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Reporting from and review of Parties included in Annex I to the Convention
Compilations and syntheses of biennial reports from Parties included in Annex I to the Convention

Compilation and synthesis of fifth biennial reports of Parties included in Annex I to the Convention

Report by the secretariat

Executive summary

Summary

This report contains a summary of the compilation and synthesis of the fifth biennial reports submitted to the secretariat by Parties included in Annex I to the Convention. It highlights key findings in relation to quantified economy-wide emission reduction targets for 2020; achievement of those targets, including information on mitigation actions and their effects, and estimates of emission reductions and removals, the use of units from market-based mechanisms and the contribution of land use, land-use change and forestry activities; greenhouse gas emission trends and projections; and the provision of financial, technological and capacity-building support to developing country Parties.

Abbreviations and acronyms

Annex I Party	Party included in Annex I to the Convention
Annex II Party	Party included in Annex II to the Convention
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BR	biennial report
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
COP	Conference of the Parties
CTF	common tabular format
EIT Party	Party with economy in transition
ETF	enhanced transparency framework under the Paris Agreement
EU	European Union
EU ETS	European Union Emissions Trading System
GDP	gross domestic product
GHG	greenhouse gas
LT-LEDS	long-term low-emission development strategy(ies)
LULUCF	land use, land-use change and forestry
NDC	nationally determined contribution
non-Annex I Party	Party not included in Annex I to the Convention
non-EIT Party	Party that does not have an economy in transition
OECD	Organisation for Economic Co-operation and Development
PaMs	policies and measures
SDG	Sustainable Development Goal
WAM	‘with additional measures’
WEM	‘with measures’

I. Mandate, approach and background

1. COP 17 decided that developed country Parties should submit their BRs two years after the due date of a full national communication. BR5s were due for submission by 1 January 2023. COP 17 also decided that developed country Parties should use the "UNFCCC biennial reporting guidelines for developed country Parties" for preparing their BRs.[1]

2. In addition, COP 17 requested the secretariat to prepare compilation and synthesis reports on the information reported by developed country Parties in their BRs.[2] The latest report (FCCC/SBI/2023/INF.7/Add.1) is a compilation and synthesis of information provided in the BR5s[3] received as at 1 July 2023.[4] Where applicable, it also includes updated information contained in the technical review reports for BR4s and BR5s, the latest available data on GHG emissions reported in the 2023 GHG inventory submissions of developed country Parties[5] and the latest NDCs and LT-LEDS submitted under the Paris Agreement. This report is an executive summary of the latest compilation and synthesis report.

3. For the compilation and synthesis of BR5s, the process of refining the analytical approaches continued with the aim of presenting an accurate and balanced picture of key trends in Parties' climate actions and the drivers underlying the trends. The main changes compared with the compilation and synthesis of BR4s[6] include:

(a) An assessment of Parties' achievement of 2020 targets, based on the latest available GHG inventory data for 2020;

(b) Closer alignment of the section on technology transfer with the reporting elements of the "UNFCCC biennial reporting guidelines for developed country Parties";

(c) Improved information on capacity-building projects supported, including on how the capacity-building support provided responds to the emerging needs of developing countries and on the integration of gender considerations into capacity-building.

4. The BR5s are the final reports in the BR reporting cycle; this report is therefore the final compilation and synthesis of BRs under the measurement, reporting and verification framework, which has contributed significantly to enhanced transparency and accountability under the UNFCCC process. Over the five reporting cycles, Annex I Parties have continuously improved their reporting, built national capacity and strengthened their institutional arrangements for collecting, reporting and verifying climate-related data, all of which will serve as a foundation for fulfilling the more rigorous requirements under the ETF.

II. Key messages from the compilation and synthesis of fifth biennial reports

5. **Key message 1: most Annex I Parties have achieved their 2020 quantified economy-wide emission reduction targets under the Convention.** Australia, Belarus, the EU and its member States,[7] Iceland,[8] Japan, Liechtenstein, Monaco, New Zealand, Norway, the Russian Federation, Switzerland and the United States of America demonstrated achievement of their 2020 targets. Canada did not fully achieve its target for 2020 owing to the time lag between developing and implementing new climate-related policies, regulations and initiatives and seeing the resulting impacts on GHG emissions, while Kazakhstan, though

[1] Decision 2/CP.17, para. 13.
[2] Decision 2/CP.17, para. 21.
[3] Including resubmissions, where applicable.
[4] The BR5s of Croatia, Denmark, Hungary, Luxembourg and Ukraine have not been taken into consideration in this report as they had not been submitted by 1 July 2023.
[5] Australia submitted common reporting tables with its 2023 national GHG inventory, hence the information presented in this report for Australia is taken from the common reporting format tables in its 2022 national GHG inventory submitted on 16 September 2022.
[6] FCCC/SBI/2020/INF.10/Add.1/Rev.2.
[7] For the purpose of the analysis of the achievement of the 2020 targets, the United Kingdom of Great Britain and Northern Ireland has been considered an EU member State.
[8] The EU, its member States, Iceland and the United Kingdom agreed to fulfil their commitments.

managing to reduce its emissions by 11.1 per cent between 1990 and 2020, fell short of its target of 15 per cent for 2020.

6. **Key message 2: the total GHG emissions of Annex I Parties in 2021 were 17.3 per cent lower than in 1990.** The overall decline in GHG emissions since 1990 primarily reflects the impact of the economic transformation of EIT Parties in the 1990s and the strengthening of climate change mitigation actions by almost all Parties in the second half of the 2000s and after 2010. These actions include promoting the use of less carbon-intensive fuels and of renewable energy in the electricity mix and improving energy end-use efficiency in the energy sector, as well as PaMs in the agriculture and waste sectors. Those measures have been accompanied by modernizing and enhancing the efficiency of industrial processes and reducing the livestock population. The coronavirus disease 2019 pandemic resulted in a 7.0 per cent decrease in emissions in 2019–2020, which was followed by a 4.4 per cent increase in emissions between 2020 and 2021, though emissions in 2021 still remained lower, by about 2.9 per cent, than the pre-pandemic level.

7. **Key message 3: the portfolio of PaMs is evolving to address targets beyond 2020 and achieve systems transformation across major emitting sectors, particularly the energy sector.** In their BR5s, Parties reported PaMs aimed at increasing renewable energy use for electricity generation, phasing out coal, curbing methane emissions across sectors and promoting electrification in infrastructure and transportation. To support long-term climate action, research and development efforts are focused on advancing new technologies (e.g. carbon capture, utilization and storage), exploring innovative applications for existing technologies (e.g. renewable energy based hydrogen production) and enhancing CO_2 removals in the LULUCF sector. Many Parties reported long-term goals and targets (e.g. carbon neutrality or net zero emissions by 2050), and many PaMs (over 40 per cent) had a starting year of 2020 onward – most of these are already in the development phase.

8. In the BR5s, many Parties linked their climate policies with economic recovery packages developed in response to the socioeconomic impacts caused by the pandemic with a view to generating job opportunities, stimulating economic growth and concurrently addressing GHG emissions and their impacts. This resulted in investments in renewable energy, energy efficiency, clean transportation and sustainable infrastructure; climate-related conditional funding for economies, industries and sectors severely impacted by the pandemic; and investments in initiatives aimed at enhancing adaptation to climate change impacts.

9. **Key message 4: despite the shift to transformative action, the reported PaMs may not be sufficient to meet the goals of the Paris Agreement.** Information on estimated impacts was not reported for most PaMs for 2030 or a longer-term horizon, making it difficult to assess the overall impact of the reported PaMs. Despite enhanced PaMs reported for 2020 onward, total emissions are projected to increase by 0.5 per cent between 2020 and 2030, suggesting the actions are not sufficient to completely offset the impact of emission drivers or reduce emissions in line with the pathways in the AR6 for achieving the goals of the Paris Agreement. This may also suggest, however, that the impacts of post-2020 mitigation actions for which supporting legislation or regulations have yet to be finalized are not yet known and therefore not fully taken into account.

10. **Key message 5: climate finance provided to developing countries by Annex I Parties has continued to increase, albeit at a slower pace than the previous bienniums, and there is improvement in reporting on mobilizing climate finance from private sources.** Total climate finance provided by Annex I Parties to developing countries (on a comparable basis)[9] has increased continuously since 2011, albeit the steady and substantial increase observed until 2016 began to slow down thereafter, with increases of only 5.7 and 1.4 per cent observed in the 2017–2018 and 2019–2020 bienniums respectively. Climate-specific support, which was reported in the BR5s to represent more than three quarters of the total support, grew by 6.3 per cent between 2017–2018 and 2019–2020, demonstrating Parties' commitment to dedicating financial support to climate-specific purposes. In 2019–

[9] To ensure comparability of information on overall climate finance across the five reporting cycles, climate finance data from Denmark, Hungary and Luxembourg, which contributed climate support in previous years but had not submitted their BR5s by the time this report was prepared, were excluded from previous bienniums.

2020, more than two thirds of climate finance was provided through bilateral, regional or other channels. Although the largest share of climate-specific finance provided through bilateral channels reported in the BR5s was allocated to mitigation (56.4 per cent), a strong focus on adaptation remained, with many Parties dedicating more support for adaptation than for mitigation.

11. The BR5s demonstrate Parties' improvement in reporting on the mobilization of private finance. Following the trend observed in the BR4s, Parties are increasingly tracking and improving reporting on climate-related private sector financial contributions. In their BR5s, they highlighted the importance of using public funding to de-risk and attract investment from private sources. Parties reported different approaches to promoting the scaling up of private investment, such as mobilizing capital through various instruments, employing micro- and co-financing, blending concessional finance with commercial resources and using risk-sharing and insurance mechanisms.

12. **Key message 6: support for technology development and transfer activities, particularly deployment of mature mitigation technologies and research and development, has continued to increase.** In their BR5s, Parties reported 430 activities relating to technological support (compared with 425 activities in the BR4s), with activities supporting mitigation accounting for 44 per cent of total activities (compared with 56 per cent in the BR4s), and activities supporting adaptation and cross-cutting action accounting for 32 and 24 per cent respectively (compared with 26 and 18 per cent respectively in the BR4s). Within these areas, deploying and transferring mature climate technologies remained the predominant supported activity, accounting for 60 per cent of supported activities in the BR5s compared with 45 per cent in the BR4s, while support for research and development increased significantly, accounting for 24 per cent of supported activities in the BR5s compared with 14 per cent in the BR4s. The Asia-Pacific region continued to benefit most from the reported technological support, with 36 per cent of all reported technological support activities focusing on that region (down from 43 per cent in the BR4s), followed by Africa (28 per cent, up from 26 per cent in the BR4s) and Latin America and the Caribbean (10 per cent, down from 13 per cent in the BR4s).

13. **Key message 7: capacity-building support for developing countries has increased, reaffirming the commitment of Annex I Parties to support successful implementation of the Convention and the Paris Agreement.** In the BR5s, 732 capacity-building activities were reported, a slight increase (4 per cent) on the 702 activities reported in the BR4s. Continuing the trend observed from the BR3s and BR4s, the most significant share of capacity-building was for adaptation (41 per cent) and this support was mostly focused on making existing and new infrastructure climate resilient and on promoting green transformation in agriculture and forestry. A total of 31 per cent of capacity-building activities covered multiple areas and they primarily took the form of climate partnership programmes. Mitigation accounted for 28 per cent of capacity-building activities, primarily aimed at improving access to renewable energy. Geographically, the majority of the capacity-building support for adaptation was provided to the Asia-Pacific and Africa regions. Mitigation support was primarily provided for multiregional or global projects. Emerging or new areas of support included improving documentation and compilation systems for compliance with the ETF.

III. Executive summary

A. Quantified economy-wide emission reduction targets

14. Annex I Parties report in their BR5s[10] information on their quantified economy-wide emission reduction targets, including any conditions or assumptions relevant to attaining them, as communicated to the secretariat and contained in document

[10] Available at https://unfccc.int/BR5s.

FCCC/SB/2011/INF.1/Rev.1 or any update to that document.[11] Parties are also to report in their BRs on progress towards their targets.

15. All Annex I Parties except Türkiye have communicated their quantified economy-wide emission reduction targets for 2020[12] and reported them in their BR5s. Each target is expressed as a percentage reduction in absolute GHG emissions from a base-year level to be achieved by 2020 and is accompanied by information on underlying assumptions and conditions, base year, coverage of gases and sectors, the role of LULUCF, if included in the target, and the use of units from market-based mechanisms, if envisaged.

16. Although Parties are required to report ex post information relevant to assessing progress towards their targets, including total annual GHG emissions and the contribution of LULUCF and use of market-based mechanisms, there is no specific guidance outside the Kyoto Protocol rules on accounting for such emissions and contributions towards the achievement of the 2020 targets that would ensure, for instance, the avoidance of double counting of units from market-based mechanisms across Parties. Yet, most Parties indicated in their BR5s how they accounted for such emissions and contributions.

17. Most Parties have taken on twofold targets: one that is unconditional (independent of future circumstances) and one (or more) that is more ambitious but conditional (contingent on certain conditions such as treaty provisions or pledges made by other Parties). The Parties that have conditional targets did not report in their BR5s on whether any of the conditions for increasing their ambition and shifting towards their conditional targets had been met so far.

18. Parties are increasingly shifting the focus of their climate policy from 2020 targets to midterm targets and long-term mitigation goals. Most Parties reported in their BR5s information on the post-2020 targets communicated in their NDCs. Most also reported on their LT-LEDs, which are typically for 2050, highlighting that the 2020 targets are part of their national climate policies, setting midterm to long-term trajectories towards more substantial emission cuts and the transition to low or net zero GHG emissions in the second half of the century. A few Parties reported increased ambition for 2030 in the form of national targets or targets for individual sectors.

19. Among the midterm and long-term targets reported,[13] the EU has committed to becoming climate-neutral by 2050 and submitted an LT-LEDS that encompasses all sectors of the economy. Many EU member States outlined in their BR5s ambitious trajectories to meeting their individual long-term goals, with Belgium, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Lithuania, Luxembourg, Romania, Spain and Sweden committing to contributing to the long-term goal of the EU. Norway highlighted its target of becoming a low-emission society by 2050, outlining its aim to promote the long-term transformation of the country in a climate-friendly direction, which has been translated into a quantitative target of a 90–95 per cent emission reduction below the 1990 level. Such targets, objectives and strategies provide long-term direction to national climate policy and ensure that near-term and midterm targets are consistent with that direction.

20. An overview of Parties' emission reduction targets for 2020, 2030 and 2050 is provided in the table below.

[11] The latest update is contained in document FCCC/SBSTA/2014/INF.6.

[12] Kazakhstan did not report on its target in its BR5.

[13] To ensure the completeness and accuracy of information, developed country Parties' 2030 and long-term targets reported in their BR5s have been updated and supplemented with information from the most recent NDCs and LT-LEDS submitted under the Paris Agreement.

Annex I Parties' greenhouse gas emission reduction targets

	Quantified economy-wide emission reduction target for 2020 (reduction from base-year emission level)[a]			*GHG emission reduction target for 2030 (reduction from base-year emission level)*[b]			*GHG emission reduction long-term target or objective (reduction from base-year emission level)*[c]	
Party	*Base year*	*Unconditional (%)*	*Conditional (%)*	*Base year*	*Unconditional (%)*	*Conditional (%)*	*Base year*	*Target or objective*
Australia	2000	5	15–25	2005	43	–	–	Net zero emissions by 2050
Belarus	1990	–	5–10	1990	At least 35	At least 40	–	–
Canada	2005	–	17	2005	40–45	–	2005	Net zero GHG emissions by 2050, 80% reduction relative to 2005 level
EU	1990	20	30	1990	At least 55	–	–	Climate-neutral by 2050
Iceland	1990	20[d]	30	1990	At least 55	–	–	Carbon-neutral no later than 2040
Japan	Fiscal year 2005	At least 3.8	–	Fiscal year 2013	46 and continue efforts towards 50	–	–	Net zero, that is, to realize carbon neutrality, by 2050
Kazakhstan	1990	15	–	1990	15	25	–	Climate-neutral by 2060
Liechtenstein	1990	20	30	1990	40[e]	–	–	Climate-neutral by 2050
Monaco	1990	30	–	1990	55	–	–	Carbon-neutral by 2050, 80% reduction relative to 1990 level
New Zealand	1990	5	10–20	2005	50	–	–	Net zero GHG emissions by 2050 (other than biogenic methane, for which the target is to reduce emissions by 24–27% below the 2017 level)
Norway	1990	30[f]	40	1990	At least 55	–	1990	Climate-neutral from 2030, emission reduction of 90–95% by 2050 compared with the 1990 level
Russian Federation	1990	–	15–25	1990	Limiting GHG emissions to 70% relative to the 1990 level	–	–	Carbon neutrality by 2060
Switzerland	1990	20[g]	30	1990	50	–	1990	Net zero GHG emissions by 2050
Türkiye	–	–	–	–	Up to 41 from 'business as usual'	–	–	Net zero emissions by 2053 and peak emissions by 2038
Ukraine	1990	–	20	1990	65	–	–	Net zero GHG emissions by no later than 2060
United Kingdom[h]	–	–	–	1990	At least 68	–	–	Net zero emissions by 2050
United States	2005	In the range of 17% emission reduction by 2020 compared with the 2005 level	–	2005	50–52	–	–	Net zero GHG emissions by 2050

Note: To ensure the completeness and accuracy of information, developed country Parties' 2030 and long-term targets reported in their BR5s have been updated and supplemented with information from the most recent NDCs and LT-LEDS submitted under the Paris Agreement.

[a] As communicated to the secretariat and contained in document FCCC/SBSTA/2014/INF.6, unless otherwise specified.

[b] As reported in NDCs, unless otherwise specified. The NDCs are available at https://unfccc.int/NDCREG.

[c] As reported in LT-LEDS or NDCs. The LT-LEDS are available at https://unfccc.int/process/the-paris-agreement/long-term-strategies.

[d] Iceland will fulfil its target jointly with the EU and its member States in accordance with Article 4 of the Kyoto Protocol. Under its bilateral effort-sharing agreement with the EU, Iceland's cumulative emission allocation for the sectors not covered by the EU ETS for 2013–2020 is 15,327.22 kt CO_2 eq.

[e] Subject to the approval of the Liechtenstein Parliament.

[f] Norway reported in its BR5 that its unconditional target under the Convention for 2020 of a 30 per cent emission reduction relative to the 1990 level is consistent with its quantified emission limitation or reduction commitment of 84 per cent of the base-year emissions for 2013–2020, as defined in the Doha Amendment to the Kyoto Protocol. Therefore, compliance under the Kyoto Protocol should ensure that Norway also meets its 2020 emission reduction target under the Convention.

[g] Switzerland reported in its BR5 that it will assess the fulfilment of its quantified economy-wide emission reduction target under the Convention by accounting against its quantified emission limitation or reduction commitment for the second commitment period of the Kyoto Protocol of 84.2 per cent of the 1990 emission level.

[h] The United Kingdom's 2020 target is a joint EU target and its 2030 and 2050 targets are national targets (as the United Kingdom has withdrawn from the EU).

B. Greenhouse gas emissions and trends

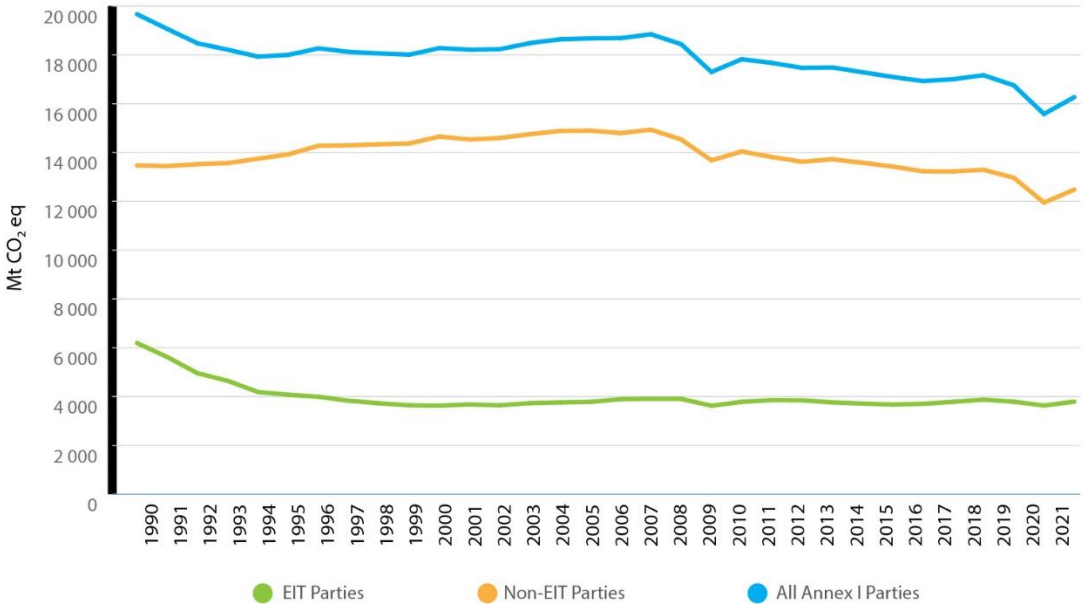
21. Total aggregate GHG emissions of Annex I Parties significantly decreased in 1990–2021 (by 17.3 per cent without LULUCF and by 20.9 per cent with LULUCF). Emissions of EIT Parties decreased by 38.8 per cent without LULUCF and by 46.4 per cent with LULUCF. Likewise, there was a decline in the emissions of non-EIT Parties but at a much lower rate (7.4 per cent without LULUCF and 8.8 per cent with LULUCF).

22. The downward trend in emissions was largely influenced by the deep emission cuts by EIT Parties in 1990–2000. Despite economic growth after 2000, emissions either dropped (in the case of non-EIT Parties) or did not increase enough to offset the emission reductions in the 1990s (in the case of EIT Parties) owing to the effect of implemented PaMs. Emissions decreased by 7.0 per cent between 2019 and 2020 owing to the pandemic. Although they then increased again between 2020 and 2021, by 4.4 per cent, owing to a rebound of economic activity, emissions in 2021 were still down by about 2.9 per cent on the pre-pandemic level.

23. Throughout 1990–2021, the energy sector remained the dominant source of GHG emissions, accounting for 79.2 per cent of Annex I Parties' total emissions in 2021, followed by the agriculture and industrial processes and product use sectors, each contributing less than 10.0 per cent of the total emissions, and the waste sector, with the smallest share of the total emissions (around 3.0 per cent). Since 1990, emissions have decreased overall for all sectors, with the largest reduction seen in the energy sector (2,803 Mt CO_2 eq, or 17.9 per cent), driven by an increase in the share of renewable sources in the electricity mix and improvements in energy efficiency. Other implemented measures, such as reducing the use of nitrogen fertilizers, reducing the disposal of biodegradable waste, introducing legislation for recycling, modernizing industrial processes and reducing livestock populations, have led to lower emissions in the other sectors. Net GHG removals from LULUCF increased by 37.5 per cent as a result of expanding forest cover and the accumulation of carbon stocks from harvested wood products.

24. Figure 1 shows the levels of and trends in total GHG emissions without LULUCF for 1990–2021 for all Annex I Parties taken together, as well as separately for EIT Parties and non-EIT Parties.

Figure 1
Greenhouse gas emissions without land use, land-use change and forestry of Annex I Parties in 1990–2021



C. Policies and measures

25. Parties are continuing to implement existing measures which were designed to achieve their 2020 targets and are increasingly planning and adopting new measures towards achieving their midterm targets for 2030 and implementing their LT-LEDS for 2050.

26. The key elements for an effective portfolio of PaMs include top-level political commitment, robust policy capacity, clear targets, midterm and long-term strategies, a comprehensive suite of PaMs (e.g. the European Green Deal and first European Climate Law; see the box below) that effectively address emissions across key sectors, and rigorous measurement, reporting and verification systems and accountability and transparency frameworks. In their BR5s, Parties reported on their efforts to build on, enhance and refine existing structures and measures.

European Green Deal and the first European Climate Law

The European Green Deal was established by the European Commission and the European Council in December 2019. The Deal is a package of policy initiatives designed to set the EU on the path to green transition, with the ultimate goal of reaching climate neutrality by 2050 through a holistic and cross-sectoral approach in which all relevant policy areas contribute to achieving this goal. The initiatives under the package cover the interlinked areas of the climate, the environment, energy, transport, industry, agriculture and sustainable finance.

To make the goal of reaching climate neutrality by 2050 legally binding, the European Climate Law was adopted in 2021. To support the achievement of this goal, the Law provided for the establishment of the European Scientific Advisory Board on Climate Change, mandates the adoption of adaptation strategies and defines rules for assessing progress towards climate targets. The Law also increases the ambition of the EU 2030 emission reduction target (emission reductions of at least 55 per cent below the 1990 level). This new target is reflected in the updated NDC of the EU, submitted in December 2020; member States will set out their increased ambition in this regard at the national level in their updated national energy and climate plans.

The Fit for 55 package of legislative proposals, adopted by the European Commission as part of the European Green Deal, revises existing legislation pertaining to the climate, energy and transport and puts in place new initiatives to align EU laws with goals directed at achieving the new 2030 target. The aim of the package is to provide a coherent and balanced framework for reaching the climate objectives of the EU, ensuring a just and socially fair transition, strengthening the innovation and competitiveness of EU industry and ensuring a level playing field vis-à-vis third country economic operators, all with the objective of underpinning the EU's leading position in the global fight against climate change.

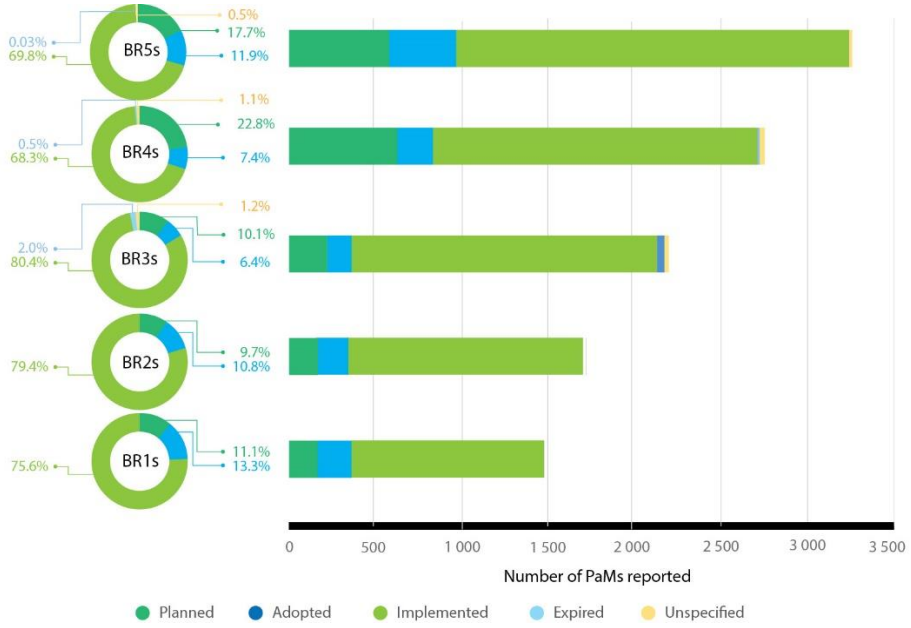
27. Mitigation plays a key role in most Parties' national climate change agendas, and is underpinned by legal and institutional frameworks in the form of legislation (e.g. climate change acts), approved planning (e.g. LT-LEDS) and structures for political decision-making (e.g. interministerial committees). In their BR5s, a number of Parties reported updates on their efforts to strengthen such frameworks, including enshrining midterm targets to 2030 and/or long-term targets beyond 2030 in legislation (e.g. Australia's Climate Change Act 2022); expanding national carbon budgets to cover international bunker fuel emissions (e.g. the United Kingdom of Great Britain and Northern Ireland's Carbon Budget Order 2021); strengthening and refining the role of interministerial committees on climate change (e.g. Sweden's Climate Board); establishing an independent statutory body to issue advice and recommendations on the achievement of climate targets (e.g. France's High Council on Climate); establishing frameworks for ensuring transparency and accountability in relation to climate action (e.g. the Canadian Net-Zero Emissions Accountability Act); organizing a citizens' assembly for deliberating on climate agenda issues (e.g. France's Citizens' Convention on Climate); and making arrangements for considering Indigenous knowledge and inputs in setting targets and plans (e.g. New Zealand's Emissions Reduction Plan).

28. In their BR5s (CTF table 3), Parties reported a total of 3,255 PaMs, with estimated impacts reported for 24.0 per cent of those, totalling estimated emission reductions of 4,778.74 Mt CO_2 eq for 2020.

29. Parties reported on the status of their PaMs (as planned, adopted or implemented), which provides insight into the evolution of the portfolio of measures for achieving their 2020 targets and shifting towards targets for 2030 and beyond. A trend of measures moving through 'life cycles' related to targets is evident throughout the five biennial reporting cycles.

30. Over the five reporting cycles, the majority of PaMs (67.7–80.9 per cent) were reported as implemented, while the proportion of planned or adopted PaMs fluctuated (see figure 2). A total of 9.7–11.1 per cent of PaMs were reported as planned in the BR1s, BR2s and BR3s, which increased sharply to 23.3 per cent in the BR4s and then decreased again slightly to 17.7 per cent in the BR5s. The proportion of PaMs reported as adopted more than halved in the third reporting cycle as compared with the first and second cycles (specifically, from 10.8 and 13.3 per cent in the BR1s and BR2srespectively to 5.8 per cent in the BR3s), but hadgradually returned to the levels observed in the first two reporting cycles by the BR5s, with 11.9 per cent of PaMs reported as adopted. This may indicate that many planned and adopted PaMs entered the implementation phase between the third and fourth reporting cycles as Parties worked towards their 2020 targets. Furthermore, the number of PaMs reported as expired increased sharply between the BR1s and BR3s, potentially because PaMs completed their life cycle or were updated or replaced on the basis of experience. The BR4s indicated that another life cycle had begun with regard to post-2020 longer-term targets, with an increased share of PaMs that were reported as planned in the BR4s being reported as adopted or implemented in the BR5s.

Figure 2
Number and shares of policies and measures reported in biennial reports, by status



31. In their BR5s, Parties reported PaMs in the energy, transport, industry or industrial processes[14] agriculture, forestry or LULUCF,[15] waste, cross-cutting and other sectors.[16] Energy, including transport, remains the focus of the PaMs reported in the BR5s. The majority of measures were in the energy (29.3 per cent), cross-cutting (18.2 per cent) and transport (17.6 per cent) sectors. In terms of estimated mitigation impacts, other,[17] cross-cutting, energy and transport measures accounted for 41.7, 23.2, 22.2 and 11.2 per cent respectively of the impacts reported. The 10 PaMs with the largest reported impacts are focused on the energy, industry or industrial processes or transport sectors and together

[14] Parties refer to these sectors using both terms, industry and industrial processes.
[15] Parties refer to these sectors using both terms, forestry and LULUCF.
[16] The allocation of PaMs to sectors was not always comparable across Parties, particularly with regard to the cross-cutting and other sectors.
[17] There was a large increase in mitigation impacts reported under other in the BR5s compared with in the BR4s, owing to some Parties (e.g. United States) reporting some of the highest impact measures as "other" while specifying the sector by providing additional information in parentheses.

account for 60.8 per cent of all impacts reported by Parties in the BR5s. Examples include the United States' Significant New Alternatives Policy programme, which focuses on industrial gas emissions, Japan's expanded use of renewable energy for power generation, and the EU ETS.

32. In their BR5s, Parties reported the following types of instrument used for PaMs: regulatory, economic, fiscal, voluntary agreement, research, information and education.[18] Over the five reporting cycles, the clear focus in terms of both the number of mitigation actions and the number of mitigation actions with quantified impacts has been on economic (e.g. a loan guarantee programme for mitigating the financial risks associated with renewable energy projects in the United States), fiscal (e.g. road tolls on heavy-duty vehicles in Estonia) and regulatory (e.g. Poland's energy audits and energy management systems) instruments, voluntary agreements (e.g. memorandum of understanding between Transport Canada and the Railway Association of Canada for reducing locomotive emissions) or combinations thereof, with the actions deployed dependent on factors such as mitigation potential, cost, and legislative, administrative and economic context. Together, these types of action account for 62.0–69.2 per cent of the mitigation actions reported and 69.6–90.1 per cent of the quantified impacts. Economic and regulatory instruments dominate, with Parties tending to focus on those kinds of hard instruments over softer ones. The distribution of reported estimated impacts for different instruments has clearly changed over time: the share of impacts from voluntary agreements was consistently over 10 per cent in the first four reporting cycles but fell to 0.2 per cent in the fifth. At the same time, almost a third of the total impacts reported in the BR5s were from a combination of hard and soft measures, up threefold from the BR3s and BR4s and up 73 per cent compared with the BR1s.

33. Parties reported linking climate policies with economic recovery packages in response to the socioeconomic impacts caused by the COVID-19 pandemic through, for example, (1) stimulus packages prioritizing investments in renewable energy, energy efficiency, clean transportation and sustainable infrastructure, which have the aim of generating job opportunities, stimulating economic growth and concurrently addressing GHG emissions; (2) funding for economies, industries and sectors severely impacted by the pandemic, the provision of which is conditional upon it being used to support climate-friendly initiatives and actions; and (3) investments in initiatives for enhancing adaptation to climate change impacts (e.g. improving infrastructure resilience, implementing nature-based solutions and assisting vulnerable communities in dealing with climate-related risks). Examples include the National Reconstruction Fund of Australia and the Recovery and Resilience Facility of the EU.

34. Parties reported on a number of policy developments associated with their post-2020 targets, including strengthening institutional structures and processes, for example with regard to mitigation planning, and reviewing the effectiveness of PaMs. Many reported on 2030 targets combined with LT-LEDS up until 2050. Within these LT-LEDS, a number of planned transformational actions were prominent, such as increasing renewable energy use for electricity generation, phasing out coal, curbing methane emissions across sectors and promoting electrification in infrastructure and transportation. To support long-term solutions, research and development efforts are focused on advancing new technologies (e.g. carbon capture, utilization and storage), exploring innovative applications for existing technologies (e.g. renewable energy based hydrogen production) and enhancing CO_2 removals in the LULUCF sector.

35. Twenty-nine Annex I Parties reported in their BR5s on the assessment of the economic and social consequences of their response measures. Most of them integrated this assessment into national processes for law-making or policymaking, which involved consultations, including open public consultations, together with policy dialogue with trading

[18] For the purpose of this assessment, regulatory, economic and fiscal instruments and voluntary agreements are referred to as 'hard' instruments, while research, information and education are referred to as 'soft' instruments. While voluntary agreements are not hard instruments with regard to enforcement, they are, particularly relating to voluntary agreements with industry, often laid down in writing, with clear targets and clear progress tracking measures, and are thus, with regard to achieving mitigation impacts, more similar to regulatory, economic and fiscal measures than to research, information and education.

partners. However, much of the information reported by Parties referring to response measures was beyond or outside the scope of the economic and social consequences of response measures. For example, several Parties presented information on economic recovery plans after the pandemic and measures for reducing carbon footprints and their relevance to sustainable development.

36. In general, the information reported is preliminary and qualitative in nature, with limited information provided on quantitative results or on the methodology and tools used for quantitative assessment. Some Parties highlighted the difficulty of accurately assessing the economic and social consequences of response measures owing to the lack of an internationally accepted methodology and to uncertainty regarding the direct causality and its extent between climate change measures and adverse impacts. Considering the importance of managing the negative impacts of the implementation of response measures on the workforce and overall economy, some Parties highlighted programmes and initiatives undertaken to address just transition, such as establishing a just transition work programme and investing in opportunities to train, retrain and reskill the workforce.

D. Greenhouse gas emission projections

37. Total projected aggregate GHG emissions of Annex I Parties without LULUCF, including the effect of implemented and adopted PaMs (i.e. under the WEM scenario), are expected to be 23.4 per cent lower in 2030 than Parties' aggregate base-year emissions[19] and 17.5 per cent lower than the 1990 level. However, projected total GHG emissions are expected to remain at almost the same level in 2030 as in 2020.

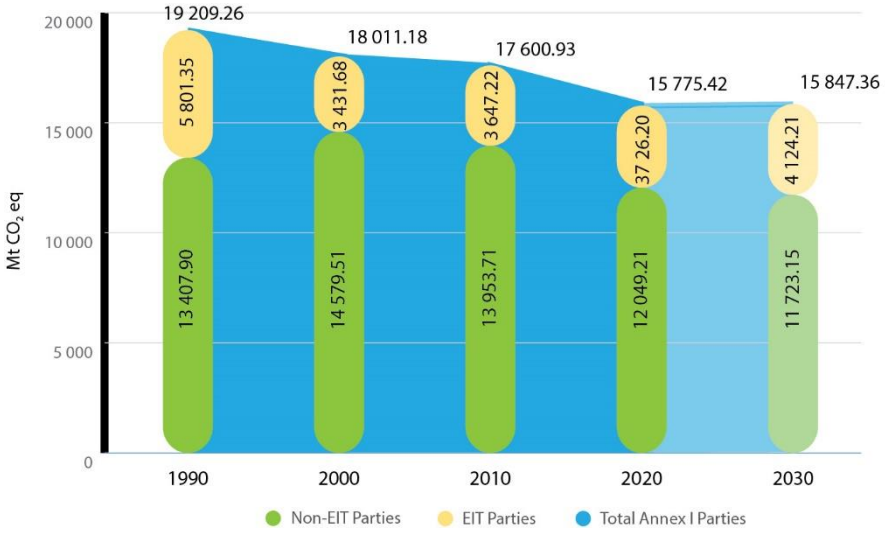
38. The plateauing of emissions in 2020–2030 is projected to occur despite the observed increase in the scope, and expected strengthening, of mitigation actions beyond 2020, and even considering the uncertainties inherent in projecting emissions. This suggests that implemented and adopted mitigation actions are not sufficient to completely offset the impact of underlying emission drivers, such as economic and population growth, or reduce emissions in line with the pathways in the AR6 for achieving the goals of the Paris Agreement. This may also suggest, however, that the impacts of post-2020 mitigation actions for which supporting legislation or regulations yet to be finalized are not yet known and therefore not fully taken into account.

39. The main drivers considered for projecting future aggregate and sectoral emission trends are consistent with those underpinning historical trends, and encompass demographic, economy-wide and sector-specific factors. However, this inherently involves uncertainties that can be difficult to quantify or predict, such as the pandemic, which then also make some previous assumptions underlying projections (e.g. GDP growth) irrelevant. In the BR5s, total actual emissions without LULUCF under the WEM scenario in 2020 were down 8.9 per cent on those projected in the BR4s, primarily due to the global economic contraction resulting from the pandemic.

40. Figure 3 presents historical and projected emissions under the WEM scenario for EIT Parties and non-EIT Parties.

[19] The base year for most Annex I Parties is 1990, except for Australia (2000), Canada (2005), Japan (2005) and the United States (2005).

Figure 3
Historical and projected greenhouse gas emissions of Annex I Parties, without land use, land-use change and forestry, under the 'with measures' scenario



41. Total emissions for all sectors are projected to decrease by 2020 compared with the 1990 level under the WEM scenario. By 2030, emissions for all sectors are projected to remain below their respective 1990 level; however, emissions from transport, industrial processes and agriculture are expected to be higher in 2030 than in 2020. It is expected that the energy sector, including transport, will remain the dominant source of GHG emissions in 2030, contributing approximately 78 per cent of total emissions.

42. All Parties provided a WEM scenario, but not all Parties provided a WAM scenario. To enable a rough comparison of projections under the WEM and WAM scenarios, where projections were not reported for the WAM scenario, values from the WEM scenario were used as a proxy. Taking this into account, the total GHG emissions of Annex I Parties under the WAM scenario in 2030 are projected to equal 15,256 Mt CO_2 eq, which is 20.6 per cent lower than the 1990 level.

E. Achievement of the 2020 targets and outlook for achieving midterm and long-term emission reduction goals

43. The assessment of Parties' individual achievement of their 2020 targets is based on a comparison of the latest levels of GHG emissions and removals reported by Parties for the target year (2020) or target period (2013–2020) in their BR5s, including the contribution of LULUCF and use of units from market-based mechanisms, where applicable, with the base-year or period emission level and targeted emission level for 2020. In quantitative terms, progress towards a target is assessed as the percentage of the targeted emission reduction achieved by 2020. The target is considered to be achieved if GHG emissions in the target year or over the target period are less than or equal to the emission level required by the target, or if the percentage of emission reduction achieved is equal or greater than the percentage specified in the target.

44. A few Parties, namely Australia, Iceland, New Zealand, Norway and Switzerland, have implemented their 2020 targets under the Convention using an emission budget approach (e.g. on the basis of their targets under the Kyoto Protocol for the second commitment period) and, as such, have defined emissions trajectories consistent with those targets. The emission budget for these Parties then represents the cumulative emissions below the emissions trajectory. In such cases, the Party's progress towards the target is assessed by comparing the cumulative emissions, including the contribution of LULUCF and use of units from market-based mechanisms, as relevant, in 2013–2020 with the emission budget or assigned amount for the same period.

45. In this context, Parties' achievement of their 2020 targets, as reported in the BR5s and supported by true-up period information[20] where relevant, the findings in the technical review reports where available, and other relevant publicly available information is assessed as follows:[21]

(a) Australia reported that it has achieved its target of achieving emission levels of 5.0 per cent below the 2000 level by 2020 (using an emission budget approach): its cumulative net national emissions were 4,200 Mt CO_2 eq for 2013–2020, 9.3 per cent lower than its emission budget of 4,628 Mt CO_2 eq for that period;

(b) Belarus reported that its total GHG emissions decreased by 39.0 per cent by 2020 compared with 1990 (base year). This is well below the Party's quantified economy-wide emission reduction target of 5–10 per cent below the 1990 level by 2020, meaning that the Party has clearly achieved its target;

(c) Canada reported that its total GHG emissions decreased by 9.3 per cent by 2020 compared with 2005 (base year), with the 2020 contribution of LULUCF set to result in an additional reduction of 24 Mt CO_2 eq (3.2 per cent) and a contribution from credits traded between Quebec and California under the Western Climate Initiative are estimated to result in an additional 11 Mt CO_2 eq. Including these contributions, Canada's emissions would fall by around 14 per cent by 2020 compared with the 2005 level. However, this is still below its target of 17 per cent below the 2005 level by 2020, which reflects the time lag between developing and implementing new climate-related policies, regulations and initiatives and seeing the resulting impacts on GHG emissions;

(d) The EU and its member States have jointly achieved the EU-wide GHG emission reduction target of 20 per cent below the 1990 level by 2020: emissions in 2020 were 31.6 per cent below the 1990 level for the current member States and 34.0 per cent below the 1990 level for the current member States and the United Kingdom;

(e) Iceland's quantified economy-wide emission reduction target is a reduction of 20 per cent below the 1990 level by 2020 in the second commitment period of the Kyoto Protocol, to be fulfilled jointly with the EU and its member States in accordance with the bilateral agreement between Iceland and the EU. According to the 2022 GHG inventory, Iceland's cumulative emissions pertaining to the bilateral agreement equalled 23,031 kt CO_2 eq in 2013–2020; considering planned use of units equal to the amount of 4,299 kt CO_2 eq, this results in net emissions of 18,732 kt CO_2 eq for that period, which is higher than its assigned amount of 15,327 kt CO_2 eq. Iceland reported that it plans to use removal units to compensate for this discrepancy to achieve its 2020 target. True-up period information confirms that Iceland has retired a total quantity of units equal to its total GHG emissions pertaining to the bilateral agreement with the EU, and thus it has achieved its 2020 target;

(f) Japan's total GHG emissions excluding LULUCF in fiscal year 2020 were 1,150 Mt CO_2 eq, falling to 1,102 Mt CO_2 eq including the contribution of LULUCF, equating to 20.3 per cent below the 2005 (base-year) level. Japan therefore achieved its emission reduction target of 3.8 per cent below the 2005 level by 2020;

(g) Kazakhstan reported that its total GHG emissions decreased by 11.1 per cent by 2020 compared with 1990 (base year), which is below the Party's quantified economy-wide emission reduction target of 15 per cent below the 1990 level by 2020;

(h) Liechtenstein's quantified economy-wide emission reduction target is 20 per cent below the 1990 level by 2020. Its emissions in 1990 amounted to 231.55 kt CO_2 eq and its emissions in 2020 to 180.01 kt CO_2 eq, equating to a decrease of 22.3 per cent below the 1990 level and meaning that the target has been achieved;

(i) Monaco's quantified economy-wide emission reduction target is 30 per cent below the 1990 level by 2020. Its emissions in 1990 amounted to 102.74 kt CO_2 eq and its

[20] Available at https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-kyoto-protocol/second-commitment-period/true-up-period-information-report-by-the-secretariat-second-commitment-period#Years-2013-2020.

[21] Türkiye has no quantified economy-wide emission reduction target for 2020. Ukraine did not submit its BR5.

emissions in 2020, including the use of units from market-based mechanism, to 59.33 kt CO_2 eq, equating to a decrease of 42.3 per cent below the 1990 level and meaning that the target has been achieved;

(j) New Zealand reported that it is on track to meet its 2020 emission target, using an emission budget approach, of 5 per cent below the 1990 level by 2020. According to the 2022 GHG inventory, its gross emissions for 2013–2020 are 639.6 Mt CO_2 eq, with forestry sector activities removing 122.3 Mt CO_2 eq over the same period. The Party's net emissions are 1.0 per cent higher than the available budget of 509.8 Mt CO_2 eq after accounting for removals from forestry activities. New Zealand reported that the discrepancy between the actual and targeted reduction would be compensated for with 6.5 million international units retained from the first commitment period of the Kyoto Protocol. In its latest update on New Zealand's 2020 net position, the Party demonstrated it has met its 2020 emission reduction target through contributions from forestry activities and international units;[22]

(k) Norway's target of a 30 per cent reduction in emissions below the 1990 level by 2020 was made operational through its legally binding commitment for 2013–2020 under the Kyoto Protocol, namely that average emissions in 2013–2020 must not exceed 84 per cent of the 1990 level. Norway reported that it is on track to achieve its target: its cumulative GHG emissions excluding LULUCF total 421.86 Mt CO_2 eq in 2013–2020, with a contribution from LULUCF equalling 0.54 Mt CO_2 eq in the same period. For compliance with the assigned amount units (emission budget) of 348.91 Mt CO_2 eq for that period, Norway reported that it would use units from market-based mechanisms in the amount of around 73.5 Mt CO_2 eq. True-up period information confirms that Norway has retired a total quantity of units equal to its total GHG emissions for the commitment period, and thus it has achieved its 2020 target;

(l) The Russian Federation has achieved its target of limiting emissions to no more than 75.0 per cent of the 1990 (base-year) level by 2020 (i.e. 25.0 per cent emission reduction between 1990 and 2020), without LULUCF contribution or use of market-based mechanisms. The country's emissions amounted to 3,163 Mt CO_2 eq in 1990 and 2,051 Mt CO_2 eq in 2020, equating to a decrease of 35.1 per cent over this period;

(m) Switzerland assesses the fulfilment of its quantified economy-wide emission reduction target by accounting against its quantified emission limitation or reduction commitment under the second commitment period of the Kyoto Protocol. Switzerland reported that it plans to use international carbon credits from the flexible mechanisms under the Kyoto Protocol to compensate for some of its emissions in 2013–2020; the amount of credits needed for Switzerland to achieve its targets for the second commitment period can be provisionally estimated on the basis of its 2022 GHG inventory. Switzerland's total GHG emissions amount to 382.8 Mt CO_2 eq over the second commitment period, and the country reported that it was confident that it would exceed its quantified emission limitation or reduction commitment target under the second commitment period of the Kyoto Protocol; True-up period information confirms that Switzerland has retired a total quantity of units equal to its total GHG emissions for the commitment period, and thus it has achieved its 2020 target;

(n) The United Kingdom has committed, despite its departure from the EU, to contributing to the achievement of the joint EU economy-wide emission reduction target of 20 per cent below the 1990 level by 2020. In its technical review report of BR5, the expert review team concluded that the United Kingdom has met its 2020 commitment under the Convention through its contribution to achieving the joint EU target. The expert review team noted that the Party's 2020 emissions under the EU effort-sharing decision do not exceed its annual emission allocation for 2020;

(o) The United States reported that it has exceeded its quantified economy-wide emission reduction target for 2020 of an emission reduction in the range of 17 per cent below the 2005 (base-year) level, the phrasing of "in the range of" intended to recognize the effect of external factors on emissions in a given year. This is not a conditional commitment, and

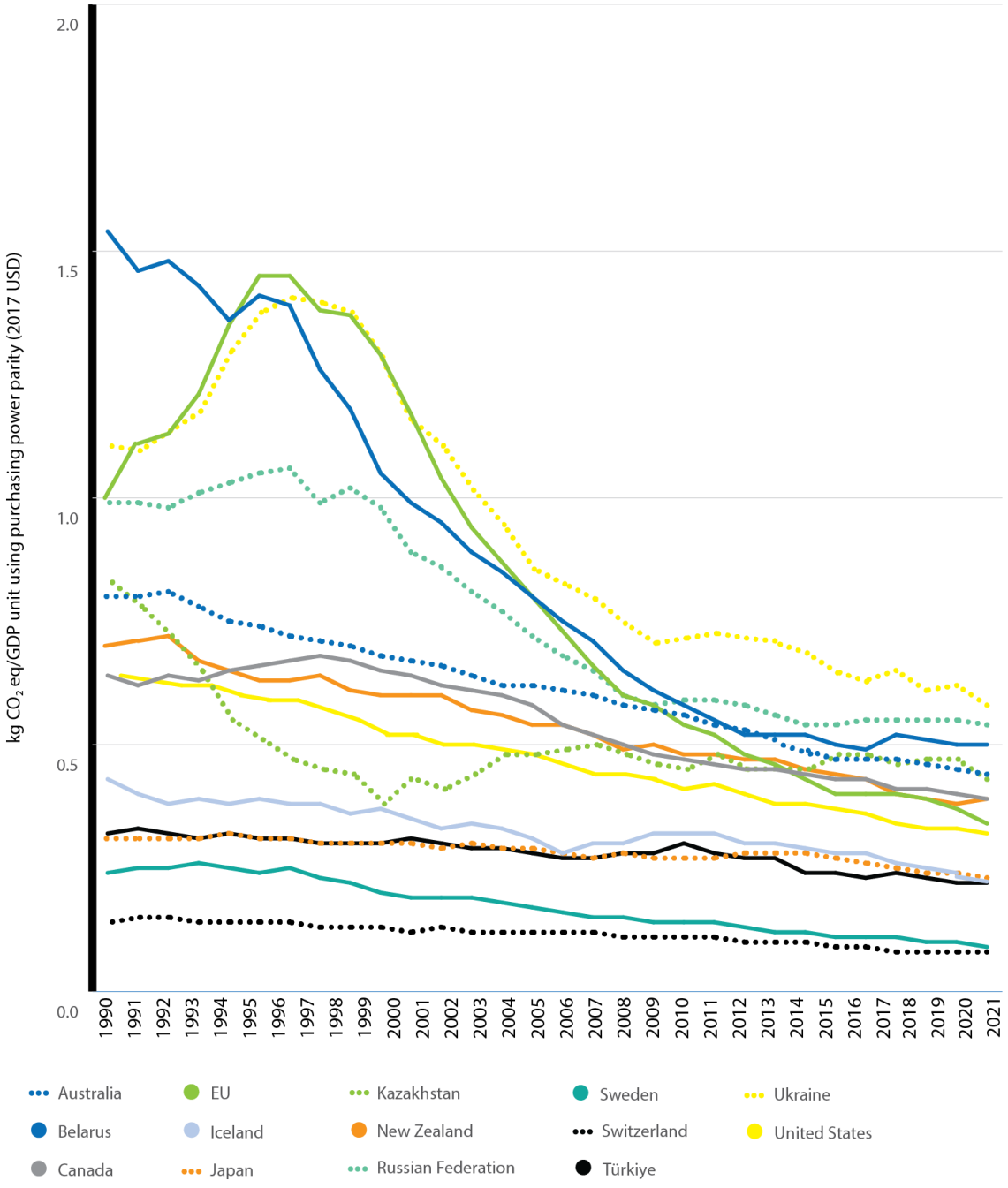
[22] Available at https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-targets/latest-update-on-new-zealands-2020-net-position/.

there are no underlying assumptions. Net GHG emissions in 2020, including the contribution of LULUCF, were 21 per cent below the 2005 level and thus the country has achieved its target.

46. Figure 4 presents the trends observed in GHG emissions per unit of GDP using purchasing power parity for Annex I Parties in 1990–2021. Over this period, the levels of GHG emissions per capita and GHG emissions per unit of GDP using purchasing power parity declined, indicating a decoupling of emissions from economic growth. This reflects societal changes and mitigation efforts, such as improved energy efficiency and increased use of renewable energy sources.

Figure 4

Trends in greenhouse gas emissions per unit of gross domestic product using purchasing power parity for Annex I Parties in 1990–2021



Note: Liechtenstein and Monaco are not included because relevant data were not available.

47. Although Parties reported in their BR5s primarily on efforts aimed at achieving their 2020 targets, they also provided information on the economy-wide emission reduction targets in their NDCs and long-term emission reduction goals. Projections under the WEM scenario indicate that none of the Parties are on track to achieve their targeted emission levels for 2030 as outlined in their NDCs, which suggests that existing mitigation actions may be insufficient for achieving the 2030 targets and that supplementary ones as well as use of units from market-based mechanisms may be needed. In their BR5s, Parties indicated that they are actively taking measures to respond to this situation.

48. GHG emission trends are influenced by various drivers, including population changes, shifts in economic structures (particularly prominent among EIT Parties), technological advancements, changes in fuel sources, renewable energy integration and improvements in energy efficiency, which makes it challenging to attribute reductions to specific factors. However, analysis of the aforementioned drivers suggests that individual Parties have progressively strengthened their mitigation efforts since 2000 with a view to decarbonizing their economies.

F. Provision of financial, technological and capacity-building support to developing country Parties

1. Climate finance

49. Overall, climate finance on a comparable basis[23] provided by developed countries to developing countries has increased, reflecting a continued commitment to support the global transition to a low-emission, climate-resilient future. However, while total climate finance increased substantially between the BR1s and BR2s (by 45.5 per cent) and BR2s and BR3s (by 17.9 per cent), this upward trend was less pronounced between the BR3s and BR4s (increase of 5.7 per cent) and BR4s and BR5s (increase of 1.4 per cent), as shown in figure 5.[24] The climate-specific share of support grew at a higher rate (6.3 per cent) than overall climate finance.

50. In parallel, Parties' reporting on climate finance has continued to improve and expand; notable examples are the use of common climate finance tracking systems for identifying climate finance and allocating it to different funding areas (e.g. the OECD Development Assistance Committee Rio markers), with information also provided on type of financial instrument used (e.g. grants, loans), sources of funding and sector-specific data. As a result, the BR5s paint a more comprehensive picture than previous BRs did of global climate finance flows. As in the BR4s, a high number of Parties without financial and reporting obligations (i.e. Annex I Parties not included in Annex II) voluntarily reported on support provided in the BR5s.[25]

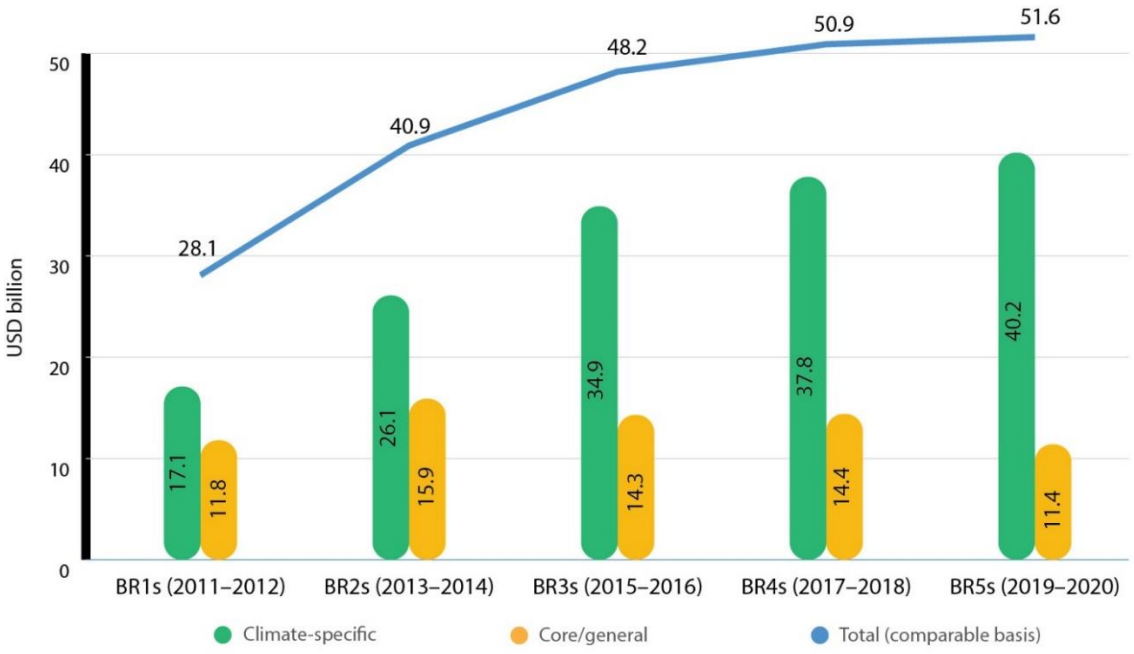
[23] To ensure comparability of information on overall climate finance across the five reporting cycles, climate finance data from Denmark, Hungary and Luxembourg, which contributed climate support in previous years but had not submitted their BR5s by the time this report was prepared, were excluded from previous bienniums.

[24] Comparisons with data from previous BRs have been calculated directly, without adjusting for inflation, and take into account submissions or resubmissions received since the compilation and synthesis of BR4s. Data on BR4s will therefore differ from those published in the compilation and synthesis of BR4s.

[25] In terms of volume, nearly all climate finance is provided by Annex II Parties (99.8 per cent).

Figure 5

Total climate finance contributions (annual average on a comparable basis), including climate-specific and core/general support, in 2011–2020, reported in biennial reports



Note: To ensure comparability of information on climate finance across the five reporting cycles, climate finance data from Denmark, Hungary and Luxembourg were excluded from previous bienniums.

51. Total climate finance, as reported in the BR5s, averaged USD 51.6 billion annually in 2019–2020. The largest share (USD 40.2 billion) was reported as climate-specific support, while the share of core/general support (i.e. support provided to multilateral and bilateral institutions that is not considered climate-specific) has been decreasing over time. The share of core/general support decreased from 40.9 per cent of the total in 2011–2012 (as reported in the BR1s) to approximately 22.3 per cent in 2019–2020 (as reported in the BR5s). The growth in climate-specific support can be attributed to Parties responding to the mounting urgency to support climate action by developing countries, Parties progressing towards their climate finance obligations, and multilateral and bilateral finance institutions expanding their climate portfolios. In addition, improved practices for tracking financial flows and/or Parties' decision to reduce or, in a few cases, exclude core/general funding from their financial reporting has resulted in a smaller share of core/general compared with climate-specific support.

52. Two thirds of all climate finance reported in the BR5s (equivalent to an annual average of USD 31.6 billion) was provided through bilateral, regional and other channels, an increase of 0.4 per cent since the BR4s. Of that, more than half (56.4 per cent) was allocated to mitigation activities. While a greater overall volume of support was allocated to mitigation, at the individual level many Parties continued to view adaptation as a priority and allocated more than half of their annual support to it. In terms of sectors, the largest share of bilateral, regional and other support in 2019–2020 was reported as other (unspecified) (i.e. not allocated to energy, transport, industry, agriculture, forestry, water and sanitation, or cross-cutting or other (specified)[26]), accounting for 26.7 per cent of the total, closely followed by the energy sector, accounting for 26.6 per cent. As a result of the large share of support reported as other (unspecified), it remains difficult to assess clear sectoral trends within the reporting period or over time. Similarly, determining trends in geographical distribution continues to prove challenging as Parties provided limited disaggregated information on recipient countries, regions, projects, programmes and activities.

[26] Such as disaster risk reduction, education, emergency response, financial services, health, rural development, social protection, or urban development.

53. Annual average support provided through multilateral channels constituted one third of the total support in 2019–2020, a decrease of 3.0 per cent since 2017–2018. Support continues to be channelled through a range of multilateral climate funds and financial institutions (including regional development banks), as well as specialized United Nations bodies. Key channels for delivery include the World Bank and the Green Climate Fund, which has received contributions from a wide range of developed countries (Annex II Parties and Annex I Parties not included in Annex II).

54. At the same time, growing engagement with the private sector was reflected in the BR5s, highlighting the critical role public funding can play in leveraging private sector support at scale for achieving the objective of the Convention and the goals of the Paris Agreement. While many Parties are still developing their reporting capacity to track private sector flows, those with more advanced systems indicate significant potential for leveraging private funds from targeted public investments.

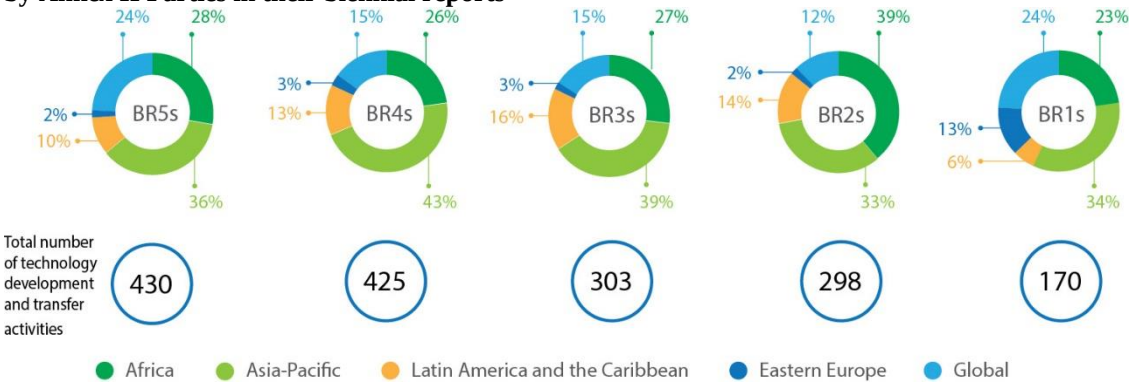
55. The BR5s reflect several trends in climate finance observed in the BR4s, with these trends having become more pronounced in the BR5s, including the move towards more detailed sectoral reporting (e.g. specifying subsector allocations using more specific coding such as the OECD Development Assistance Committee purpose codes); the expanded use of innovative financial instruments such as climate insurance to better reduce risks, share costs and incentivize private sector engagement; and the introduction of reporting areas such as gender, where Parties have underscored the need to better integrate gender considerations into climate finance, including through gender-responsive planning and gender-sensitive reporting on progress.

2. Technology development and transfer

56. Support for technology development and transfer has increased slightly, with 430 activities relating to technological support reported in the BR5s compared with 425 in the BR4s, and 44 per cent of those activities supporting mitigation (compared with 56 per cent in the BR4s) and 32 and 24 per cent supporting adaptation and cross-cutting technologies respectively (compared with 26 and 18 per cent respectively in the BR4s). Several Annex II Parties highlighted their efforts to mainstream technology transfer activities in their development cooperation activities with a view to contributing more broadly to the achievement of the SDGs. In this context, Parties provided examples of supported technology activities that, besides contributing to achieving climate action (SDG 13), also contribute to achieving other SDGs, such as no poverty (SDG 1), zero hunger (SDG 2), good health and well-being (SDG 3), clean water and sanitation (SDG 6), affordable and clean energy (SDG 7), decent work and economic growth (SDG 8), industry, innovation and infrastructure (SDG 9), life on land (SDG 15), and peace, justice and strong institutions (SDG 16).

57. Asia and the Pacific continued to benefit most from the reported technological support, with 36 per cent of all technological support focusing on that region (compared with 43 per cent in the BR4s), while support for technology for Africa (28 per cent), Latin America and the Caribbean (10 per cent) and Eastern Europe (2 per cent) has not changed significantly since the BR4s. Technology development and transfer support for global activities, as reported by Annex II Parties, increased from 15 per cent in the BR4s to 24 per cent in the BR5s (see figure 6).

Figure 6
Geographical distribution of technology development and transfer activities reported by Annex II Parties in their biennial reports



58. Support for adaptation technology activities continued to mainly target the agriculture sector, which accounted for 39 per cent of supported activities, up significantly from the BR4s (28 per cent). Most of these activities were related to climate-smart agricultural practices, early warning and earth observation systems, the water sector, disaster risk reduction, and infrastructure and settlements. Support for mitigation technology efforts continued to focus on the energy sector, in particular on renewable energy and energy efficiency.

59. Most Parties emphasized that the support provided for technology development and transfer activities responded to the technology needs of developing countries. The technology activities reported by Parties in their BR5s are in line with the prioritized technology needs identified by 53 non-Annex I Parties in their technology needs assessments and contained in the fourth synthesis report on technology needs.[27]

60. As reported in the BR5s, several Annex II Parties provided support for enhancing endogenous capacities and enabling environments in developing countries to promote the sustainable uptake of climate technologies. Activities included collaborating with country partners on the proposal and design stage of activities, involving local experts in installing and operating project-related technologies, and organizing tailored training programmes to ensure proper control, function and maintenance of installed technologies.

61. There was a significant increase in support for activities relating to the early stages of the technology cycle, in particular research and development; such activities accounted for 24 per cent of all supported activities in the BR5s compared with 14 per cent in the BR4s. The predominant share of technology activities reported across the BRs was still for the deployment of mature technologies, but the share increased from 45 per cent in the BR4s to 60 per cent in the BR5s.

3. Capacity-building support

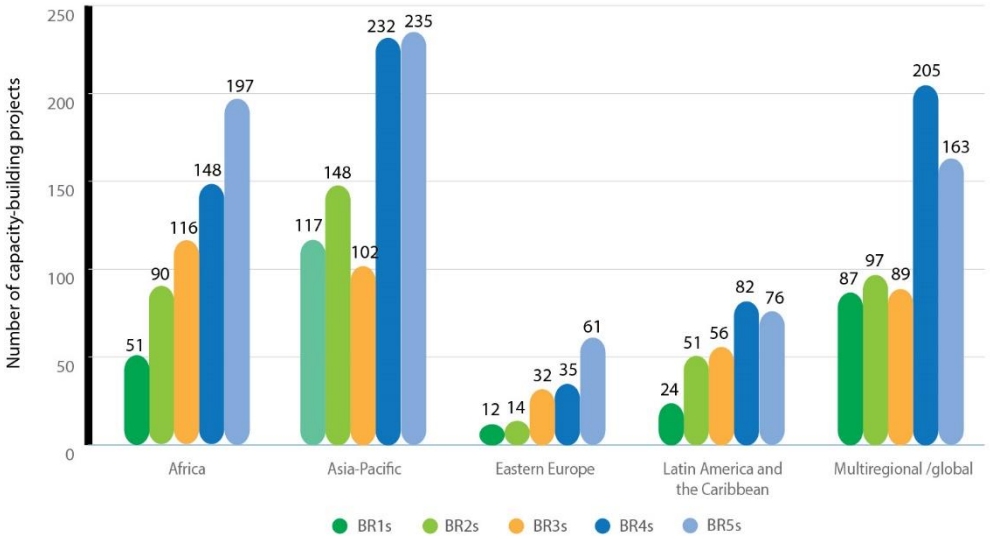
62. Support for capacity-building increased slightly in 2019–2020, with Parties acknowledging the importance of capacity-building as an essential element of climate change mitigation and adaptation policies, initiatives, projects and activities. A total of 732 supported capacity-building activities were reported in the BR5s (in CTF table 9), a 4 per cent increase over the number reported in the BR4s (702) and an 85 per cent increase over the number reported in the BR3s (395).

63. Adaptation is increasingly becoming a priority focus for capacity-building. Similarly, in 2017–2018, in 2019–2020 there was more support for capacity-building projects on adaptation than for those on mitigation and other areas. Of the total 732 projects, 297 (41 per cent) were focused on adaptation, 227 (31 per cent) were reported as supporting multiple areas and 202 (28 per cent) were supporting mitigation. Only six projects were related to technology development and transfer.

[27] FCCC/SBI/2020/INF.1.

64. Asia-Pacific and Africa continue to be the priority regions for capacity-building. In 2019–2020, largely following the trend observed in 2017–2018, Asia-Pacific benefited most from the reported capacity-building support, accounting for a 32 per cent share of the total support for capacity-building activities, followed by Africa (27 per cent) and global activities (22 per cent) (see figure 7).

Figure 7
Number of capacity-building support projects reported in biennial reports, by region



65. In terms of the geographical distribution of the various types of capacity-building support provided, according to the BR5s 36 per cent of the support for adaptation was provided to projects in the Asia-Pacific region, followed by projects in Africa (31 per cent) and global projects (17 per cent). In total, 38 per cent of the support for mitigation was provided to projects in the Asia-Pacific region, followed by global projects (34 per cent) and projects in Africa (15 per cent).

66. As reported in the BR5s, 30.6 per cent of the capacity-building projects targeted the energy sector, followed by agriculture and water with 16.4 and 15.9 per cent shares respectively. Most of the projects on energy focused on energy efficiency and renewable energy alternatives.

67. Some Parties highlighted the importance of mainstreaming climate change in national adaptation plans to help advance low-carbon development agendas and enhance the adaptive capacity of communities. For example, technical support from the United States and the National Adaptation Plan Global Network helps developing countries advance their national adaptation planning processes.

68. Regarding how capacity-building support responds to the existing and emerging capacity-building needs identified by non-Annex I Parties in the areas of mitigation, adaptation and technology development and transfer, some Parties highlighted the importance of peer-to-peer learning and exchange, improving documentation and compilation systems for compliance with the ETF, developing educational and professional development programmes on climate change, strengthening climate resilience to climate-sensitive diseases, supporting the empowerment of women in and integration of gender considerations into climate change related matters and ensuring access to climate finance.

69. Bilateral collaboration through development agencies remains the main vehicle for providing capacity-building support. Several Parties highlighted the provision of capacity-building support through the operating entities of the Financial Mechanism, multilateral development organizations and United Nations organizations. The Adaptation Fund, the Global Environment Facility and the Green Climate Fund were mentioned as important channels.