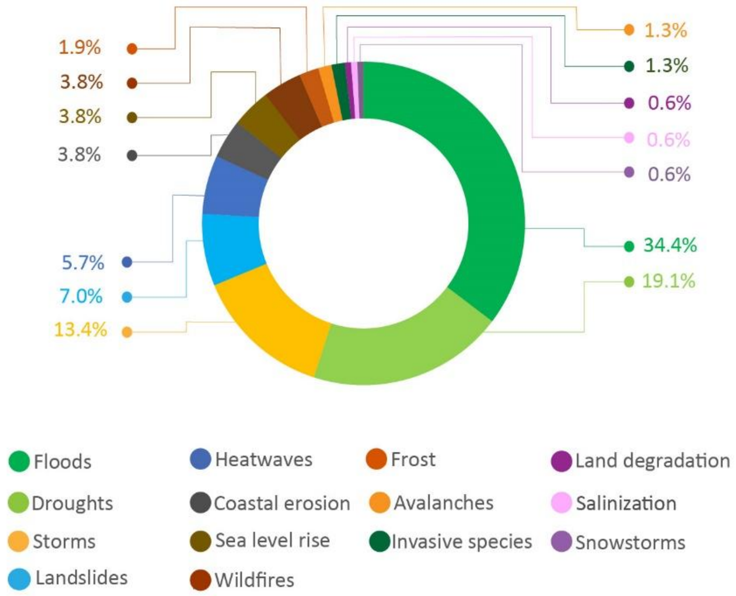


Figure 21
Hazards mentioned in association with activities reported, by type



2. Activities related to averting, minimizing and addressing loss and damage

193. More than 350 activities, actions, measures, systems, frameworks, policies, initiatives and plans related to averting, minimizing and addressing loss and damage were reported by Parties in their BTRs. Only about 18 per cent of all reported activities described how such efforts specifically avert, minimize or address loss and/or damage (see para. 194 below). Where countries applied those terms, no discernible pattern was derived to conclusively distinguish the reported activities across the spectrum. Figure 22 provides an overview of all

the reported activities, grouped by risk management approach.[36,] Figure 23 provides an overview of the most frequently reported activities, most of which are pre-emptive efforts, that is, carried out before loss occurs. The second type of activities reported relate to contingency arrangements, which are activated when a climate change impact occurs, and the least reported types of activity are those that address direct impacts of climate change, covering recovery and other efforts to deal with loss and damage.

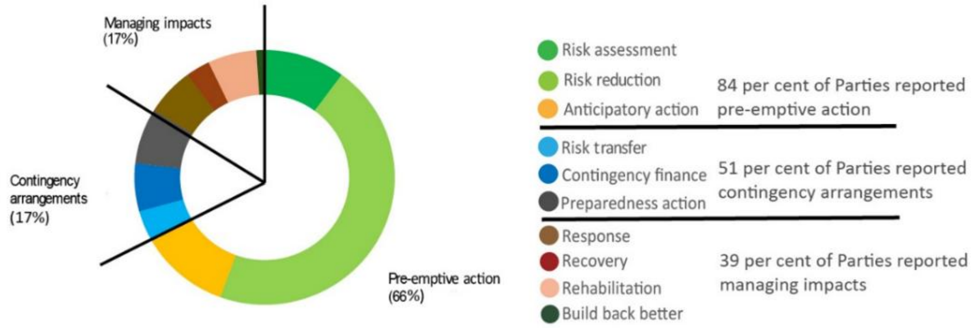
194. For all three types of activity (i.e. averting, minimizing or addressing loss and damage), Parties reported enhancing early warning systems; using awareness-raising efforts; improving the climate resilience of infrastructure; and undertaking risk assessment, analysis and mapping (including for vulnerable and cultural heritage sites). In addition, Parties reported:[37]

(a) Activities to avert loss and damage: reforming natural disaster compensation schemes; developing insurance programmes; using climate-resilient practices and drought-resistant crops to reinforce agricultural resilience; protecting forests to support environmental conservation; developing national plans targeting heatwave impacts on health, public services, the economy and ecosystems; and promoting renewable energy and energy efficiency;

(b) Activities to minimize loss and damage: diversifying water sources and enhancing water-saving techniques to improve water management, promoting housing insurance via private policies, and developing tools for providing emergency assistance and enhancing public safety;[38]

(c) Activities to address loss and damage: integrating consideration of loss and damage into broader policy and planning frameworks and disaster prevention and mitigation laws, regulations and plans. Others include providing housing, public health, agriculture and social protection assistance targeted towards affected populations; enhancing coastal and flood management systems; promoting environmental conservation; establishing insurance schemes; and strengthening capacity for disaster management through training programmes.

Figure 22
All reported activities related to averting, minimizing and addressing loss and damage, clustered by risk management approach

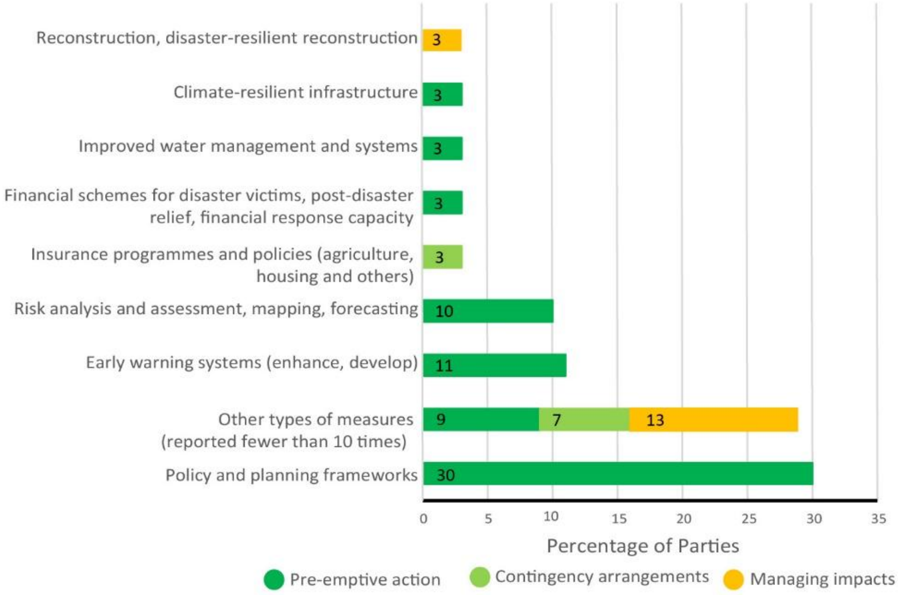


[36] For the framing of comprehensive risk management, see:
WIM Executive Committee. 2025. *Compendium on Comprehensive Risk Management Approaches, Volume 2*. UNFCCC. Available at https://unfccc.int/compendium-on-comprehensive-risk-management-approaches-volume-2.

[37] The activities mentioned in (a)–(c) are duplicative in some cases because the information is drawn from individual BTRs.

[38] In addition, the existence of policy and planning frameworks was mentioned in a generic manner without the losses or impacts that they minimized being elaborated.

Figure 23
Activities related to averting, minimizing and addressing loss and damage reported, by type



3. Institutional arrangements to facilitate implementation of activities related to averting, minimizing and addressing loss and damage

195. The following institutional arrangements were reported by Parties: governmental bodies (ministries, agencies, offices, centres), national frameworks and systems, national coordination mechanisms, national regulations and legislation, financial schemes, regional and international collaboration schemes, and international frameworks and policies. Institutional arrangements were often mentioned in a general manner without specifying the activities for which they facilitated implementation. The most frequently reported institutional arrangements are governmental bodies designed to provide specialized expertise and support for disaster risk management, with functions often encompassing data collection and analysis, early warning systems, research, coordination of relevant stakeholders and/or efforts, and capacity-building.

H. Cooperation, good practices, experience and lessons learned

1. Cooperation

196. Parties reported leveraging diverse global and regional cooperation mechanisms, including knowledge exchange among Parties, finance mobilization and institutional partnerships, to accelerate progress in adaptation. Seventy-six per cent of Parties reported on international and regional cooperation on adaptation. The area most frequently reported (54 per cent) is sharing knowledge and technology (e.g. partnering with regional research institutes to develop climate-resilient crop varieties), followed by collaborating with neighbouring countries and regional river basin organizations on managing transboundary water resources, collaborating with the regional organizations and regional centres on drought early warning systems and exchanging expertise on climate-smart agriculture with neighbouring countries.

197. Forty-one per cent of Parties highlighted their bilateral or multilateral cooperation, examples of which include collaborating with other mountainous countries to strengthen mountain ecosystem adaptation, participating in programmes supported by the United Nations Development Programme, participating in bilateral initiatives on disaster risk reduction and coastal adaptation, securing financial resources from the Green Climate Fund

for large-scale coastal protection, mobilizing bilateral donor funding for adaptation planning, and accessing international financing to enhance flood resilience in urban areas.

2. Good practices, experience and lessons learned

198. Fifty-seven per cent of Parties reported on good practices and lessons learned in adaptation. The information they provided revealed several recurring themes and evidence of convergence around common approaches to implementing adaptation action. Community-based adaptation was the most frequently reported good practice, with 34 per cent of Parties emphasizing the importance of participatory planning processes, including engagement with Indigenous Peoples and local communities. One example of community-based adaptation is a community-led ecosystem restoration initiative that combines traditional practices and modern technologies to protect ecosystems, improve livelihoods and promote agroforestry systems.

199. Other good practices reported include applying data-driven approaches to implementing adaptation action, providing capacity-building to strengthen institutional readiness and local technical skills in adaptation (e.g. establishing field schools to increase farmers' knowledge of adaptation and provide them with access to climate-resilient technologies), mainstreaming adaptation in policy frameworks (e.g. mainstreaming adaptation principles in national building codes to reduce vulnerability to hurricanes) and promoting innovation in finance and resource mobilization, as well as identifying and sharing good practices themselves (e.g. good practices for designing and deploying effective monitoring and evaluation systems, pilot projects and demonstration programmes).

200. Eleven per cent of Parties reported lessons learned in adaptation, emphasizing inclusive participation (recognizing that participatory processes improve project ownership and sustainability); institutional coordination (recognizing that unclear institutional roles and responsibilities hinder progress in adaptation); and flexible, evidence-based approaches to implementing adaptation actions (recognizing that combining long-term planning with flexible short-term actions is critical for building resilience). Other lessons highlighted the importance of developing pragmatic monitoring approaches, scaling up low-cost adaptation practices and leveraging virtual platforms to increase engagement and options for participation in the adaptation process.

VI. Information on financial, technology development and transfer, and capacity-building support provided and mobilized, and needed and received under Articles 9–11 of the Paris Agreement

A. Financial support

201. In accordance with Article 9, paragraphs 1–2, of the Paris Agreement, developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention. Other Parties are encouraged to provide or continue to provide such support voluntarily. In accordance with the MPGs,[39] developed country Parties shall provide information pursuant to Article 13, paragraph 9, of the Paris Agreement, while other Parties that provide support should provide such information and are encouraged to use the MPGs. Developing country Parties should provide information on financial support needed and received.[40]

202. The data presented in the synthesis in this subchapter are based on the data reported by Parties in CTF tables containing information on financial support (i.e. III.1, 2, 3, 6, 7, 12 and 13) or in tabular format of a similar granularity in the BTR. Additional information on

[39] Decision 18/CMA.1, annex, para. 118.
[40] Decision 18/CMA.1, annex, paras. 132–134.

the context and limitations of the data reported by Parties on financial support under the ETF is provided in the box below.

Information on financial support under the enhanced transparency framework under the Paris Agreement and tracking progress towards collective climate finance goals and efforts

Collective climate finance goals and efforts include the goal of developed countries to jointly mobilize USD 100 billion per year to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation, and the urging of CMA 3 for developed country Parties to double the 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.[a]

The SCF has identified several limitations in using information reported by Parties on financial support under the Convention and the ETF to track progress in achieving these goals and efforts, in particular, the lack of a multilaterally agreed accounting methodology for assessing progress in achieving the USD 100 billion goal[a] and methodological limitations in establishing a definitive baseline for the doubling of adaptation finance.[b]

Furthermore, the SCF has noted that the information reported by Parties in their BTRs on multilateral channels primarily comprises data on inflows to multilateral development banks and multilateral funds. As a result, the data do not reflect the complete finance flows directed towards projects in developing countries, particularly the outflows from multilateral funds and development banks to those projects. Substantial gaps also exist in the data on climate finance received by developing country Parties. The data gaps substantially hinder the use of data reported under the ETF as the basis for understanding progress in achieving collective climate finance goals and for explaining differences between the reported amounts and other sources of information.[c] More information is available in the SCF reports referenced in footnotes a–b.[d]

[a] See para. 43 in SCF. 2024. *Second 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*. Technical report. Bonn: UNFCCC. Available at https://unfccc.int/process-and-meetings/bodies/constituted-bodies/standing-committee-on-finance-scf/progress-report.

[b] See para. 73(b) in SCF. 2023. *Report on the doubling of adaptation finance.* Executive summary. Bonn: UNFCCC. Available at https://unfccc.int/documents/641843.

[c] See para. 10 in the report referenced in footnote b above.

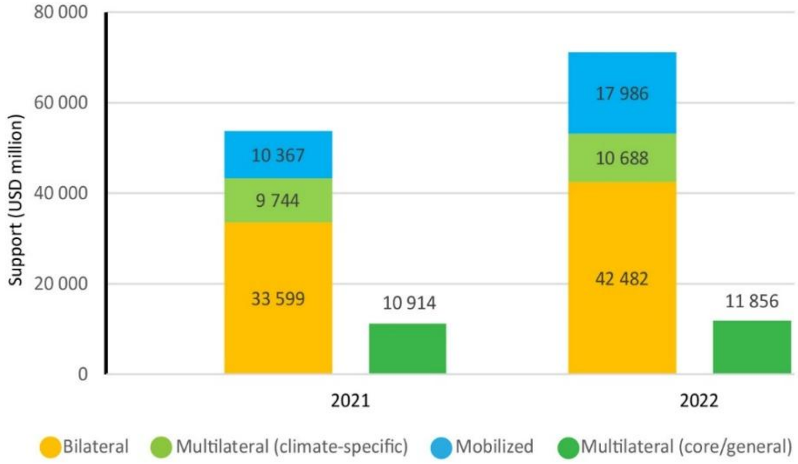
[d] In addition, in response to paragraph 100 of decision 1/CMA.5, developed country Parties prepared a report on the doubling of the collective provision of climate finance for adaptation (see SCF. 2023. *Report on the doubling of adaptation finance*. Bonn: UNFCCC. Available at https://unfccc.int/documents/641843).

1. Financial support provided and mobilized

203. Overall, climate finance, including financial support provided through bilateral, regional and other channels and climate-specific multilateral channels and mobilized through public interventions, amounted to an annual average of USD 63.17 billion in 2021–2022 (USD 53.71 billion in 2021 and USD 71.16 billion in 2022).[41] More than half of the financial support (61.4 per cent) was provided through bilateral, regional and other channels whereas 16.2 per cent was provided through multilateral channels. Finance mobilized through public interventions contributed 22.4 per cent in the biennium 2021–2022. In addition, financial support provided through core/general multilateral channels amounted to an annual average of USD 11.38 billion in the biennium 2021–2022 (see figure 24).

[41] Not including USD 1.47 billion, the total reported by two Parties that provided a combined amount for the biennium 2021–2022.

Figure 24
Financial support reported as provided through bilateral, regional and other channels and multilateral channels and mobilized through public interventions in 2021–2022



Note: Not including USD 1.47 billion, the total reported by two Parties that provided a combined amount for the biennium 2021–2022.

204. A total of 37 Parties provided information on financial support provided and mobilized in their BTRs, of which 6 Parties did not provide this information in the fifth biennial reports under the Convention. Of the financial support reported, 98.9 per cent was from developed country Parties and 1.1 per cent from other Parties reporting on a voluntary basis.[42]

(a) Bilateral, regional and other channels

205. Thirty-five Parties reported detailed information on financial support provided through bilateral, regional and other channels in CTF, either as a separate file or within the text of the BTR. The support amounted to an annual average of USD 38.75 billion in 2021–2022 (USD 33.56 billion in 2021 and USD 42.48 billion in 2022).

206. Parties may report their financial support as committed or disbursed amounts; 80.3 per cent of bilateral climate finance was reported as committed. Most financial support (89.1 per cent) was provided via bilateral channels, followed by 5.0 per cent via multi-bilateral channels (bilateral contributions channelled through multilateral organizations), 3.2 per cent via regional channels and 0.7 per cent via other channels (no information was reported for 1.9 per cent). The main funding source reported was official development assistance (82.4 per cent), while 14.9 per cent of support was funded by other official flows and 0.8 by other sources. For 1.9 per cent of support, no information on funding source was provided.

(b) Multilateral channels

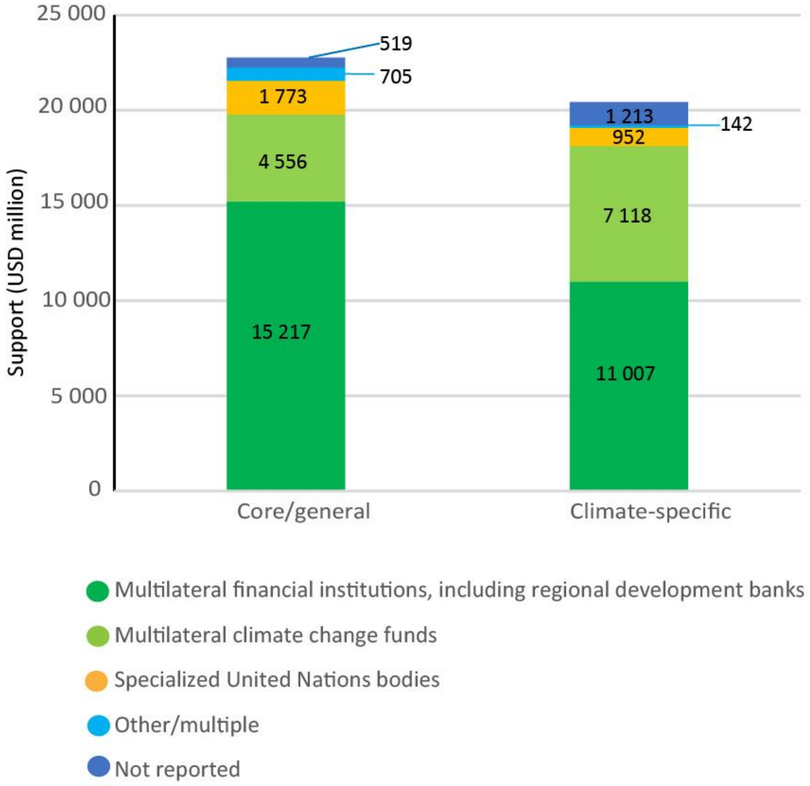
207. Total financial support provided through multilateral channels, including both climate-specific and core/general funding, was reported by 31 Parties and amounted to annual averages of USD 10.22 billion and USD 11.38 billion in 2021–2022, for climate-specific and core/general purposes respectively.

208. Parties reported their climate-specific multilateral financial support as inflows to or outflows from institutions. As outflow data were not readily available to Parties, 25 of the 29 Parties that provided information on climate-specific financial support through multilateral channels reported inflow data.

[42] "Other Parties" provided a clear statement that they were reporting on a voluntary basis as "other Parties" or had also submitted information on financial support needed and received by developing country Parties. Another 0.01 per cent of financial support (USD 8.16 million) was reported by Parties for which it was unclear whether the Parties were reporting as developed country Parties or "other Parties".

209. The majority of both core/general and climate-specific multilateral funding was provided through multilateral financial institutions (including regional development banks) (see figure 25). The World Bank Group[43] was the largest recipient of multilateral climate finance, receiving 45.4 per cent of core/general and 17.0 per cent of climate-specific contributions. Of the multilateral climate change funds, the most significant channel was the Green Climate Fund, which received 12.0 per cent of core/general and 18.4 per cent of climate-specific contributions in 2021–2022.

Figure 25
Financial support reported as provided through multilateral channels in 2021–2022, by entity



(c) Financial support mobilized through public interventions

210. Financial support mobilized via public interventions was reported in CTF table III.3 by 20 Parties and amounted to an annual average of USD 14.18 billion in 2021–2022 (USD 10.37 billion in 2021 and USD 17.99 billion in 2022).

211. An analysis of the data in CTF table III.3 for which both financial support mobilized and resources used to mobilize the support was reported indicates that a total of USD 45.19 billion was used to mobilize a total of USD 12.78 billion. Public interventions reported to mobilize finance were mostly grants (49.2 per cent of support mobilized) and a combination of instruments (18.4 per cent), followed by guarantees (4.8 per cent), equity finance (3.8 per cent), non-concessional loans (2.5 per cent), insurance (0.8 per cent) and concessional loans (0.5 per cent). Public interventions were not reported for 13.5 per cent of support mobilized and were reported as other for 6.6 per cent.

212. Of the total financial support mobilized, 80.6 per cent was provided through bilateral and regional channels and 19.4 per cent through multilateral channels.

[43] The World Bank Group includes the World Bank, the International Bank for Reconstruction and Development and the International Development Association.

2. Financial support needed and received

213. The synthesis of financial support needed and received is based on information reported by developing country Parties in CTF tables III.6–7 or in tabular format, at a similar level of granularity to the data in the CTF tables, in the BTR1s. Alignment of support needed and received with financial resources provided and mobilized is explored with regard to thematic focus, sectoral distribution and financial instruments.

214. While capacity- and data-related barriers are common to the reporting by Parties on both financial support needed and financial support received, the nature of the underlying information and the methodologies underpinning the reporting differ significantly. Tracking support received relies primarily on existing financial data and reporting tools, whereas assessing support needed requires robust planning capabilities, forward-looking modelling and strategic prioritization across sectors.

(a) Financial support needed

215. While 37 Parties provided data on financial support needed, 25.5 per cent of the projects for financial support needed were uncosted.

216. The total estimated financial support needed reported by Parties amounted to USD 3,396.23 billion. Although the expected time frames reported for the support needed varied within the overarching period 2020–2060, most support (87.6 per cent) was reported as needed before 2030.[44]

217. The quantified additional financial support needed by 19 Parties for implementing Article 13 of the Paris Agreement and transparency-related activities reported in CTF amounted to USD 77.97 million. The time frame, when reported, fell mostly within 2024–2030, and 84.3 per cent of support needed was reported as being for planned activities.

218. With respect to reporting on financial support needed, Parties identified challenges, which predominantly relate to insufficient technical, financial and institutional capacity for conducting detailed needs assessments. Gaps in the data needed for estimating climate risks and lack of cost estimation methods, particularly for costing cross-sectoral adaptation actions, were often noted. Additional challenges include high external financing costs, constrained public budgets, difficulties in preparing project documentation and inadequate stakeholder engagement. In several cases, support needs were only partially quantified owing to the absence of structured prioritization and costing frameworks or sectoral investment plans.

(b) Financial support received

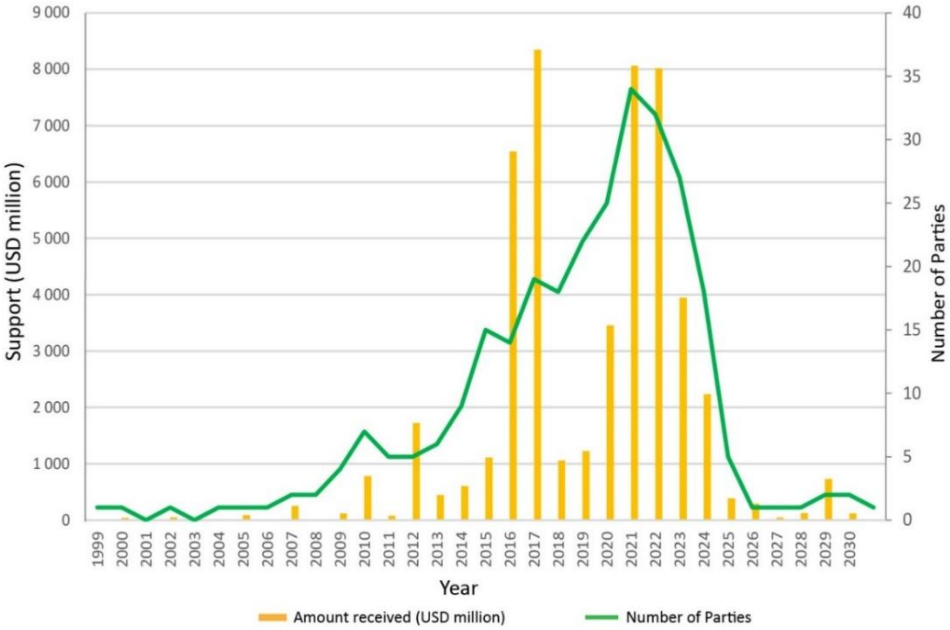
219. A total of USD 60.84 billion was reported by 49 Parties. Figure 26 shows the number of Parties that reported financial support received for projects with a given starting year and the total amount of financial support received for those activities.[45]

[44] Allocation to a time frame was determined by the reported end year of each estimated project.

[45] The starting year of the reported activity is assumed to be the year the financial support was received.

Figure 26

Financial support reported as received for projects, by year, and number of developing country Parties that reported support received, by year



220. For 11.2 per cent of the financial support received, no information was reported on the channel used; the remainder was equally split between multilateral channels (44.9 per cent) and bilateral, regional and other channels (43.9 per cent). Data on the status of the project and on disbursement are limited. While 18.0 per cent of the projects (based on USD amounts) were reported as ongoing, 0.4 per cent as completed and 0.1 per cent as planned, no information was reported for the remaining projects. Regarding disbursement, 37.2 per cent of financial support was reported as received or partly received and 14.8 per cent as committed, while for 48.0 per cent, no information on status was available.

221. Additional financial support of USD 148.25 million was received by developing country Parties for implementing Article 13 of the Paris Agreement and transparency-related activities, as reported by 26 Parties (3 of which reported uncosted information only). The most frequently reported areas for which support was received are preparing BTR1s and BTR2s, preparing national communications (often paired with support for preparing BTRs), preparing biennial update reports, implementing projects under the Capacity-building Initiative for Transparency and the Initiative for Climate Action Transparency, and preparing and updating NDCs and GHG inventories. The financial resources were channelled almost exclusively via multilateral institutions (95.2 per cent) and most of the activities were ongoing (84.5 per cent).

222. Parties highlighted challenges they faced in tracking financial support received, with the most frequently reported being systemic constraints in data availability and institutional capacity, lack of standardized definitions and classification systems for climate finance and limited coordination among national agencies. Weak digital infrastructure, untagged private sector flows and incomplete donor reporting further complicated efforts to consolidate and verify information across sectors. Several Parties cited lack of centralized databases, inconsistent reporting formats and insufficient audit mechanisms as challenges limiting transparency of tracking and hindering comparability across reporting cycles.

3. Thematic and sectoral distribution of financial support

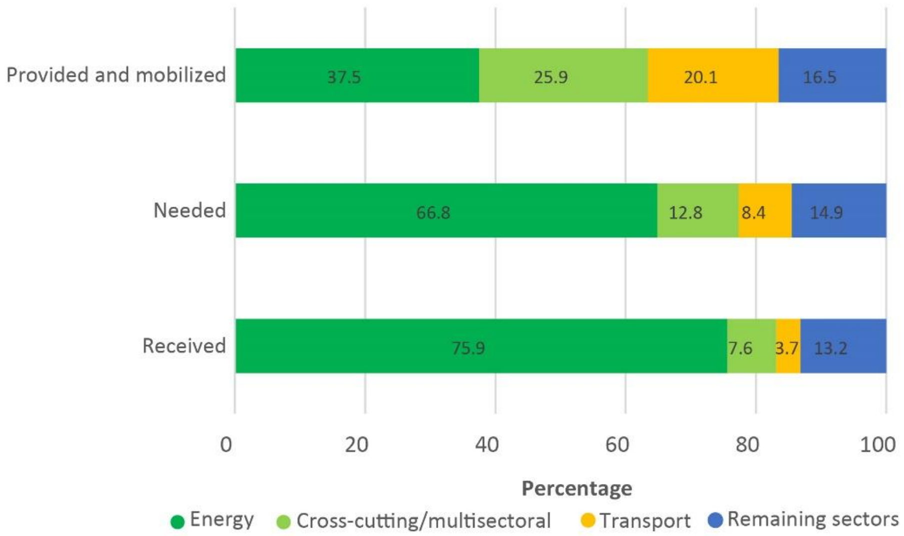
223. Despite the BTRs reflecting an emphasis by Parties on the importance of and their commitment to adaptation, financial support for mitigation constituted the largest shares of financial support provided and mobilized, and needed and received, at 53.8, 59.6 and 53.8 per cent respectively. In contrast, the shares of financial support for adaptation provided and mobilized, and needed and received ranged from 21.8 to 23.8 per cent (see figure 27).

Figure 27
Financial support reported as provided and mobilized, and needed and received, by thematic area

224. For mitigation actions, developed country and other Parties provided and mobilized USD 67.83 billion in 2021–2022 while developing country Parties received USD 32.73 billion (with more than 85 per cent received in 2012–2024) and expressed needs of USD 2,024.50 billion (with almost 95 per cent received before 2030).

225. A sectoral analysis of the finance flows reported for mitigation actions shows partial alignment between support needed and received and support provided and mobilized. Energy (without transport) is the dominant sector for support needed and received (66.8 and 75.9 per cent respectively), whereas the shares of support provided[46] and mobilized are spread across energy (37.5 per cent), multi-sectoral (25.9 per cent) and transport (20.1 per cent) actions (see figure 28). The differences may arise from reporting asymmetries and/or bundling of sectoral mitigation actions into cross-cutting and multisectoral actions.

Figure 28
Financial support reported as provided and mobilized, and needed and received for mitigation, by sector



226. Financial support for adaptation was spread across various sectors. While cross-cutting and multisectoral actions accounted for most reported needs (58.2 per cent), they received proportionally less support (22.2 per cent) than other actions. Agriculture emerged

[46] Provided through bilateral, regional and other channels, and climate-specific multilateral channels.

as a consistently prioritized sector (with shares of 15.6 to 18.9 per cent for support provided and mobilized, and needed and received), while water and sanitation attracted substantial funding despite being infrequently identified as a need (12.9 and 2.0 per cent respectively). This discrepancy in sectoral alignment for adaptation support may reflect challenges in translating broad cross-cutting needs into targeted actions for funding.

4. Financial instruments and grant-equivalent support

227. A strong preference for grants and concessional climate finance emerged in the reporting of developing country Parties. Grants were identified as the sole expected instrument for nearly one quarter of support needs, while for almost half of support needs, multiple instruments were listed – most commonly grants together with concessional loans. Additional instruments mentioned include national budgets and domestic financing, reflecting diverse potential avenues for raising resources.

228. The information reported on provision and mobilization of financial support mirrors this preference. The predominant share of financial support provided and mobilized was delivered through grants (40.5 per cent of bilateral support provided, 49.2 per cent of financial support mobilized through public interventions and 64.1 per cent of climate-specific multilateral support provided). Concessional loans make up 31.4 and 5.0 per cent and non-concessional loans 18.7 and 27.3 per cent of bilateral and climate-specific multilateral financial support provided respectively. Considering that the total amount of bilateral financial support is four times that of climate-specific multilateral financial support, this finding reflects efforts by donor countries to ease financial terms for recipient developing countries.

229. Financial support received presents a somewhat different picture. Of the reported finance support received, 55.8 per cent was delivered in the form of loans. However, for 38.9 per cent, it was not specified whether they were concessional or non-concessional. Only 11.8 per cent were identified as concessional loans, and 5.1 per cent as non-concessional loans. Grants accounted for 15.3 per cent of total support received and were also frequently included as a component of finance packages combining multiple instruments.

230. The MPGs make provisions for Parties to report, on a voluntary basis, the grant-equivalent values of financial support provided to developing country Parties.[47] Both face value and grant-equivalent amounts were available for 52.0 per cent of all reported activities supported through bilateral, regional and other channels and for 18.0 per cent of all reported climate-specific multilateral contributions.[48] For support provided through bilateral, regional or other channels, the total value of grants and grant-equivalent value of concessional loans and equity amounted to USD 34.96 million in 2021–2022, compared with a face value of USD 44.79 billion for the same instruments, with grants making up 88.0 per cent of the grant-equivalent value. For climate-specific multilateral financial support provided, the total value of grants and grant-equivalent value of concessional loans and equity amounted to USD 13.25 billion in 2021–2022, compared with a face value of USD 13.6 billion for the same instruments, with grants making up 98.0 per cent of the grant-equivalent value.

B. Technology development and transfer support

231. This subchapter synthesizes the information reported in accordance with the MPGs on technology development and transfer support provided, received and needed in 2021–2022 to assist developing country Parties in improving resilience to climate change and in reducing GHG emissions pursuant to Article 10 of the Paris Agreement.

232. Of the 63 Parties that reported information on support for technology development and transfer, 50 reported information in CTF tables III.4, 8 and 9 or in tabular format in the BTR, while the remaining 13 Parties reported information in narrative format in the BTR.

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47 Decision 18/CMA.1, annex, paras. 123(b) and 124(c).

48 As it can reasonably assumed that the face values of grants are identical to their grant-equivalent values (and vice versa), for the purpose of this synthesis, data gaps have been filled by using the face values to obtain the grant-equivalent values (and vice versa) for all grants reported by Parties.

A total of 2,340 activities were reported in the CTF tables and an additional 106 in the BTR in narrative format. The synthesis of support provided, received and needed for technology development and transfer is based on only the 2,340 activities presented in the CTF tables.

233. Twenty-six Parties (52 per cent) reported on technology development and transfer support provided, 26 (52 per cent) on support received and 15 (30 per cent) on support needed.

234. Fifty-two per cent of support provided was for adaptation, 29 per cent for mitigation, and 19 per cent for activities that address both adaptation and mitigation. More than 90 per cent of support provided was from the public sector.

235. In contrast, most support received was for mitigation (51 per cent), followed by adaptation (28 per cent) and cross-cutting activities (21 per cent). The figures on support received align with those on support needed: 49 per cent was for mitigation, 27 per cent was for adaptation and 24 per cent was for cross-cutting activities.

236. Technology development and transfer support provided, received and needed encompassed a variety of activities, including policymaking, creation of enabling environments, research and development, and piloting and deployment of climate technologies. Support provided, received and needed focused on the energy sector. This finding aligns with the fourth synthesis of technology needs identified by Parties not included in Annex I to the Convention, which found that 94 per cent of Parties prioritized the energy sector for their mitigation-related technology needs.[49] The estimated impacts and results of supported activities reported by Parties include emission reductions (quantified), enhanced climate resilience, reduced cost of energy and the scale-up of climate technologies.

237. Parties reported challenges in collecting data on technology-specific support provided, received and needed, and gaps between support received and needed. For example, support was provided for 226 activities related to water and sanitation technologies (29 per cent of all activities), whereas only 3 such activities (1 per cent) were reported as having received support.

1. Technology support provided

238. In total 1,483 activities were reported as technology support provided. For 1,124 of the reported activities, Parties included information on implementation channels: 856 (76 per cent) activities were delivered through bilateral, 156 (14 per cent) through regional and 112 (10 per cent) through global channels.

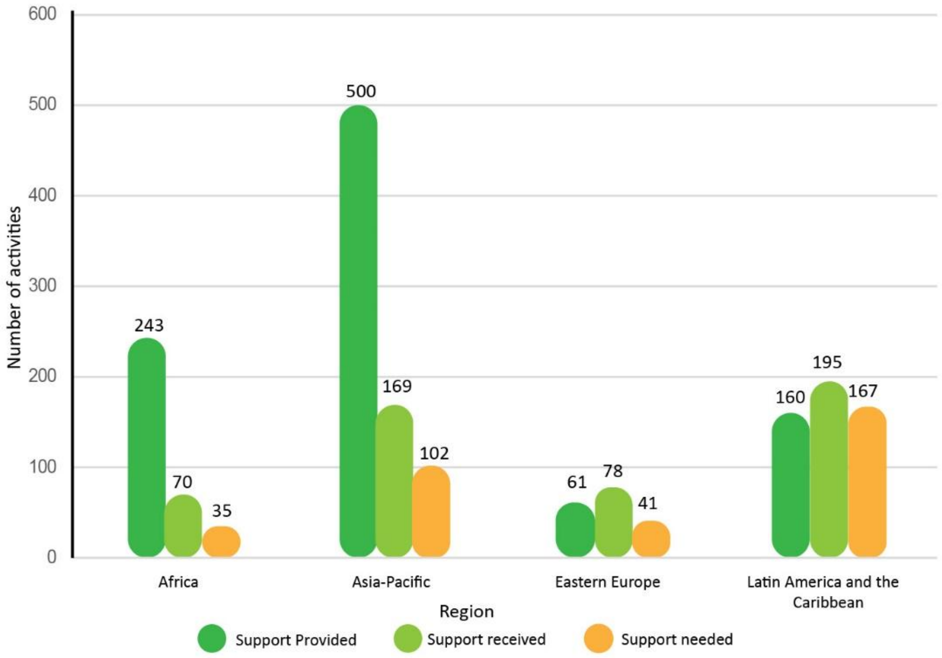
239. For 892 of the activities, Parties included information on the entities providing technology support: 808 activities (90 per cent) were supported by the public sector, 68 (8 per cent) by the private sector and 16 (2 per cent) by both the public and the private sector.

240. For 792 of the reported activities, Parties included sectoral information: 226 activities (29 per cent) related to water and sanitation, 181 (23 per cent) to energy, 169 (21 per cent) to multiple sectors, 90 (11 per cent) to agriculture, 77 (10 per cent) to transport, 25 (3 per cent) to industry, 11 (1 per cent) to forestry and 13 (2 per cent) to other.

241. For 1,103 of the reported activities, Parties included information on the applicable region, providing an overview of the regional distribution of support provided (see figure 29): 500 activities (45 per cent) were undertaken in Asia and the Pacific, 243 (22 per cent) in Africa, 160 (15 per cent) in Latin America and the Caribbean, 61 (6 per cent) in Eastern Europe, 136 (12 per cent) globally and 3 in Western European and other States.

[49] FCCC/SBI/2020/INF.1, para. 8.

Figure 29
Technology development and transfer support reported as provided, received or needed, by region



242. For 888 of the reported activities, Parties included information on status of the activity: 486 activities (55 per cent) were completed, 400 (45 per cent) were ongoing and 2 were at the planning stage.

243. The support provided includes support for collecting and using climate data and developing climate models, mobilizing technology investments, promoting awareness-raising and knowledge-sharing on climate technology solutions, providing direct technology transfer, conducting technology research and development, and establishing joint programmes with the private sector to promote technology development and transfer.

2. Technology support needed

244. A total of 345 activities were reported by 15 Parties as needing technology development and transfer support. Regarding regional distribution, 167 activities (48 per cent) were for Latin America and the Caribbean, 102 (30 per cent) for Asia and the Pacific, 41 (12 per cent) for Eastern Europe and 35 (10 per cent) for Africa.

245. Of the activities reported, 174 specified the sector or area for which technology support is needed: 40 activities (23 per cent) were in energy, 40 (23 per cent) in agriculture, 26 (15 per cent) in cross-cutting areas, 21 (12 per cent) in transport, 20 (11 per cent) in water and sanitation, 14 (8 per cent) in forestry and 13 (8 per cent) in industry.

246. The support needed includes support for developing disaster monitoring and early warning technologies; enhancing water management systems for agriculture; transitioning to renewable energy systems; improving the management of waste, resources and forests; and strengthening transportation systems.

3. Technology support received

247. A total of 512 activities were reported by 26 Parties as having received technology development and transfer support. Regarding regional distribution, 195 activities (38 per cent) were in Latin America and the Caribbean, 169 (33 per cent) in Asia and the Pacific, 78 (15 per cent) in Eastern Europe and 70 (14 per cent) in Africa.

248. Of the activities reported, 266 had available data on the sectors or areas for which technology support was received: 153 activities (57 per cent) were in energy, 34 (13 per cent) in cross-cutting areas, 28 (11 per cent) in agriculture, 19 (7 per cent) in forestry, 16 (6 per cent) in transport, 13 (5 per cent) in industry and 3 (1 per cent) in water and sanitation.

249. The support received includes support for developing climate-smart agriculture, increasing renewable energy generation, enhancing the efficiency of energy management systems, increasing the productivity of the agriculture sector, preserving forests and advancing policies and technologies for disaster risk reduction.

C. Capacity-building support

250. This subchapter synthesizes the information on capacity-building support provided; support needed and received by developing countries under Article 11 of the Paris Agreement; and support for implementing Article 13 of the Paris Agreement and transparency-related activities, including transparency-related capacity-building.[50]

251. In their BTRs, 91 Parties (82.7 per cent) reported information on capacity-building support provided and/or received. Of these, 36 Parties reported on support provided, 52 reported on support received and 3 reported on both.

1. Capacity-building support provided

252. A total of 8,339 activities were reported in the BTR1s as capacity-building support provided. Of these, 62.7 per cent focused on adaptation, 21.3 per cent on cross-cutting areas and 18.6 per cent on mitigation. Capacity-building was often delivered in the form of financial contributions to multilateral initiatives and programmes. These activities had a wide range of objectives, including strengthening institutional coordination at the national and regional level; building long-term community resilience to the impacts of climate change via training in technical skills; enhancing infrastructure for adaptation; developing and implementing climate policies aligned with the Paris Agreement; implementing carbon accounting; improving energy efficiency; supporting technology transfer via the provision of technical assistance; developing long-term strategies for carbon neutrality; accessing climate finance; creating and implementing education programmes for developing green skills and research programmes; addressing climate data and information gaps; and delivering targeted technical support to reduce emissions and build resilience across sectors.

253. Parties providing capacity-building support reported a range of activities that focused on specific countries or regions or spanned multiple countries in different regions. Most Parties that reported providing direct support to specific countries or regions focused on Africa (31.8 per cent), Asia and the Pacific (21.5 per cent) and Latin America and the Caribbean (15.6 per cent). In addition, some Parties reported providing capacity-building support to Eastern Europe (10.8 per cent) and 0.9 per cent for Western European and other States. A further 19.4 per cent of the capacity-building support provided was either globally targeted or did not specify a particular region. Of the capacity-building support activities provided, 54.1 per cent were reported as completed, 43.8 per cent as ongoing and 2.1 per cent as in the planning stage.

2. Capacity gaps and capacity-building needs

254. Of the 51 Parties that reported needing capacity-building support, 43 provided general information about their capacity needs or listed specific needs. Notably, only five Parties that are least developed countries or small island developing States and that submitted a BTR1 elaborated on their capacity-building needs. Of the 1,397 capacity-building needs reported, 42.4 per cent focused on adaptation, 30.2 per cent on mitigation and 20.0 per cent on cross-cutting areas. The remaining 7.4 per cent of reported support needs were not classified. The majority of support needs identified relate to the LULUCF sector (14.7 per cent), followed closely by the agriculture (14.0 per cent) and energy (12.6 per cent) sectors.

[50] Decision 18/CMA.1, annex, paras. 128–129 and 139–145.

255. Developing country Parties reported having persistent capacity gaps and challenges that limit their planning and implementation of climate action. The capacity gaps and capacity-building needs reported pertain to achieving institutional readiness for accepting, distributing and managing climate finance; involving non-Party stakeholders in national decision-making processes; improving the knowledge of ministry staff on climate action; improving coordination across sectors and between national and local institutions; developing climate risk and vulnerability assessments, and adaptation planning; and identifying and deploying the technology needed for mitigation and adaptation projects.

256. Parties also identified emerging priority areas for capacity-building, including developing national frameworks for responding to loss and damage; establishing climate budget tagging; supporting the participation of government agencies and industries in carbon markets; developing and using modern technologies and clean technologies for mitigation and adaptation, such as early warning systems, web-based climate modelling and rainfall prediction systems; collecting and using gender-disaggregated data to inform design and implementation of climate action; mainstreaming gender into climate policymaking and developing relocation policies in response to climate challenges such as sea level rise.

257. Forty-one Parties also identified capacity-building support needed pertaining to transparency, including in relation to preparing BTRs and NIRs. These needs included establishing measurement, reporting and verification systems; strengthening technical knowledge for collecting and managing emissions data in specific sectors, with a particular emphasis on emerging technologies; building capacity to use models and tools for reducing emissions and modelling future mitigation scenarios; identifying country-specific emission factors for use in tier 2 or 3 methodologies for estimating emissions; and adhering to the MPGs and the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.[51]

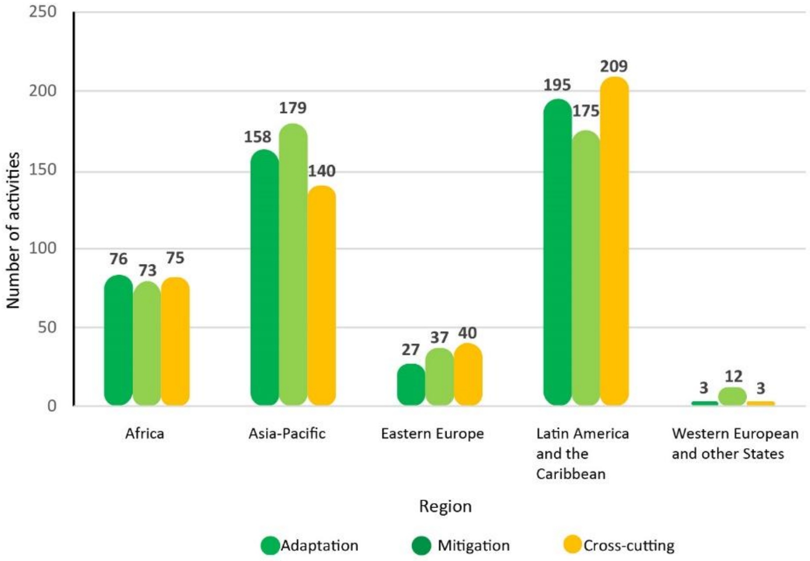
3. Capacity-building support received

258. A total of 48 Parties reported having received capacity-building support, collectively identifying 1,814 activities. Some Parties provided qualitative information on capacity-building support received, which was not included in the synthesis. The support received was evenly distributed across adaptation (25.3 per cent), mitigation (26.2 per cent) and cross-cutting themes (25.7 per cent), with the remaining 22.8 per cent of activities not reported. In terms of regional distribution, Latin America and the Caribbean reported receiving capacity-building support for 579 activities followed by Asia and the Pacific (477 activities) and Africa (224 activities) (see figure 30).

259. The activities for which support was received are varied and include conducting technical training on building and operating modern infrastructure related to mitigation and adaptation; strengthening institutional capacity for planning and implementing sustainable activities to reduce environmental impacts; promoting the role of women in climate action; establishing cross-border learning coalitions to support research and development; building institutional readiness for climate finance mobilization; supporting the development of climate actions in line with international standards; and providing local training on and raising local awareness of renewable energy sources. In terms of the status of support received for capacity-building, 50.7 per cent of activities were reported as ongoing, 43.6 per cent as completed and 5.7 per cent as planned.

[51] IPCC. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. S Eggleston, L Buendia, K Miwa, et al. (eds.). Hayama, Japan: Institute for Global Environmental Strategies. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl.

Figure 30
Capacity-building support reported as received, by thematic area and region



260. Most Parties did not report transparency-related capacity-building support received as a distinct category, instead including it under broader support activities. Where transparency-related support was explicitly reported, it typically involved activities such as establishing NIR processes and preparing biennial update reports; preparing to meet the requirements of the ETF and reporting BTRs; training in QA/QC processes; improving the quality of the collection, storage and dissemination of GHG inventory data; developing legal and policy frameworks and strengthening institutional frameworks. This support was often funded and implemented through the Capacity-building Initiative for Transparency, the Initiative for Climate Action Transparency and the United Nations Environment Programme.

VII. Information on other aspects of climate action

261. This chapter presents information on the multifaceted approaches Parties are applying to address climate change. The BTR1s show the growing understanding of Parties that effective climate action requires an inclusive, integrated approach extending beyond government mandates to involve all segments of society, with a strong alignment with national sustainable development priorities. This chapter synthesizes information reported in 101 BTR1s.

A. Applying whole-of-society approaches to climate action

262. In their BTR1s, Parties highlighted that climate action is not solely a governmental responsibility but a collective societal endeavour requiring the participation of all stakeholders. This whole-of-society approach is being applied through the mechanisms described in this subchapter.

263. **Non-Party stakeholders**. Some 73 per cent of Parties underscored the importance of involving non-Party stakeholders in preparing climate-related reports (e.g. BTRs) and in developing and implementing climate policies and strategies to ensure that a wide range of perspectives is considered. In this regard, Parties reported involving government agencies, private sector entities, civil society organizations, non-governmental organizations, academic and research institutions, local communities and international organizations. Engagement was facilitated via targeted stakeholder consultations, public discussions and initiatives, and multi-stakeholder councils and thematic working groups. Inter-institutional coordination was strengthened to align the efforts of different government bodies related to climate action. These collaborative approaches reflect the efforts of Parties to ensure that climate action is inclusive, representative and effective.

264. **The private sector**. Private sector entities are recognized by Parties as crucial partners in delivering climate solutions and scaling up climate-related initiatives. Governments are working with the private sector to achieve climate goals, leveraging corporate resources and financial capital to drive the green transition. The private sector has a direct role in decarbonization through encouraging the use of green technologies (such as electric and hybrid vehicles), promoting environmentally responsible practices in key industries (such as responsible logging and wood processing) and investing in and undertaking voluntary emission reduction activities (which are often facilitated by emissions trading systems). A key objective of governments in collaborating with the private sector is to promote private sector financing of sustainable, low-emission and climate-resilient projects, which are often supported by fiscal incentives and private finance mobilized through public finance.

265. **Civil society and local communities**. Civil society organizations and local communities have a vital role in awareness-raising and advocacy related to climate action and in implementation of local climate-related projects. Some 73 per cent of Parties reported prioritizing the involvement of these stakeholders in climate action and adaptation planning. For example, local communities were supported in forest conservation by payments for ecosystem services, which provided direct financial benefits for environmental stewardship and thus empowered vulnerable groups, such as women. Such initiatives are tailored to local needs and support vulnerable populations.

B. Integrating diverse perspectives into climate action

266. The BTR1s show that Parties are integrating the perspectives of traditionally marginalized groups into climate action, recognizing their unique vulnerabilities to climate change and contributions to climate resilience and sustainable development.

267. **Women**. Some 71 per cent of Parties in their BTR1s explicitly referred to considering gender in their climate actions, including by incorporating a gender perspective into climate action (e.g. by applying gender-responsive GHG accounting to better understand and address the differential impacts of climate change and decarbonization on women and men); addressing the increased vulnerability of women to climate change impacts (e.g. by recognizing that the transition to cleaner energy improves health particularly for women, who are often disproportionately exposed to indoor air pollution); strengthening civil society organizations that focus on gender and women’s issues; promoting and recognizing the role of women in specific climate actions (e.g. waste separation for recycling); and creating a fair and inclusive transition to a low-carbon economy by minimizing social inequalities, including those related to gender.

268. **Youth**. The youth demographic is acknowledged by Parties as critical to shaping a sustainable future. Some 52 per cent of Parties reported engaging and empowering youth in climate action using various approaches, including promoting youth involvement in national climate change policymaking, such as by ensuring youth representation on national climate change councils; establishing programmes to strengthen young people’s skills and knowledge in climate change mitigation and adaptation and their abilities in advocacy for climate action; encouraging youth to participate in or lead environmental projects; and fostering greener lifestyles and enhancing climate awareness among young people by conducting training and awareness-raising activities and engaging with academic institutions.

269. **Indigenous Peoples and local communities**. The BTR1s from Parties with Indigenous populations show a recognition of the deep connection those populations have to the environment and the invaluable assets that their traditional knowledge constitutes. Indigenous knowledge systems, the rights of Indigenous Peoples and traditional practices are being recognized and integrated into national climate strategies and policies, and inclusive, participatory models are being adopted to engage diverse populations, including Indigenous groups in climate action. Parties are also striving to strengthen the capacities of Indigenous communities to adapt to climate change by providing targeted support for building resilience and participating effectively in climate action. These approaches ensure that traditional wisdom and practices are leveraged for effective and equitable climate action.

C. Fostering synergies between climate action and the Sustainable Development Goals

270. In the BTR1s Parties underscored the links between climate action and broader sustainable development objectives, framing climate policies as integral components of national development strategies and contributions to the SDGs.

271. **National development plans**. Parties are embedding climate change in their national development plans. Some 91 per cent of Parties articulated a national vision or priorities that explicitly link climate action with broader sustainable development goals such as those related to clean energy, sustainable cities and communities, sustainable production and consumption, green growth and high quality of life. Climate goals are being integrated into long-term strategic plans, such as five-year plans, by setting targets related to climate neutrality, climate resilience and disaster resilience. National climate change action plans are being designed to align with and systematically support the SDGs and disaster risk reduction agendas, thus promoting climate-resilient development. Policymakers are focused on creating a socially inclusive transition to a low-carbon economy – this means policies are designed to foster sustainable economic growth, ensure energy security and create new economic opportunities, all while minimizing social inequalities.

272. **Socioeconomic co-benefits and impacts**. Many Parties described the social and economic co-benefits of climate actions, such as improved public health, job creation in green sectors, and enhanced food and water security. They also addressed the adverse social and economic consequences of climate impacts, such as poverty, inequality and forced migration. Some 43 per cent of Parties in their BTRs emphasized aiming for a socially fair and just transition to ensure synergy between climate policies and broader socioeconomic development goals such as improved livelihoods, health, employment and household consumption.

273. **Cross-sectoral approaches**. Nearly 64 per cent of Parties reported in their BTR1s on cross-sectoral planning to achieve multiple benefits. For example, initiatives in waste management were linked to achieving SDGs related to sustainable cities and responsible consumption and production, and investments in sustainable infrastructure, renewable energy and climate-smart agriculture were often presented as contributing both to mitigation or adaptation targets and to broader socioeconomic development goals.

VIII. Information on transparency arrangements, constraints and planned improvements related to reporting

274. This chapter presents the key findings from the synthesis of information reported in the BTR1s on transparency arrangements, gaps in reporting and application of flexibilities, capacity constraints, capacity-building needs and proposed improvement plans. This chapter synthesizes information reported in 101 BTR1s, including those of 66 developing country Parties.

A. Transparency arrangements

275. Parties are working to establish robust domestic transparency arrangements to meet the requirements of the ETF, inform domestic policymaking and, ultimately, address climate change effectively. These arrangements are typically multifaceted, encompassing legal frameworks, institutional structures and data management systems.

276. Nearly all Parties have established legal and institutional frameworks that provide a strong foundation for climate action, governance and reporting and a structure for systematic fulfilment of climate commitments. Some 44 per cent of Parties have enacted or updated national legislation to formalize domestic and international climate and reporting commitments, thus creating a legal foundation for meeting them. These laws often mandate the development of specific plans, such as an implementation and monitoring plan for NDCs,

and formalize the roles and responsibilities of ministries and government agencies, ensuring that they have the authority to implement climate change actions.

277. Institutional arrangements often involve dedicated implementing, regulatory and oversight entities such as national councils and directorates. These entities are responsible for processes pertaining to climate action such as policy development, coordination of climate-related activities and national climate-related reporting, including preparation of GHG inventories. Nearly 41 per cent of Parties have adopted a multi-level governance approach, wherein responsibilities are shared between federal, regional and local government bodies, ensuring better coordination of climate actions across all tiers of government. Stakeholder consultation on climate policy formulation and implementation is employed to ensure accountability and transparency.

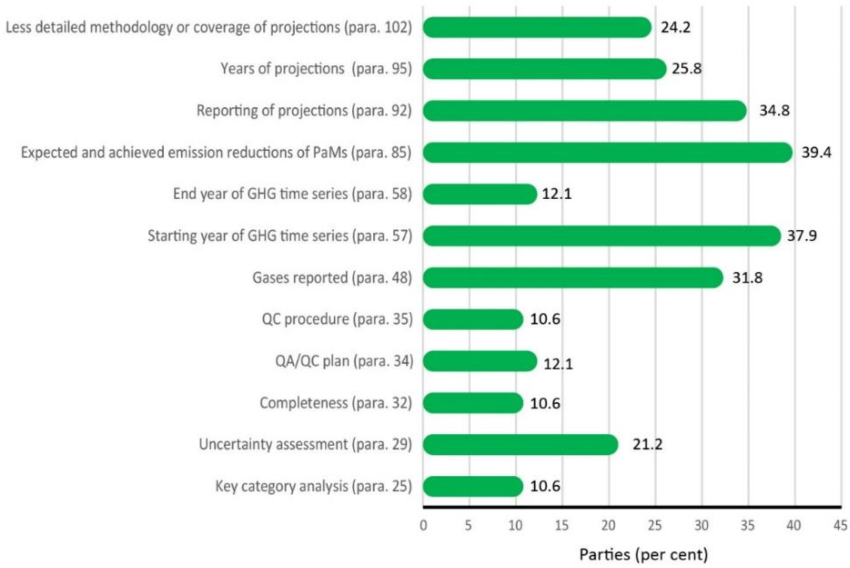
278. Nearly all Parties are developing and implementing national systems to ensure transparency and accountability in the monitoring of progress in climate action. The systems typically include centralized data management to streamline the collection, analysis and archiving of climate-related information and mechanisms for monitoring progress in various aspects of climate action, including trends in GHG emissions, implementation of NDC actions, provision and receipt of climate finance and impacts of climate actions on the achievement of SDGs. These systems are also crucial to enhancing data accessibility and quality, making information publicly available and supporting evidence-based policymaking.

B. Gaps in reporting and application of flexibility

279. The MPGs provide for the application of flexibility by those developing country Parties that need it in the light of their capacities.[52] In their BTR1s, many developing country Parties acknowledged that gaps exist in their reporting despite efforts to close them and provided information on their application of flexibility. Common reporting gaps relate to covering all gases and categories in the GHG inventory (gaps are particularly evident in the IPPU and LULUCF sectors), estimating expected and achieved emission reductions of PaMs, and developing projections.

280. Of the 66 developing country Parties included in this synthesis, 47 applied at least one of the 12 flexibility provisions outlined in the MPGs in the light of their capacity constraints. Figure 31 presents the flexibilities applied by developing country Parties.

Figure 31
Flexibilities applied by developing country Parties, by reporting requirement for which flexibility was applied

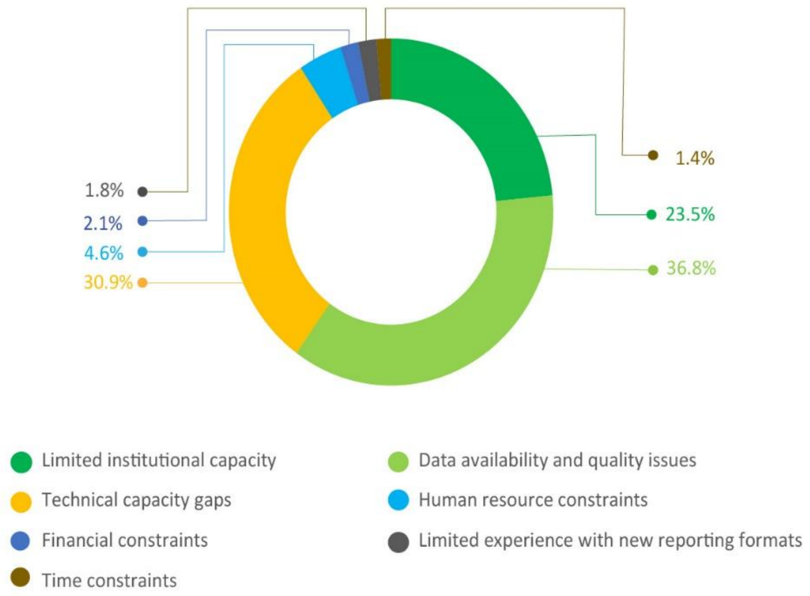


[52] Decision 18/CMA.1, annex, para. 4.

C. Capacity constraints

281. Parties face a range of capacity constraints in fully meeting their reporting obligations under the ETF. These constraints most often relate to institutional and technical capacity and the availability and quality of data, but also to finance, human resources and time. Figure 32 presents the capacity constraints that were most frequently reported in the BTRs.

Figure 32
Capacity constraints reported, by type of constraint



282. Institutional challenges often revolve around collaboration and data-sharing among government agencies and non-State actors. They include weak inter-institutional arrangements for climate-related reporting, including cross-sectoral arrangements, weak mandates for data providers and unclear communication channels. These challenges make it difficult to effectively communicate needs, share information and align actions related to climate reporting across government bodies and non-State actors. The need for improved systems and trained personnel to manage and analyse complex climate-related data was cited by many Parties.

283. Technical challenges primarily relate to improvement of data quality, application of IPCC methodologies for estimating emissions and development of advanced systems for monitoring GHG emissions and removals. Many Parties continue to rely on tier 1 methodologies from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* for many inventory categories, primarily owing to a lack of country-specific emission factors and detailed activity data. Furthermore, the IPCC inventory software has limitations in adequately capturing data for certain categories, such as wetlands, which can affect the overall completeness and accuracy of national inventories. The absence of robust domestic systems for tracking private finance flows and financial support received was also cited as a constraint by some Parties. Some 52 per cent of developing country Parties mentioned their need for sustained and adequate international financial and capacity-building support to address data-related challenges.

D. Time frames for improvement

284. As per the MPGs, developing Parties applying flexibility are required to provide self-determined estimated time frames for improvement in relation to their capacity constraints.[53] However, in nearly half of instances of applying flexibility, developing country Parties that applied flexibility did not specify the time frame for improvement in relation to the flexibility

[53] Decision 18/CMA.1, annex, para. 6.

applied. Of the time frames for improvement that were reported, the most common were the BTR2 reporting cycle, or 2025, with only a few being the BTR3 to BTR6 reporting cycles, or 2028. However, the time frames for improvement also differed by the reporting provision to which flexibility was applied. For example, most developing country Parties applying flexibilities for uncertainty assessment (para. 29 of the MPGs) and starting year of the GHG inventory time series (para. 57 of the MPGs) indicated their aim to improve in time for BTR2 preparation. Most developing country Parties applying flexibility related to QA/QC (paras. 34–35 of the MPGs) aim to improve in 2025–2030 or for the BTR2. Many developing country Parties applying flexibility for reporting on fewer gases than required (para. 48 of the MPGs) plan to expand coverage by 2028.

E. Capacity-building needs and improvement plans

285. The application of flexibility is directly linked to capacity constraints and addressing the constraints would enable more comprehensive reporting. Of the 66 developing country Parties considered for this synthesis, 40 articulated clear capacity-building needs in the BTR and 25 outlined improvement plans for future reporting cycles. Many developing country Parties identified the need for enhanced international support for capacity-building in specific areas to accelerate their efforts in improving their reporting under the ETF. The most frequently reported capacity-building needs include training or support in:

(a) Applying higher-tier (2 and 3) IPCC methodologies for estimating emissions for GHG inventories (particularly for key categories), conducting or improving uncertainty analyses (particularly for key categories) and developing country-specific emission factors;

(b) Using tracking and accounting tools for monitoring the implementation of NDCs and achievement of targets;

(c) Developing robust monitoring and evaluation systems for adaptation actions and quantifying their impacts;

(d) Tracking financial and other support, including collecting information and reporting on mobilization of private finance and technology transfer.

286. Parties are committed to the process of continuous improvement in their climate-related reporting, as shown by the improvement plans included in the BTR1s. These plans generally involve:

(a) Transitioning to the use of higher-tier methodologies, developing country-specific activity data and emission factors, and improving the accuracy of uncertainty assessments, particularly for key categories;

(b) Formalizing and strengthening institutional arrangements, improving coordination among data providers, and establishing robust data management and archiving systems;

(c) Developing the capacity and skills of national experts in all aspects of climate-related reporting, from data collection to report compilation and verification, via training programmes, workshops and technical assistance;

(d) Prioritizing efforts to close data gaps, especially for categories reported as “NE” or “IE”, to enhance the completeness of national GHG inventories, including by investing in and using advanced technologies for data collection (e.g. remote sensing for LULUCF), analysis and reporting.

Annex

Parties included in the synthesis of information provided in first biennial transparency reports, by chapter of this report

Chapter	*Synthesis*	*No. of Parties*	*Parties*
II	Parties that had submitted, as at 15 April 2025, at least one component of the BTR submission (i.e. BTR, NIR (comprising NID and CRTs), CTF tables for NDC information, CTF tables for financial, technology development and transfer, and capacity-building support information)[a]	109	Albania, *Algeria*, *Andorra*, *Argentina*, *Australia*, *Austria*, *Azerbaijan*, *Belarus*, *Belgium*, *Belize*, *Bhutan*, *Bolivia (Plurinational State of)*, *Brazil*, *Brunei Darussalam*, *Bulgaria*, *Burkina Faso*, *Cambodia*, *Canada*, *Central African Republic*, *Chile*, *China*, *Colombia*, *Costa Rica*, *Côte d'Ivoire*, *Croatia*, *Cuba*, Cyprus, *Czechia*, *Denmark*, *Ecuador*, *Egypt*, *Estonia*, *Eswatini*, *EU*, *Finland*, *France*, *Gabon*, *Georgia*, *Germany*, *Ghana*, *Greece*, *Guatemala*, *Guinea-Bissau*, *Guyana*, *Holy See*, *Honduras*, Hungary, Iceland, *Indonesia*, *Ireland*, *Israel*, *Italy*, *Japan*, *Kazakhstan*, *Kenya*, *Latvia*, *Lebanon*, *Liechtenstein*, *Lithuania*, Luxembourg, *Malaysia*, *Maldives*, *Malta*, *Mauritius*, *Mexico*, *Monaco*, *Montenegro*, *Morocco*, *Namibia*, *Netherlands*, *New Zealand*, *Niger*, *Nigeria*, *Norway*, *Pakistan*, *Panama*, *Paraguay*, *Peru*, *Philippines*, *Poland*, *Portugal*, *Republic of Korea*, *Republic of Moldova*, Romania, *Russian Federation*, *Rwanda*, *Saudi Arabia*, *Serbia*, *Singapore*, *Slovakia*, Slovenia, *South Africa*, *Spain*, *Sri Lanka*, *Sweden*, *Switzerland*, *Tajikistan*, *Thailand*, *Trinidad and Tobago*, *Tunisia*, *Türkiye*, Ukraine, *United Kingdom of Great Britain and Northern Ireland*, *United States of America*, *Uruguay*, *Uzbekistan*, *Vanuatu*, *Venezuela (Bolivarian Republic of)*, *Zimbabwe*
III	Information on GHG emissions and removals[b]	105	*Algeria*, *Andorra*, *Argentina*, *Australia*, *Austria*, Azerbaijan, *Belarus*, *Belgium*, Belize, Bhutan, Bolivia (Plurinational State of), *Brazil*, Brunei Darussalam, *Bulgaria*, *Burkina Faso*, *Cambodia*, *Canada*, Central African Republic, *Chile*, *China*, *Colombia*, *Costa Rica*, *Croatia*, *Cuba*, *Cyprus*, *Czechia*, *Denmark*, Ecuador, *Egypt*, *Estonia*, *Eswatini*, *Finland*, *France*, Gabon, *Georgia*, *Germany*, *Ghana*, *Greece*, *Guatemala*, Guinea-Bissau, *Guyana*, Holy See, *Honduras*, *Hungary*, *Iceland*, *Indonesia*, *Ireland*, *Israel*, *Italy*, *Japan*, *Kazakhstan*, *Kenya*, *Latvia*, Lebanon, *Liechtenstein*, *Lithuania*, *Luxembourg*, *Malaysia*, Maldives, *Malta*, *Mauritius*, Mexico, *Monaco*, *Montenegro*, Morocco, *Namibia*, *Netherlands*, *New Zealand*, *Niger*, *Nigeria*, *Norway*, Pakistan, *Panama*, *Paraguay*, Peru, Philippines, *Poland*, *Portugal*, Republic of Korea, *Republic of Moldova*, *Romania*, *Russian Federation*, Rwanda, Saudi Arabia, *Serbia*, *Singapore*, *Slovakia*, *Slovenia*, *South Africa*, *Spain*, Sri Lanka, *Sweden*, *Switzerland*, *Tajikistan*, *Thailand*, Trinidad and Tobago, *Tunisia*, *Türkiye*, *Ukraine*, *United Kingdom of Great Britain and Northern Ireland*, *United States of America*, Uruguay, *Uzbekistan*, Vanuatu, *Venezuela (Bolivarian Republic of)*
IV	Information necessary to track progress made in implementing and achieving NDC		
IV.A	National circumstances and institutional arrangements[c]	102	Algeria, Andorra, Argentina, Australia, Austria, Azerbaijan, Belarus, Belgium, *Belize*, Bhutan, *Bolivia (Plurinational State of)*, Brazil, Brunei Darussalam, Bulgaria, *Burkina Faso*, *Cambodia*, Canada, Central African Republic, Chile, China, Colombia, *Costa Rica*, Côte d'Ivoire, Croatia, Cuba, Czechia, Denmark, Ecuador, Egypt, Estonia, *Eswatini*, EU, Finland, France, *Gabon*, Georgia, Germany, Ghana, Greece, *Guatemala*, Guinea-Bissau, Guyana, *Honduras*, Holy See, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Latvia, Lebanon, Liechtenstein, Lithuania, Malaysia, Maldives, Malta, Mauritius, Mexico, *Monaco*, Montenegro, Morocco, *Namibia*, Netherlands, New Zealand, Niger, *Nigeria*, Norway, *Pakistan*, Panama, Paraguay, Peru, Philippines, Poland, Portugal, *Republic of Korea*, Republic of Moldova,

Chapter	*Synthesis*	*No. of Parties*	*Parties*
			Russian Federation, *Rwanda*, *Saudi Arabia*, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Tajikistan, Thailand, *Trinidad and Tobago*, Tunisia, Türkiye, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan, *Vanuatu*, *Venezuela (Bolivarian Republic of)*, Zimbabwe
IV.B	Description of NDCs, including updates	102	Same Parties as listed under chapter IV.A
IV.C	Mitigation policies, measures, actions and plans related to implementing and achieving NDCs	91	Algeria, Australia, Austria, Azerbaijan, Belarus, Belgium, Belize, Bhutan, Brazil, Brunei Darussalam, Cambodia, Canada, Central African Republic, Chile, China, Colombia, Côte d'Ivoire, Croatia, Cuba, Czechia, Denmark, Ecuador, Egypt, Estonia, Eswatini, EU, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Guatemala, Guinea-Bissau, Guyana, Holy See, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Latvia, Lebanon, Liechtenstein, Lithuania, Malaysia, Malta, Mauritius, Mexico, Monaco, Montenegro, Morocco, Namibia, Netherlands, New Zealand, Niger, Norway, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Russian Federation, Rwanda, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Tajikistan, Thailand, Trinidad and Tobago, Tunisia, Türkiye, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of), Zimbabwe
IV.D	Projections of GHG emissions and removals, as applicable	53	Algeria, Australia, Austria, Belgium, Brunei Darussalam, Bulgaria, Canada, Chile, Colombia, Croatia, Czechia, Denmark, Estonia, EU, Finland, France, Georgia, Germany, Ghana, Greece, Holy See, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malaysia, Maldives, Malta, Montenegro, Netherlands, New Zealand, Norway, Philippines, Poland, Portugal, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Türkiye, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan
IV.E	Progress in implementing and achieving NDCs	102	Same Parties as listed under chapter IV.A
V	Information related to climate change impacts and adaptation under Article 7 of the Paris Agreement	91	Algeria, Andorra, Argentina, Australia, Austria, Azerbaijan, Belarus, Belgium, Belize, Bhutan, Bolivia (Plurinational State of), Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Cambodia, Canada, Central African Republic, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Czechia, Denmark, Ecuador, Egypt, Estonia, EU, Finland, France, Gabon, Germany, Ghana, Greece, Guyana, Honduras, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Latvia, Lebanon, Lithuania, Maldives, Malta, Mauritius, Mexico, Monaco, Montenegro, Morocco, Namibia, Netherlands, New Zealand, Niger, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Russian Federation, Rwanda, Saudi Arabia, Serbia, Slovakia, South Africa, Spain, Sri Lanka, Sweden, Tajikistan, Thailand, Tunisia, Türkiye, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Zimbabwe
VI	Information on financial, technology development and transfer, and capacity-building support provided and		

Chapter	*Synthesis*	*No. of Parties*	*Parties*
	mobilized, and needed and received		
VI.A.1.a	Financial support provided through bilateral, regional and other channels[c]	35	Australia, Austria, Belgium, Canada, Czechia, Denmark, Estonia, EU, Finland, France, Germany, Greece, Indonesia, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Mexico, *Monaco*, Netherlands, New Zealand, Norway, Poland, Portugal, *Republic of Korea*, *Russian Federation*, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, United States of America
VI.A.1.b	Financial support provided through multilateral channels[c]	31	Australia, Austria, Belgium, Canada, Czechia, Denmark, Estonia, EU, Finland, France, Germany, Greece, Ireland, Italy, Japan, Liechtenstein, Lithuania, Malta, *Monaco*, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, United States of America
VI.A.1.c	Financial support mobilized through public interventions	20	Australia, Belgium, Canada, Denmark, Estonia, EU, France, Germany, Japan, Latvia, Lithuania, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, United States of America
VI.A.2.a	Financial support needed by developing country Parties[c]	36	*Argentina*, *Bhutan*, *Burkina Faso*, *Cambodia*, Chile, China, Côte d'Ivoire, Cuba, Ecuador, Egypt, *Gabon*, Georgia, Ghana, Honduras, Indonesia, Kazakhstan, Kenya, *Malaysia*, Mauritius, *Montenegro*, Morocco, Namibia, Niger, *Pakistan*, Panama, *Peru*, *Republic of Moldova*, *Rwanda*, Serbia, South Africa, Sri Lanka, *Thailand*, Türkiye, Uruguay, *Vanuatu*, Zimbabwe
VI.A.2.a	Support needed by developing country Parties for implementing Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building	19	Algeria, Chile, China, Ecuador, Georgia, Ghana, Honduras, Indonesia, Kazakhstan, Mexico, Namibia, Niger, Panama, Philippines, South Africa, Sri Lanka, Uruguay, Venezuela (Bolivarian Republic of), Zimbabwe
VI .A.2.b	Financial support received by developing country Parties[c]	47	Algeria, *Argentina*, Belarus, *Belize*, *Bhutan*, *Bolivia (Plurinational State of)*, *Burkina Faso*, *Cambodia*, *Central African Republic*, Chile, China, Colombia, Cuba, Côte d'Ivoire, Ecuador, Egypt, *Gabon*, Georgia, Ghana, Guyana, Honduras, Indonesia, Kazakhstan, Kenya, Lebanon, *Malaysia*, *Maldives*, *Mauritius*, *Montenegro*, Morocco, Namibia, Niger, *Pakistan*, Panama, *Paraguay*, *Peru*, Philippines, *Republic of Moldova*, *Rwanda*, Serbia, South Africa, Sri Lanka, *Thailand*, Türkiye, Uruguay, Uzbekistan, *Vanuatu*
VI .A.2.b	Support received by developing country Parties for implementing Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building	26	Argentina, Chile, China, Colombia, Ecuador, Egypt, Georgia, Ghana, Guyana, Honduras, Kazakhstan, Lebanon, Maldives, Mauritius, Morocco, Namibia, Niger, Panama, Philippines, South Africa, Sri Lanka, Türkiye, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of), Zimbabwe

Chapter	*Synthesis*	*No. of Parties*	*Parties*
VI.B	Technology development and transfer support	50	Australia, Austria, Belgium, Canada, Chile, China, Colombia, Côte d'Ivoire, Croatia, Czechia, Denmark, Ecuador, Egypt, Finland, Georgia, Ghana, Greece, Guyana, Honduras, Italy, Japan, Kazakhstan, Kenya, Latvia, Lithuania, Maldives, Mexico, Morocco, Namibia, Netherlands, New Zealand, Niger, Norway, Panama, Philippines, Poland, Portugal, Serbia, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan, Zimbabwe
VI.C	Capacity-building support	89	Algeria, Andorra, Argentina, Australia, Austria, Belarus, Belgium, Belize, Bhutan, Bolivia (Plurinational State of), Brazil, Brunei Darussalam, Burkina Faso, Cambodia, Canada, Central African Republic, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Czechia, Denmark, Ecuador, Egypt, Estonia, EU, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Guyana, Honduras, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Latvia, Lithuania, Malaysia, Maldives, Malta, Mauritius, Mexico, Montenegro, Morocco, Namibia, Netherlands, New Zealand, Niger, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Republic of Korea, Republic of Moldova, Russian Federation, Rwanda, Saudi Arabia, Serbia, Singapore, Slovakia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Trinidad and Tobago, Tunisia, Türkiye, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Zimbabwe
VII	Information on other aspects of climate action	101	Algeria, Andorra, Argentina, Azerbaijan, Australia, Austria, Belarus, Belgium, Belize, Bhutan, Bolivia (Plurinational State of), Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Cambodia, Canada, Central African Republic, Chile, China, Colombia, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Czechia, Denmark, Ecuador, Egypt, Estonia, Eswatini, EU, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Guatemala, Guinea-Bissau, Guyana, Holy See, Honduras, Indonesia, Israel, Ireland, Italy, Japan, Kazakhstan, Kenya, Latvia, Lebanon, Liechtenstein, Lithuania, Malaysia, Maldives, Malta, Mauritius, Mexico, Monaco, Montenegro, Morocco, Namibia, Netherlands, New Zealand, Niger, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Republic of Moldova, Russian Federation, Rwanda, Saudi Arabia, Serbia, Slovakia, Singapore, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Tajikistan, Thailand, Trinidad and Tobago, Tunisia, Türkiye, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Zimbabwe
VIII	Information on transparency arrangements, reporting constraints and planned improvements	101	Same Parties as listed under chapter VII

[a] The 101 Parties that had submitted a BTR1 as at 15 April 2025 are shown in italics.
[b] The 81 Parties included in the GHG emission and trend analysis are shown in italics.
[c] The Parties that submitted the respective information in tabular format in the BTR, but not as a separate CTF file, are shown in italics.