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Report on the technical review of the eighth national communication and the technical review of the fifth biennial report of Australia

Parties included in Annex I to the Convention were requested by decision 6/CP.25 to submit their eighth national communication to the secretariat by no later than 31 December 2022. According to decision 15/CMP.1, Parties included in Annex I to the Convention that are also Parties to the Kyoto Protocol are required to include in their national communications supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. This report presents the results of the technical review of the eighth national communication and relevant supplementary information under the Kyoto Protocol of Australia, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention" and the "Guidelines for review under Article 8 of the Kyoto Protocol".

Developed country Parties were requested by decision 6/CP.25 to submit their fifth biennial report to the secretariat by no later than 31 December 2022. This report presents the results of the technical review of the fifth biennial report of Australia, conducted by an expert review team in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention".

The review of these submissions took place in Canberra from 19 to 23 February 2024.

Contents

Abbreviations and acronyms

ACCU	Australian Carbon Credit Unit
ACT	Australian Capital Territory
AR	Assessment Report of the Intergovernmental Panel on Climate Change
AUD	Australian dollar(s)
BR	biennial report
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CTF	common tabular format
DAC	Development Assistance Committee
DCCEEW	Department of Climate Change, Energy, the Environment and Water
ERT	expert review team
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
LNG	liquefied natural gas
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
N_2O	nitrous oxide
NA	not applicable
NC	national communication
NDC	nationally determined contribution
NE	not estimated
NF_3	nitrogen trifluoride
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
PaMs	policies and measures
PFC	perfluorocarbon
reporting guidelines for supplementary information	"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol. Part II: Reporting of supplementary information under Article 7, paragraph 2"
SF_6	sulfur hexafluoride
UNFCCC reporting guidelines on BRs	"UNFCCC biennial reporting guidelines for developed country Parties"
UNFCCC reporting guidelines on NCs	"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications"
WAM	'with additional measures'
WEM	'with measures'

I. Introduction and summary

A. Introduction

1. This is a report on the in-country technical review of the NC8 and BR5 of Australia. The review was organized by the secretariat in accordance with the "Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention", particularly "Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention" and "Part V: UNFCCC guidelines for the technical review of national communications from Parties included in Annex I to the Convention" (annex to decision 13/CP.20), and the "Guidelines for review under Article 8 of the Kyoto Protocol" (annex to decision 22/CMP.1 and annex I to decision 4/CMP.1).

2. In accordance with decision 13/CP.20, a draft version of this report was transmitted to the Government of Australia, which provided comments that were considered and incorporated, as appropriate, into this final version of the report.

3. The review was conducted from 19 to 23 February 2024 in Canberra by the following team of nominated experts from the UNFCCC roster of experts: Ana-Maria Danila (European Union), Matej Gasperic (Serbia), Toby Hedger (United States of America), Yamikani Idriss (Malawi), Margeret Onije Awunor (Nigeria), Quynh Anh Tang (Viet Nam) and David Glen Thistlethwaite (United Kingdom of Great Britain and Northern Ireland). Matej Gasperic and David Glen Thistlethwaite were the lead reviewers. The review was coordinated by Ruta Bubniene and Sohel Pasha (secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the NC8 of Australia in accordance with the UNFCCC reporting guidelines on NCs,[1] the reporting guidelines for supplementary information, in particular the supplementary information required under Article 7, paragraph 2, and on the minimization of adverse impacts under Article 3, paragraph 14, of the Kyoto Protocol[2] and of the information reported in the BR5 of Australia in accordance with the UNFCCC reporting guidelines on BRs.[3]

1. Timeliness

5. The NC8 was submitted on 22 December 2022, before the deadline of 31 December 2022 mandated by decision 6/CP.25.

6. The BR5 was also submitted on 22 December 2022, before the deadline of 31 December 2022 mandated by decision 6/CP.25. The CTF tables were also submitted on 22 December 2022.

2. Completeness, transparency of reporting and adherence to the reporting guidelines

7. Issues and gaps identified by the ERT related to the information reported by Australia in its NC8 are presented in tables 1–2. The information reported, including the supplementary information under the Kyoto Protocol, mostly adheres to the UNFCCC reporting guidelines on NCs. The ERT concludes that the issues of a mandatory nature related to supplementary information under the Kyoto Protocol does not influence the Party's ability to fulfil its commitments for the second commitment period of the Kyoto Protocol.

8. The ERT noted that Australia made improvements to the reporting in its NC8 compared with that in its NC7, including by addressing some recommendations and

[1] Decision 6/CP.25, annex.
[2] Decision 15/CMP.1, annex, and decision 3/CMP.11, annex III.
[3] Decision 2/CP.17, annex.

encouragements from the previous review report in the areas of PaMs and description of projection methodologies.

Table 1
Assessment of completeness and transparency of mandatory information reported by Australia in its eighth national communication

Section of NC	*Completeness*	*Transparency*	*Reference to description of recommendation*
Executive summary	Complete	Transparent	–
National circumstances relevant to GHG emissions and removals	Complete	Transparent	–
GHG inventory	Complete	Transparent	–
PaMs	Complete	Mostly transparent	Issue 3 in table I.1
Projections and the total effect of PaMs	Mostly complete	Mostly transparent	Issues 2 and 8 in table I.2
Vulnerability assessment, climate change impacts and adaptation measures	Complete	Transparent	–
Financial resources and transfer of technology	Mostly complete	Mostly transparent	Issues 1 and 4 in table I.3
Research and systematic observation	Complete	Transparent	–
Education, training and public awareness	Complete	Transparent	–

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

Table 2
Assessment of completeness and transparency of mandatory supplementary information under the Kyoto Protocol reported by Australia in its eighth national communication

Supplementary information under the Kyoto Protocol	*Completeness*	*Transparency*	*Reference to description of recommendation*
National system	Mostly complete	Transparent	Issue 1 in table I.6
National registry	Complete	Transparent	–
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Complete	Transparent	–
PaMs in accordance with Article 2	Complete	Transparent	–
Domestic and regional programmes and/or arrangements and procedures	Complete	Transparent	–
Information under Article 10[a]	Complete	Transparent	–
Financial resources	Complete	Transparent	–
Minimization of adverse impacts in accordance with Article 3, paragraph 14	Complete	Transparent	–

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex I. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

[a] The assessment refers to information provided by the Party on the provisions contained in Article 4, paras. 3, 5 and 7, of the Convention, as reported under Article 10 of the Kyoto Protocol, which is relevant to Annex II Parties only. An assessment of the information on the other provisions of Article 10 of the Kyoto Protocol is provided under the relevant substantive headings under the Convention, for example research and systematic observation.

9. Issues and gaps identified by the ERT related to the information reported by Australia in its BR5 are presented in table 3. The information reported mostly adheres to the UNFCCC reporting guidelines on BRs.

10. The ERT noted that Australia made improvements to the reporting in its BR5 compared with that in its BR4 by addressing some recommendations and encouragements from the previous review report in the areas of the quantified economy-wide emission reduction target and related assumptions, conditions and methodologies, and progress in

achievement of quantified economy-wide emission reduction targets and relevant information.

Table 3
Summary of completeness and transparency of mandatory information reported by Australia in its fifth biennial report

Section of BR	*Completeness*	*Transparency*	*Reference to description of recommendation*
GHG emissions and removals	Complete	Transparent	–
Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies	Complete	Transparent	–
Progress in achievement of targets	Complete	Mostly transparent	Issue 2 in table II.1 and issue 5 in table II.2
Provision of support to developing country Parties	Mostly complete	Mostly transparent	Issues 1 and 4 in table II.3

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in annex II. The assessment of completeness and transparency by the ERT in this table is based only on the "shall" reporting requirements.

II. Technical review of the information reported in the eighth national communication and fifth biennial report

A. National circumstances relevant to greenhouse gas emissions and removals

1. Technical assessment of the reported information

11. The NC8 contains key data on legislation, population trends, geography and land use, climate and climate change, economic developments, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater. Australia has an open economy that has more than doubled in size in the past 30 years, with average economic growth of 3.0 per cent per year, while the economy's GHG emission intensity decreased by 65.4 per cent from 0.75 kg CO_2 eq/AUD in 1990 to 0.26 kg CO_2 eq/AUD in 2020. Australia's per capita emissions in 2020 are estimated to be 19.1 t CO_2 eq; a 48.3 per cent reduction from the 1990 level. From 2010 to 2020, Australia's population increased by almost 15.0 per cent, or approximately 3.8 million, and as at March 2022 stood at 25.9 million people. Australia is the sixth largest country in the world in terms of area, covering a large range of climate zones, from tropics in the north to arid in the centre and temperate in the south. It is one of the world's largest exporters of coal and LNG and other mineral resources, which account for approximately 60.0 per cent of the country's exports by value. The agriculture sector has been significantly affected by prolonged and widespread drought, bushfires and flooding over the past decade. The closure of Australia's international borders owing to the coronavirus disease 2019 pandemic caused a temporary reduction in the rate of its economic growth, to below 1.0 per cent in 2020–2021, and disrupted the relatively stable long-term growth in domestic energy consumption. Since the NC7, Australia has faced economic challenges as a result of the pandemic and a global economic downturn, which has affected its national circumstances. Since 2022, the Government of Australia has strengthened its climate commitments and introduced new policies and funding to support an expanded agenda.

2. Assessment of adherence to the reporting guidelines

12. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. There were no issues raised during the review relating to the topics discussed in this chapter of the review report.

B. Greenhouse gas inventory information[4]

1. Technical assessment of the reported information

13. Australia reported information in its NC8 and BR5 on its historical GHG emissions and inventory arrangements using GWP values from the AR4. More recent information on GHG emissions was reported in Australia's 2023 inventory submission using GWP values from the AR5. Total GHG emissions[5] excluding emissions and removals from LULUCF increased by 20.7 per cent between 1990 and 2021, whereas total GHG emissions including net emissions or removals from LULUCF decreased by 27.0 per cent over the same period. Emissions including LULUCF peaked in 2007 and decreased thereafter, owing mainly to lower emissions in the energy sector, the effects of the pandemic and the uptake of wind and solar electricity production in Australia. The changes in total emissions between 1990 and 2021 were driven mainly by factors such as economic growth, reflected in the increases of emissions from source categories such as stationary combustion (by 35.4 per cent), transport (by 47.0 per cent), fugitive energy emissions (by 21.1 per cent) and IPPU (by 31.4 per cent). In contrast, emissions from agriculture between 1990 and 2021 reduced by 15.0 per cent, owing mainly to a decline in sheep population and a prolonged and widespread drought in the more recent years. The most significant change in the emission trend occurred in the LULUCF sector, which was a net source in 1990 but has been a net sink since 2015, with a reduction in emissions of 132.2 per cent over 1990–2021, contributing to the overall 1990–2021 Australian GHG inventory trend of a 27.0 per cent reduction across all sources and sinks.

14. Australia accounts for approximately 10.0 per cent of global coastal blue carbon ecosystems (i.e. environments that support mangroves, tidal marshes and seagrasses). According to the national inventory report of Australia's 2022 annual submission, it is voluntarily implementing aspects of the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* to include blue carbon and teal carbon (i.e. carbon stored in freshwater wetlands). During the review, Australia noted that it has developed remote sensing and other observation techniques to enable monitoring of land area activity data and has conducted research to develop country-specific evidence, models and emission factors specific to its national circumstances. Estimates of net emissions were provided in the national inventory report of the 2022 annual submission for capital dredging affecting seagrass meadows, for coastal aquaculture and for emergence or loss of coastal wetlands, including tidal marshes and mangrove forests. Emissions and removals have been estimated using a tier 3 model since the 2022 annual submission.

15. Table 4 illustrates the emission trends by sector and by gas for Australia. The emissions reported in the 2023 inventory submission, which was reviewed, differ from the data reported in CTF table 1 in that the inventory was recalculated to account for the change in GWP values owing to the move from the AR4 to the AR5. The recalculation of emissions resulted in an increase in total estimated emissions without LULUCF of 2.9 and 1.6 per cent for 1990 and 2020, respectively.

Table 4
Greenhouse gas emissions by sector and by gas for Australia for 1990–2021

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2020*	*2021*	*1990–2020*	*2020–2021*	*1990*	*2021*
Sector									
1. Energy	297 385.42	368 518.19	422 579.51	418 708.57	404 026.89	40.8	–3.5	67.9	76.4

[4] Australia was the first Party to submit its national GHG inventory in accordance with the Paris Agreement. GHG emission data in this section, for which GWP values from the AR5 were used, are based on Australia's 2023 inventory submission, version of 13 April 2023, which has been subject to simplified review under the Paris Agreement. All emission data in subsequent chapters are based on Australia's BR5 CTF tables, for which GWP values from the AR4 were used unless otherwise noted.

[5] In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of CO_2 eq excluding LULUCF, unless otherwise specified.

	GHG emissions (kt CO_2 eq)					*Change (%)*		*Share (%)*	
	1990	*2000*	*2010*	*2020*	*2021*	*1990–2020*	*2020–2021*	*1990*	*2021*
A1. Energy industries	143 172.76	192 519.66	226 959.03	207 918.77	198 077.78	45.2	–4.7	32.7	37.5
A2. Manufacturing industries and construction	36 224.92	38 916.01	39 707.40	41 705.48	42 412.98	15.1	1.7	8.3	8.0
A3. Transport	61 369.59	74 026.48	88 652.75	93 177.68	90 192.36	51.8	–3.2	14.0	17.1
A4. and A5. Other	16 306.68	19 044.01	21 932.73	22 324.41	24 539.50	36.9	9.9	3.7	4.6
B. Fugitive emissions from fuels	40 311.48	44 012.04	45 327.61	53 569.82	48 802.02	32.9	–8.9	9.2	9.2
C. CO_2 transport and storage	NO	NO	NO	12.42	2.25	NA	–81.9	NA	0.0
2. IPPU	25 113.21	25 766.61	33 439.00	31 898.60	32 992.30	27.0	3.4	5.7	6.2
3. Agriculture	92 095.80	88 716.22	75 100.44	72 642.23	78 254.24	–21.1	7.7	21.0	14.8
4. LULUCF	198 211.89	64 769.32	66 159.89	–42 506.76	–63 860.98	–121.4	–50.2	NA	NA
5. Waste	23 462.32	18 587.97	16 053.81	13 490.31	13 358.22	–42.5	–1.0	5.4	2.5
6. Other[a]	NO	NO	NO	NO	NO	NA	NA	NA	NA
Gas[b]									
CO_2	278 160.27	350 007.70	405 512.17	399 405.50	388 777.53	43.6	–2.7	63.5	73.5
CH_4	140 149.43	132 216.59	117 387.55	109 758.73	109 934.74	–21.7	0.2	32.0	20.8
N_2O	14 182.54	16 837.69	17 149.19	16 274.31	18 060.12	14.7	11.0	3.2	3.4
HFCs	1 193.65	1 150.49	6 735.33	10 949.19	11 405.41	817.3	4.2	0.3	2.2
PFCs	4 143.53	1 157.58	254.73	243.12	291.48	–94.1	19.9	0.9	0.1
SF_6	227.33	218.95	133.79	108.87	162.36	–52.1	49.1	0.1	0.0
NF_3	NO	NO	NO	NO	NO	NA	NA	NA	NA
Total GHG emissions excluding LULUCF	**438 056.76**	**501 588.99**	**547 172.76**	**536 739.72**	**528 631.65**	**22.5**	**–1.5**	**100.0**	**100.0**
Total GHG emissions including LULUCF	**636 268.65**	**566 358.31**	**613 332.65**	**494 232.96**	**464 770.67**	**–22.3**	**–6.0**	**NA**	**NA**

Source: GHG emission data: Australia's 2023 inventory submission, version of 13 April 2023.
[a] Emissions and removals reported under the sector other (sector 6) are not included in total GHG emissions.
[b] Emissions by gas without LULUCF. The Party did not report indirect CO_2 emissions.

16. Australia's national inventory arrangements were established in accordance with the "Guidelines for national systems for the estimation of anthropogenic greenhouse gas emissions by sources and removals by sinks under Article 5, paragraph 1, of the Kyoto Protocol" (para. 12(a) of the annex to decision 19/CMP.1 and decision 3/CMP.11). The responsibility for Australia's national inventory was assigned in 2022 to a single agency, DCCEEW. Changes in these arrangements since the BR4 include moving the national inventory functions from the former Department of the Environment and Energy to the Department of Industry, Science, Energy and Resources in 2020, and then to DCCEEW in 2022.

2. Assessment of adherence to the reporting guidelines

17. The ERT assessed the information reported in the NC8 and BR5 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

3. National system for the estimation of anthropogenic emissions by sources and removals by sinks

(a) Technical assessment of the reported information

18. Australia provided in the NC8 a description of how its national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol is performing the general and specific functions defined in the annex to decision 19/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11. The description includes most of the elements mandated by paragraph 30 of the annex to decision 15/CMP.1. The NC8 also contains a reference to the description of the national system provided in the national inventory report of the 2022 annual submission. The ERT took note of the improvements made to the national system reflected in the NC8.

(b) Assessment of adherence to the reporting guidelines

19. The ERT assessed the information reported in the NC8 of Australia and identified an issue relating to completeness and thus adherence to the reporting guidelines for supplementary information. The finding is described in table I.6.

4. National registry

(a) Technical assessment of the reported information

20. In its NC8 Australia provided information on how its national registry performs the functions in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1 and complies with the requirements of the technical standards for data exchange between registry systems.

(b) Assessment of adherence to the reporting guidelines

21. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

C. Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies

1. Technical assessment of the reported information

22. Australia reported information on its economy-wide emission reduction target in its BR5. For Australia the Convention entered into force on 30 December 1992. Under the Convention Australia committed to reducing its GHG emissions by 5.0 per cent below the 2000 level by 2020. The target includes all GHGs included in the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories", namely CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3. It also includes all IPCC sources and sectors included in the annual GHG inventory. The GWP values used are from the AR4. Australia used the Kyoto Protocol classification system for reporting emissions from the LULUCF sector when tracking progress towards the quantified economy-wide emission reduction target. Australia reported net emissions from deforestation, afforestation/reforestation, forest management, cropland management, grazing land management and revegetation. Emissions and removals from the LULUCF sector are included in the target using a net-net accounting approach. Australia reported that it has not used market-based mechanisms for achieving its target.

23. Australia assesses progress towards its target under the Convention through an emission budget approach that covers cumulative emissions in 2013–2020. The emission budget is calculated using a straight-line trajectory starting in 2010 from the previous target for the first commitment period of the Kyoto Protocol (108.0 per cent of the 1990 level) and

ending at 5.0 per cent below the 2000 level in 2020. In absolute terms, the Party's total estimated emission budget for 2013–2020 is reported as 4,628.00 Mt CO_2 eq.

24. In addition to its 2020 target, Australia also has a longer-term target of reducing GHG emissions by 43.0 per cent by 2030 compared with the 2005 level using a point target approach and an emission budget. Following the passage of the Climate Change Act 2022, these targets are now enshrined in legislation. Additionally, several states and territories have introduced their own respective climate change acts, such as the Climate Change and Greenhouse Emissions Reduction Act 2007 in South Australia. States and territories have also introduced GHG mitigation targets for 2030 and net zero targets and are pursuing policies to implement these targets. Australia is also committed to reaching net zero emissions by 2050. All states and territories have set net zero targets for 2050 or earlier (e.g. 2030 for Tasmania, and 2045 for the ACT and Victoria).

2. Assessment of adherence to the reporting guidelines

25. The ERT assessed the information reported in the BR5 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

D. Information on policies and measures

1. Technical assessment of the reported information

26. Australia provided in its NC8 and BR5 information on its PaMs[6] implemented, adopted and planned to fulfil its commitments under the Convention. Australia's set of PaMs has been extensively expanded compared with those previously reported. Furthermore, the ERT notes that the NC8 and BR5 include information on numerous PaMs implemented, adopted and planned at the state and territorial level, in addition to those at the federal level. Since its previous submission, the Australian Government has discontinued several PaMs aimed at addressing energy and climate challenges, including the National Energy Guarantee, the National Energy Productivity Plan, the Smart Cities Plan/City Deals and the Carbon Capture and Storage Research Development and Demonstration Fund. The Solar Communities Program, which last provided funding to support local solar projects in 2018, and the Low Emissions Technology Roadmap have also been discontinued.

27. Australia reported on its policy context and legal and institutional arrangements in place for implementing its commitments and monitoring and evaluating the effectiveness of its PaMs. Australia also provided information on changes to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of progress towards its target. The Energy and Climate Change Ministerial Council, which was established in 2022 and is chaired by the Minister for Climate Change and Energy, plays a pivotal role in coordinating climate action across all levels of government (federal, state and territory, and local) to align energy and climate policies with a view to meeting emission targets and achieving the transition to net zero. It oversees 14 working groups focused on various aspects of decarbonization and energy transformation, supported by the National Energy Transformation Partnership, which fosters collaboration across all levels of government for Australia's energy system overhaul. This institutional framework is geared towards making Australia a renewable energy superpower, underpinned by a significant expansion in PaMs aimed at reducing emissions across multiple sectors.

28. DCCEEW, established on 1 July 2022 to deliver on Australia's climate change and energy agenda and protect its environment and water resources, is entrusted with monitoring and evaluating the progress of PaMs, providing various periodic reports on the Party's climate commitments. Australia has a robust monitoring mechanism established for assessing progress towards its climate target at the highest possible legislative level, the Parliament of

[6] The UNFCCC reporting guidelines on BRs use the term 'mitigation actions', whereas the UNFCCC reporting guidelines on NCs use the term 'policies and measures'. The terms are used interchangeably in this report to refer to the relevant information in either the BR or NC.

Australia, through an annual climate change statement by the Minister for Climate Change and Energy to Parliament. The Climate Change Authority plays a crucial role in the governance of climate policies, with expanded functions under the Climate Change Act 2022 to provide expert advice and review the effectiveness of policies and legislation. The Clean Energy Regulator, established under the Clean Energy Regulator Act 2011, is another independent agency that administers several carbon emission measurement, management, reduction and offset schemes, including the Renewable Energy Target (target of 82 per cent national renewable electricity generation by 2030), the ACCU Scheme, the National Greenhouse and Energy Reporting Scheme, the Safeguard Mechanism, the Guarantee of Origin Scheme and the Nature Repair Market. The Net Zero Economy Agency, established in 2023, engages communities and coordinates government actions to ensure a smooth transition to a net zero economy, emphasizing the importance of public consultation and comprehensive impact analysis in policymaking.

29. Australia's transition to a net zero economy is unlocking clean energy exports and the development of new domestic industries, supported by policies to boost private investment and job creation. The Net Zero Economy Agency, a precursor to the planned net zero economy legislated authority, is responsible for promoting orderly and positive net zero economic transformation, including by coordinating efforts across the Government; supporting workers in closing coal- and gas-fired power stations, and their dependent suppliers in accessing new employment; and supporting regions and communities to transform in an orderly and positive manner.

30. Australia reported 97 PaMs, with the majority of PaMs being for the energy sector, and it provided the estimated emission reduction impacts for some of its PaMs. Where estimated impacts were not provided, the Party clarified that many of the PaMs reported are at an early planning stage, and the estimated impacts will depend on the exact design of each policy or measure once implemented.

31. The key overarching cross-sectoral policy reported by Australia is the Climate Change Act 2022, which sets into legislation Australia's GHG emission targets for 2030 (43.0 per cent below the 2005 level by 2030) and net zero GHG emissions by 2050. The policies with the largest impact on emissions in 2020, and which contributed most to the achievement of Australia's quantified economy-wide emission reduction target, were the Large-scale Renewable Energy Target (22,908 kt CO_2 eq mitigation impact in 2020), the ACCU Scheme (15,476 kt CO_2 eq mitigation impact in 2020) and the Small-scale Renewable Energy Scheme (14,260 kt CO_2 eq mitigation impact in 2020). Through the ACCU Scheme (previously the Emissions Reduction Fund), a range of organizations and individuals are incentivized to adopt new practices and technologies to reduce their emissions or store carbon by earning ACCUs for the emissions stored or avoided. By February 2024, 1,787 projects registered under the Scheme had issued 140 million ACCUs, which could be sold to generate income either to private buyers or to the Government of Australia. All ACCU projects must follow an approved method, with 33 methods in place across all sectors of the economy (7 for the agriculture sector, 1 for CO_2 capture and storage, 6 for energy efficiency, 1 for facilities, 2 for energy (fugitives), 2 for transport, 9 for vegetation management and 5 for waste or wastewater). The Clean Energy Regulator is responsible for administering the Scheme.

32. Key policies that are being implemented to achieve Australia's 2030 target include accelerating the roll-out of renewable electricity, driven by initiatives at the national, state and territory level, the Safeguard Mechanism (targeting all facilities excluding grid-connected electricity generators emitting more than 100,000 t CO_2 eq annual scope 1 GHG emissions (emissions released to the atmosphere as a direct result of an activity, or series of activities, at a facility level)), the comprehensive National Electric Vehicle Strategy and climate reporting standards for large publicly listed companies and financial institutions. The Safeguard Mechanism, in operation since 2016, underwent a major reform in 2023. The reformed mechanism sets legislated limits, known as baselines, on the net emissions of covered facilities, with decline rates applied to the production baselines. These decline rates, set at 4.9 per cent per year (unless a different rate is approved for a facility as a trade-exposed baseline-adjusted facility), which is consistent with Australia's emission reduction target for 2030, are estimated to deliver more than 200 Mt CO_2 eq abatement by 2030. More broadly for the industrial sector, the Powering the Regions Fund provides grant funding to support

decarbonization, with more than AUD 530 million in funding allocated to date. The AUD 600 million Safeguard Transformation Stream and the AUD 400 million Industrial Transformation Stream are open for applications until November 2024, with further rounds to follow, to support industrial decarbonization and new clean energy. In addition to delivering the Industrial Transformation Stream, the Australian Renewable Energy Agency also provides targeted funding support for decarbonizing industry through the National Industrial Transformation Program and the Advancing Renewables Program, and more generally, through its strategic investment priorities focused on supporting Australia's transition to renewable energy and low-emission metals and minerals, the commercialization of renewable hydrogen and the decarbonization of land transport. Australia's National Hydrogen Strategy, released in 2019, sets out 57 nationally coordinated government actions to position Australia as a major producer, user and exporter of clean hydrogen. Funding has been provided by the federal Government (2023–2024 Federal Budget) to accelerate Australia's hydrogen industry and position the country as a global leader in green hydrogen production. The Government of Australia is developing a plan setting out how the country will transition to a net zero economy, and will determine the national 2035 emission reduction target as part of this process. Table 5 provides a summary of the reported information on the PaMs of Australia.

Table 5
Summary of information on policies and measures reported by Australia

Sector	*Key PaMs*	*Estimated mitigation impact in 2020 (kt CO_2 eq)*	*Estimated mitigation impact in 2030 (kt CO_2 eq)*
Policy framework and cross-sectoral measures	Safeguard Mechanism[a] (2023 reforms)	NA	46 305
	ACCU Scheme (formerly the Emissions Reduction Fund)	15 476	20 931
Energy			
Energy supply and renewable energy	Capacity Investment Scheme[a]	NA	NE
	Large-scale Renewable Energy Target	22 908	NE
	Small-scale Renewable Energy Scheme	14 260	NE
Transport	National Electric Vehicle Strategy[a]	NA	NE
IPPU	HFC management – regulations	NE	4 811
Agriculture	Carbon Farming and Land Restoration Program[a]	NA	400
LULUCF	Blue Carbon Conservation, Restoration and Accounting Program[a]	NA	NE
Waste	National Waste Policy Action Plan	NE	NE

Note: The estimated mitigation impacts are estimates of emissions of CO_2 eq avoided in a given year as a result of the implementation of mitigation actions.

[a] In place after 2020.

33. Compared with those reported in the Party's previous submissions, in its BR5 and CTF table 3, for some of the reported policies, the estimated mitigation impacts have significantly increased. For example, the mitigation impact of the Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme was updated for the NC8 and BR5, increasing from a cumulative impact of 19,838 kt CO_2 eq for 2020 under the Renewable Energy Target to 22,908 kt CO_2 eq for the Large-scale Renewable Energy Target and 14,260 kt CO_2 eq for the Small-scale Renewable Energy Scheme for the same year. During the review, Australia provided information on the reasons behind these changes, in particular the strong uptake of renewables between the BR4 and the BR5, which include declining costs, increased investment and renewable energy policies. The ERT notes that providing information on the reasons for substantive changes in emission estimates caused by PaMs would increase understanding of mitigation actions and their effects.

2. Assessment of adherence to the reporting guidelines

34. The ERT assessed the information reported in the NC8 and BR5 of Australia and identified issues relating to completeness and transparency, and thus adherence to the

UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are described in tables I.1 and II.1.

3. Domestic and regional programmes and legislative arrangements and procedures related to the Kyoto Protocol

(a) Technical assessment of the reported information

35. In its NC8 Australia reported that the implementation of the Kyoto Protocol is underpinned by policies at the federal level, such as the ACCU Scheme, the Safeguard Mechanism and the Renewable Energy Target. In addition, state and territory governments have developed climate change policies for their regions that reflect the characteristics of each jurisdiction. The responsibility for climate change policymaking in the federal Government lies primarily with DCCEEW. Two other agencies support climate policy governance: the Climate Change Authority, which provides independent expert advice to the Government of Australia on climate change policy, and the Clean Energy Regulator, which is responsible for administering schemes legislated by the Government of Australia for measuring, managing, reducing or offsetting Australia's carbon emissions.

36. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, Australia committed to reducing its GHG emissions to 99.5 per cent of the 1990 level.

37. The Party has arrangements and enforcement procedures to meet its commitments under the Kyoto Protocol, including procedures for addressing non-compliance. Australia uses several sources of information to monitor compliance with its commitments, including quarterly updates of the national GHG inventory, including by economic sector, and the annual state and territory GHG inventories. These quarterly GHG emission estimates are used to inform policymakers on the most recent trends in GHG emissions and allows for any necessary corrective actions to be made in a timely manner.

38. Australia has provisions in place to make information on legislative arrangements and administrative procedures related to compliance and enforcement publicly accessible, such as the obligation that legislation be published electronically in the Commonwealth of Australia Gazette. The Government of Australia makes publications (including publications on legislative arrangements and enforcement and administrative procedures) accessible to the public through various websites established pursuant to the implementation of the Kyoto Protocol.

39. Australia has national legislative arrangements and administrative procedures in place that seek to ensure that the implementation of activities under Article 3, paragraph 3, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. In its NC8 Australia highlighted two arrangements: the ACCU Scheme, where eligible land management projects, subject to regulatory approvals, can earn and sell ACCUs to offset emissions, with established rules to manage non-climate risks; and the Nature Repair Market, a collaborative effort involving remote communities and First Nations people and organizations that acknowledges that their invaluable expertise and traditional knowledge are essential for effective land restoration, which will allow landholders to earn and sell biodiversity certificates by restoring or managing local habitats.

(b) Assessment of adherence to the reporting guidelines

40. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

4. Policies and measures in accordance with Article 2 and minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol

(a) Technical assessment of the reported information

41. In the NC8 Australia reported information on how it strives to implement PaMs under Article 2 of the Kyoto Protocol in such a way as to minimize adverse effects, including the adverse effects of climate change and effects on international trade and social, environmental and economic impacts on other Parties, especially developing country Parties.

42. The NC8 includes information on how Australia promotes and implements the decisions of ICAO and IMO to limit emissions from aviation and marine bunker fuels. At the 41st session of the ICAO Assembly, in October 2022, Australia fully supported the endorsement of a long-term aspirational goal for international aviation of net zero carbon emissions by 2050. Other measures that complement the goal include Australia's participation in the Carbon Offsetting and Reduction Scheme for International Aviation, the voluntary phase of which commenced in 2019. Australia supports the efforts of IMO to reduce GHG emissions from international shipping. IMO is aiming to reduce the carbon intensity of international shipping by at least 40 per cent by 2030. In November 2022, Australia signed up to the Green Shipping Challenge, which encourages countries, ports and shipping companies to announce actions to align the industry with the Paris Agreement goal to keep global warming below 1.5 °C.

43. Further information on how Australia strives to implement its commitments under Article 3, paragraph 14, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties was reported in the 2022 annual submission. Australia reported on how it addresses domestic and international impacts of response measures. The Party reported information on what it prioritized in implementing its commitments under Article 3, paragraph 14, including bilateral consultation with other Parties and engagement in international platforms, such as the forum on the impact of the implementation of response measures.

44. Furthermore, Australia helps to minimize the economic and social impacts of response measures by supporting its economic diversification and a transition towards lower-emission forms of energy and other technologies, while strengthening employment and economic growth by allocating AUD 1 billion to climate development assistance in 2015–2020 and AUD 2 billion in 2020–2025 through a development cooperation programme that promotes a shift to lower-emission development in the Indo-Pacific region.

(b) Assessment of adherence to the reporting guidelines

45. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

E. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry and progress in achieving the quantified economy-wide emission reduction target

1. Technical assessment of the reported information

46. On its emissions and removals from LULUCF activities, Australia reported in CTF tables 4 and 4(a) that the net contribution of LULUCF was 27,204.28 t CO_2 eq in 2020. Australia reported that it did not use units from market-based mechanisms under the Kyoto Protocol. Table 6 illustrates Australia's total GHG emissions, contribution of LULUCF and use of units from market-based mechanisms towards achieving its target.

Table 6
Summary of information on greenhouse gas emissions, use of units from market-based mechanisms and land use, land-use change and forestry by Australia
(kt CO_2 eq)

Year	*Emissions excluding LULUCF*	*Contribution of LULUCF*	*Use of units from market-based mechanisms*	*Net emissions including LULUCF and market-based mechanisms*
2000 (base year)	489 528.65	65 992.84	NA	555 521.49
2013	532 267.33	19 083.13	NA	551 350.46
2014	526 711.78	20 036.57	NA	546 748.35
2015	534 936.02	–1 773.28	NA	533 162.74
2016	543 976.81	–29 355.80	NA	514 621.01
2017	550 874.87	–37 886.64	NA	512 988.23
2018	552 484.02	–26 038.48	NA	526 445.54
2019	546 606.62	–33 092.44	NA	513 514.18
2020	528 149.46	–27 204.28	NA	500 945.18
Cumulative 2013–2020	4 316 006.91	–116 231.22	NA	4 199 775.69
			Emission budget 2013–2020[a]	4 628 000.00

Sources: Australia's BR5 and BR5 CTF tables 2(a), 4, 4(a)I, 4(a)II and 4(b), for which GWP values from the AR4 were used.
[a] Corresponds to the 2020 target reported in Australia's BR5.

2. Assessment of adherence to the reporting guidelines

47. The ERT assessed the information reported in the BR5 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

3. Assessment of achievement of the quantified economy-wide emission reduction target

48. In assessing the Party's achievement of its 2020 target on the basis of the information reported in its BR5, the ERT noted that Australia committed to reducing its emissions to 5.0 per cent below the 2000 level by 2020 and that it reported that it will use an emission budget approach for 2013–2020 (see paras. 22–23 above). Between 2013 and 2020 Australia's total GHG emissions excluding LULUCF amounted to 4,316.01 Mt CO_2 eq, and the contribution of LULUCF amounted to –116.23 Mt CO_2 eq, resulting in a net figure of 4,199.78 Mt CO_2 eq, which equals 90.7 per cent of the Party's emission budget for 2013–2020 (4,628.00 Mt CO_2 eq). No market-based mechanisms were used for achievement of the quantified economy-wide emission reduction target. The ERT concluded that, on the basis of the information reported in the BR5, the total GHG emissions excluding LULUCF of Australia including the contribution of LULUCF do not exceed the Party's emission budget corresponding to the 2020 target, and thus that the target has been achieved.

F. Projections

1. Projections overview, methodology and results

(a) Technical assessment of the reported information

49. Australia reported in its BR5 and NC8 updated projections for 2030–2035 relative to actual inventory data for 2020 under the WEM scenario, using GWP values from the AR5. The WEM scenario reported by Australia includes PaMs implemented and adopted until September 2022.

50. In addition to the WEM scenario, Australia reported the WAM scenario. Australia provided a definition of its scenarios, explaining that its WEM scenario includes existing policies, such as the Large-scale Renewable Energy Target, the Small-scale Renewable Energy Scheme, state and territory renewable energy and energy storage targets, the ACCU

Scheme and initiatives under the Australian Renewable Energy Agency. The WAM scenario includes announced PaMs that were subject to ongoing consultation and detailed design, including reforms to the Safeguard Mechanism, the Net Zero Plan (which is being developed to achieve net zero by 2050 and is supported by six sectoral decarbonization plans) and elements of the Rewiring the Nation programme. There are some impacts of the Safeguard Mechanism already accounted for in the WEM scenario associated with the purchase of ACCUs. The definition of the WAM scenario in the NC8 and BR5 and CTF table 6(c) clearly sets out the additional estimated impacts from elements of the reforms to the Safeguard Mechanism that were not already accounted for in the WEM scenario. The definitions indicate that the scenarios were prepared in accordance with the UNFCCC reporting guidelines on BRs and the UNFCCC reporting guidelines on NCs.

51. The projections are presented on a sectoral basis, using the same sectoral categories as those used in the reporting on mitigation actions, and on a gas-by-gas basis for CO_2, CH_4, N_2O, PFCs, HFCs and SF_6 (treating PFCs and HFCs collectively in each case). Emissions of NF_3 do not currently occur in Australia, nor are they projected to in the future. The projections are also provided in an aggregated format for each sector and for a Party total using GWP values from the AR5. While the projection scenarios were presented on a by-sector, by-gas level, the underlying appraisal of the impact of the reforms to the Safeguard Mechanism, which is an adopted measure reported in the WAM scenario, was not at a per-sector, per-gas level, with all impacts allocated in the WAM scenario across CO_2, CH_4 and N_2O and in the energy sector. During the review, the Party clarified that this approach has subsequently been significantly revised and improved, within the 2023 national projections, to derive per-sector and per-gas estimates of the mitigation impact of this measure.

(b) Methodology, assumptions and changes since the previous submission

52. The methodology used for the preparation of the projections has been revised and improved in comparison with the emission projection methodology used for the NC7. During the review, Australia provided information on the changes made since the submission of its NC7 to the assumptions, methodologies, models and approaches used for the projection scenarios, which comprise:

(a) Improving the stationary energy model to encompass projections of energy use specific to the mining and manufacturing subsectors;

(b) Improving fugitive gas emission models to enable projections at the gas basin (a specific geographical area or region where natural gas extraction, production and distribution activities occur) level;

(c) Incorporating state and territory waste generation targets within the solid waste model;

(d) Several improvements to the transport model, such as updating the light-duty vehicle emission intensity time series, forecasts for light-duty vehicle technology uptake and freight activity projection data.

53. To prepare its projections, Australia relied on key underlying assumptions relating to population, gross domestic product, electricity generation forecasts (fossil and renewable separately), resource production forecasts (e.g. coal, LNG, iron ore, aluminium, iron and steel), gas consumption in the residential and commercial sectors, livestock forecasts (e.g. grazing beef, grain-fed beef and dairy cattle), solid waste disposal and annual road transport activity data. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections. CTF table 5 in the NC8 presents a larger number of time series assumptions used in the projection modelling compared with previous submissions. The time series information is presented at a higher level of resolution than in previous submissions (e.g. splitting beef cattle into two subgroups), which increased transparency. The updates include corrections to previous gas consumption statistics (for historic data) and projections, as provided to DCCEEW by the Australian Energy Market Operator. Revisions to the solid waste modelling and consideration in the NC8 of the state and territory waste generation reduction target led to a projected level of waste arising that was 18 per cent lower in 2030 compared with the previous submission,

which underpins a much greater reduction in waste sector emissions over 2025–2030 compared with the previous analysis.

(c) Results of projections

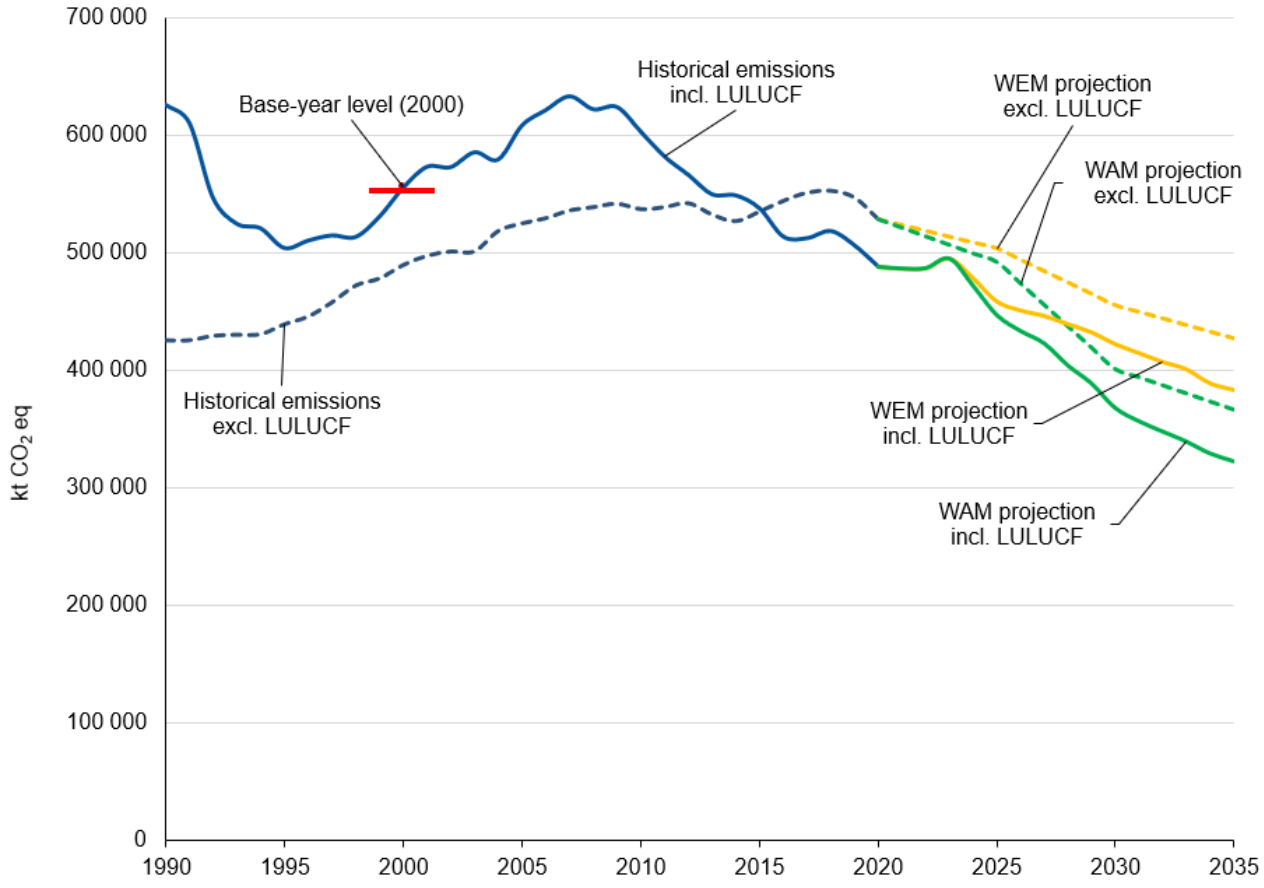
54. The projected emission levels under different scenarios are presented in table 7 and figure 1. When compared against Australia's target of a reduction of 43.0 per cent by 2030 against a 2005 baseline (across all sources and sinks, including LULUCF), the WEM projection estimates a 32.0 per cent reduction in 2030 relative to 2005, while the WAM projection estimates a 40.7 per cent reduction in 2030 relative to 2005.

Table 7
Summary of greenhouse gas emission projections for Australia

	GHG emissions (kt CO_2 eq/year)	*Change in relation to 1990 level (%)*	*Change in relation to 2020 level (%)*
Inventory data 1990	640 635.73	NA	NA
Inventory data 2000 (base year)	569 340.70	–11.1	NA
Inventory data 2020	498 112.39	–22.2	NA
WEM projections for 2030	422 296.97	–34.1	–15.2
WAM projections for 2030	368 471.14	–42.5	–26.0
WEM projections for 2035	383 266.90	–40.2	–23.1
WAM projections for 2035	323 294.54	–49.5	–35.1

Source: Australia's BR5 CTF tables 6(a) and 6(c), for which GWP values from the AR5 were used.
Note: The projections are of GHG emissions including LULUCF, because LULUCF is included in the Party's target. The Party did not report indirect CO_2 emissions.

Figure 1
Greenhouse gas emission projections reported by Australia

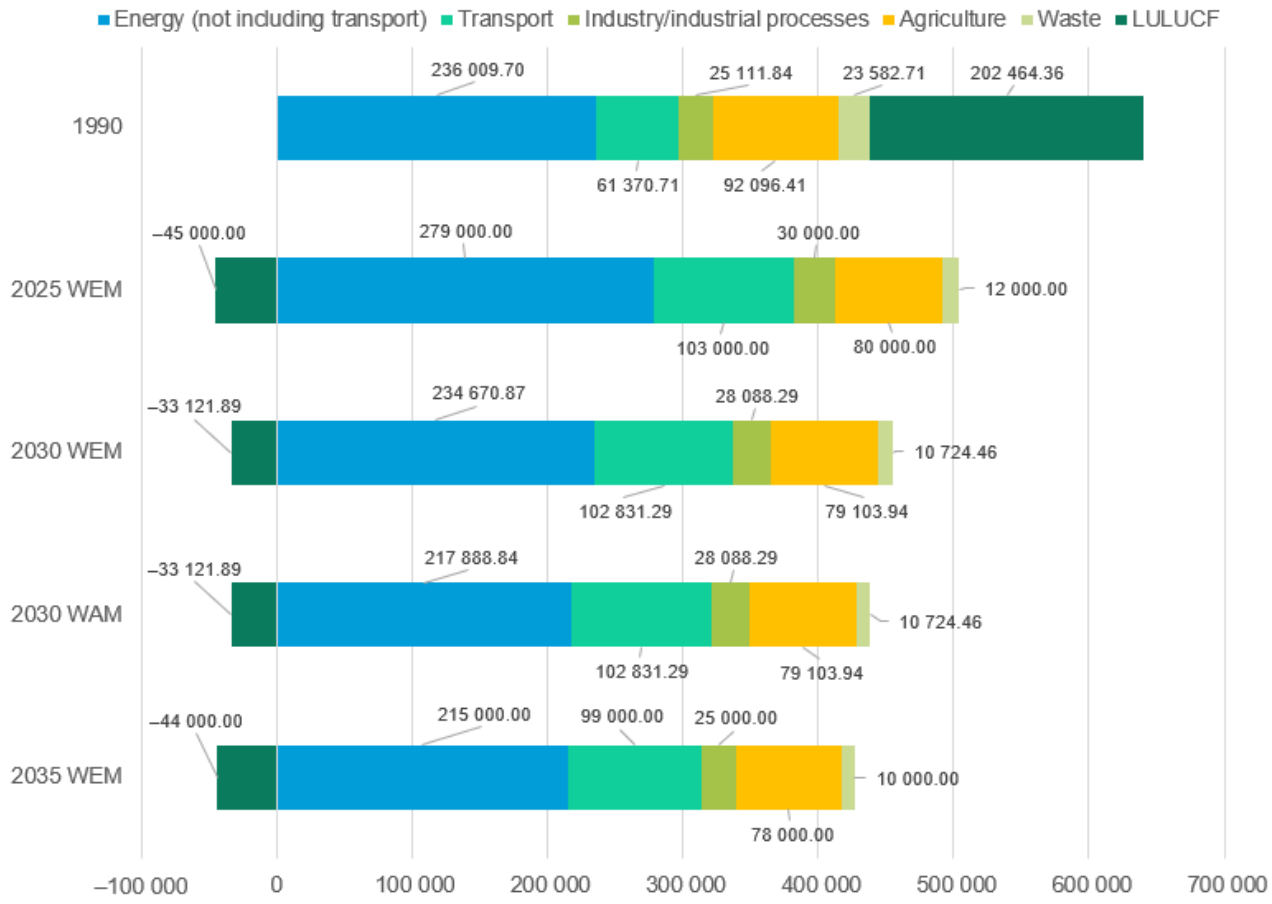


Source: Australia's BR5 CTF tables 1 and 6 (total GHG emissions including and excluding LULUCF), for which GWP values from the AR5 were used.

55. Australia's total GHG emissions excluding LULUCF are projected under the WEM scenario to decrease by 3.9 per cent below the 1990 level by 2030. When including LULUCF, total GHG emissions are projected under the WEM scenario to decrease by 34.1 per cent below the 1990 level by 2030. Under the WAM scenario, emissions in 2030 are projected to be lower than those in 1990 by 42.5 per cent including LULUCF.

56. Australia presented the WEM and WAM scenarios by sector for 2030 and the WEM scenario by sector for 2025 and 2035, as summarized in figure 2 and table 8.

Figure 2
Greenhouse gas emission projections for Australia presented by sector
(kt CO_2 eq)



Sources: Australia's BR5 CTF tables 6(a) and 6(c) and NC8 table 5.1, for which GWP values from the AR5 were used.
Note: The bar for the 2030 WAM scenario does not include the contribution from Safeguard Mechanism reforms.

Table 8
Summary of greenhouse gas emission projections for Australia presented by sector

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2030		*2035*		*1990–2030*		*1990–2035*	
Sector	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
Energy (not including transport)	236 009.70	234 670.87	217 888.84	215 000.00	NE	–0.6	–7.7	–8.9	NA
Transport	61 370.71	102 831.29	102 831.29	99 000.00	NE	67.6	67.6	61.3	NA
Industry/ industrial processes	25 111.84	28 088.29	28 088.29	25 000.00	NE	11.9	11.9	–0.4	NA
Agriculture	92 096.41	79 103.94	79 103.94	78 000.00	NE	–14.1	–14.1	–15.3	NA
LULUCF	202 464.36	–33 121.89	–33 121.89	–44 000.00	NE	–116.4	–116.4	–121.7	NA

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2030		*2035*		*1990–2030*		*1990–2035*	
Sector	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
Waste	23 582.71	10 724.46	10 724.46	10 000.00	NE	–54.5	–54.5	–57.6	NA
Other (Safeguard Mechanism)	NA	NA	–37 043.80	NA	NE	NA	NA	NA	NA
Total GHG emissions excluding LULUCF	**438 171.37**	**455 418.85**	**401 593.02**	**427 000.00**	**367 409.96**	**3.9**	**–8.3**	**–2.5**	**–16.1**

Sources: Australia's BR5 CTF tables 6(a) and 6(c) and NC8 table 5.1, for which GWP values from the AR5 were used.

57. According to the projections reported for 2030 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the LULUCF sector, which changes from a source in 1990 to a sink in 2030, with an absolute change in annual emissions of 235,586 kt CO_2 eq, amounting to projected reductions of 116.4 per cent between 1990 and 2030. Emissions from the transport sector are projected to increase by 67.6 per cent between 1990 and 2030. The pattern of projected emissions reported for 2035 under the same scenario remains the same.

58. Australia presented the WEM and WAM scenarios by gas for 2030 and 2035, as summarized in table 9.

Table 9
Summary of greenhouse gas emission projections for Australia presented by gas

	GHG emissions and removals (kt CO_2 eq)					*Change (%)*			
		2030		*2035*		*1990–2030*		*1990–2035*	
Gas[a]	*1990*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*	*WEM*	*WAM*
CO_2	278 154.16	317 493.51	301 156.79	294 000.00	NE	14.1	8.3	5.7	NA
CH_4	140 149.24	112 394.62	111 987.85	109 000.00	NE	–19.8	–20.1	–22.2	NA
N_2O	14 303.46	16 758.99	16 720.45	17 000.00	NE	17.2	16.9	18.9	NA
HFCs	1 193.65	8 374.86	8 374.86	7 000.00	NE	601.6	601.6	486.4	NA
PFCs	4 143.53	276.10	276.10	NE	NE	–93.3	–93.3	NA	NA
SF_6	227.33	120.77	120.77	NE	NE	–46.9	–46.9	NA	NA
NF_3	NO	NO	NO	NO	NE	NA	NA	NA	NA
Total GHG emissions without LULUCF	**438 171.37**	**455 418.85**	**401 593.02**[b]	**427 000.00**	**367 409.96**	**3.9**	**–8.3**	**–2.5**	**–16.1**

Sources: Australia's BR5 CTF tables 6(a) and 6(c) and NC8 table 5.1, for which GWP values from the AR5 were used.
[a] Australia did not include indirect CO_2 emissions in its projections.
[b] Includes 37,043.80 kt CO_2 eq abatement from the Safeguard Mechanism.

59. Australia has improved its reporting on projections, modelling and supporting documentation since the previous submissions, and has continued efforts to further improve the projections in the period between the NC8 and BR5 submissions and the review. Emission projection modelling included many new parameters (e.g. impacts of PaMs and uptake) per sector and in some cases per installation. Australia also presented relevant information on factors and activities applied in the projection modelling for many key sectors for 1990–2035. The information on underlying modelling parameters does not include information on future fuel prices. During the review, the Party explained that fuel prices are not a primary input to the bottom-up modelling methodology, as they are already considered within upstream modelling of other trends, such as demand for resources and electricity generation. The ERT noted that future fuel prices will exert a key influence on Australia's ability to transform the energy sector. According to the NC8 and BR5 and clarifications provided by the Party during the review, the reporting team works to a planned annual cycle with specific meetings and periods of consultation with data providers, policy leads from across the

Government, and state and territory projection teams to establish priorities and opportunities for the improvement of methods and inputs. Through engagement with a technical working group of the federal Government, the DCCEEW projections team has an opportunity to communicate issues to support its work and seek inputs from other departments.

(d) Assessment of adherence to the reporting guidelines

60. The ERT assessed the information reported in the NC8 and BR5 of Australia and identified issues relating to completeness and transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are described in tables I.2 and II.2.

2. Assessment of the total effect of policies and measures

(a) Technical assessment of the reported information

61. In its NC8 Australia presented the estimated and expected total effect of implemented and adopted PaMs compared with a situation without such PaMs. Information is presented in terms of GHG emissions avoided or sequestered, by gas (on a CO_2 eq basis), in 2025, 2030 and 2035.

62. Australia reported that the total estimated effect of its implemented and adopted PaMs is 131.00 Mt CO_2 eq in 2025, 205.00 Mt CO_2 eq in 2030 and 258.00 Mt CO_2 eq in 2035. According to the information reported in its NC8, PaMs implemented in the energy sector will deliver the largest emission reductions. PaMs under the WAM scenario are focused on the power sector and the high-emitting industrial sites that are encompassed within the Safeguard Mechanism. Since the NC8 and BR5 submissions, the Australian projections team has conducted a new, extensive analysis to model the expected impacts across the range of high-emitting sectors, which is reported in the 2023 national emission projections report. The analysis explores the detailed impacts upon installation-level trends made possible owing to the reforms to the Safeguard Mechanism.

(b) Assessment of adherence to the reporting guidelines

63. The ERT assessed the information reported in the NC8 of Australia and identified issues relating to completeness and transparency and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.2.

3. Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

(a) Technical assessment of the reported information

64. In the NC8 Australia reported that it did not use market-based mechanisms to meet its Kyoto Protocol target. Reporting on the supplementarity of such mechanisms is therefore not relevant for Australia.

(b) Assessment of adherence to the reporting guidelines

65. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

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

1. Technical assessment of the reported information

(a) Approach and methodologies used to track support provided to non-Annex I Parties

66. In its NC8 and BR5 Australia reported information on its provision of financial, technological and capacity-building support to non-Annex I Parties.

67. Australia has provided support that it considers to be "new and additional". Australia's process for determining resources to be "new and additional" is through the annual appropriation of climate finance through the national budget. Australia only counts finance to be climate finance if the investment targets climate change adaptation or mitigation, with a positive overall contribution to communities and countries in terms of development and well-being.

68. Australia considers the climate change vulnerability of a country or region as the key criterion in providing bilateral, regional and global financial, technological or capacity-building support, and, as a consequence, focuses strongly on the neighbouring Pacific and Oceania region, small island developing States and the least developed countries. Australia also provides support to South-West and South-East Asia and to other countries through bilateral, regional and global programmes, and multilateral funds.

69. Australia's national approach to tracking the provision of support, including information on indicators, delivery mechanisms used and allocation channels tracked, is based on OECD DAC Rio statistical markers for climate change mitigation and adaptation. For contributions through multilateral channels, Australia counts a percentage of its core contributions according to the imputed shares calculated by OECD DAC for 2019 and 2020, respectively. For bilateral, regional and global programmes, Australia assesses each activity to determine if it has an explicit climate change objective (based on OECD DAC guidance) and whether this is a primary or secondary objective.

70. A dedicated government section within the Department of Foreign Affairs and Trade's Climate Resilience and Finance Branch reports on climate finance, and trains programme managers across Government about accurate climate finance reporting. This team provides quality assurance for reported figures.

71. Australia has quality assurance processes, including field-based programme managers who effectively monitor financial support provided to developing countries. Financial data are tracked using the AidWorks system of the Department of Foreign Affairs and Trade. In the NC8, the Party reported that the AidWorks database has been improved to better collect the information needed to meet its various climate finance reporting obligations. The platform now also records the climate finance percentage (both overall and by type of support) for each investment.

(b) Financial resources

72. Australia reported in its NC8 and BR5 information on its provision of financial support to non-Annex I Parties as required under the Convention, including on financial support committed and disbursed, allocation channels and annual contributions. Australia's climate finance is primarily delivered through its development programme. In 2020, 15 per cent of climate finance was delivered through bilateral and regional programmes, with climate as a primary objective; 41 per cent of climate finance was provided through programmes that had climate as a secondary objective; and 44 per cent was provided through relevant contributions to multilateral environment funds and development banks. The proportion of climate finance for contributions to multilateral environment funds and development banks is standardized for all donors by OECD.

73. Australia described how it seeks to ensure that the resources it provides to non-Annex I Parties effectively address their adaptation and mitigation needs. Australia's development cooperation aligns with partner government priorities through aid investment plans, which are regularly revisited and discussed with partner Governments. During the reporting period

covered by the BR5 and NC8, Australia produced an aid investment plan for each partner country. These plans outlined the strategic intent and development context unique to each partner country, as well as considering how Australia could contribute to the national development plans of partner Governments, including emission reduction strategies and road maps to achieve NDCs. Bilateral aid programmes were reviewed annually through country and regional development programme progress reports. These processes involved discussions with partner Governments and other stakeholders, and ensure that the intent, progress and objectives of Australia's development programmes are meeting the needs of developing countries.

74. During the review, Australia provided additional information regarding the new International Development Policy released in August 2023, which recognizes that climate cuts across all sectors and policies. The policy sets a new target, according to which at least half of Australia's new bilateral and regional investments, valued at over AUD 3 million, should have a climate change objective from 2024–2025, rising to 80.0 per cent of such investments in 2028–2029. The policy includes a performance delivery framework that is supported by development partnership plans that translate into actionable development priorities shared with partners. These new development partnership plans are being prepared with partner countries, in consultation with broader stakeholders, identifying agreed Government of Australia activities to be delivered through country and regional programmes and investments. Development partnership plans are mandated to include climate risk, and must take NDCs and national adaptation plans into account during their development. Development partnership plans supersede the aid investment plans that were used during the NC8 and BR5 reporting period.

75. During the review, Australia emphasized that the process to identify and prioritize needs must be flexible and differ according to each country's unique national processes and bilateral arrangements. For example, in Tonga, Australia works through the Joint Policy Reform Matrix, alongside other participating development partners, to ensure that international development assistance aligns with the Government of Tonga's needs and priorities. Regular Joint Policy Reform Matrix missions, coordinated by the World Bank, offer the opportunity to jointly determine shared targets to strengthen public finances and administration, enhance resilience to climate change and disasters, and improve human capital and competitiveness.

76. Table 10 summarizes the information reported by Australia on its provision of financial support.

Table 10
Summary of information on provision of financial support by Australia in 2019–2020
(Millions of United States dollars)

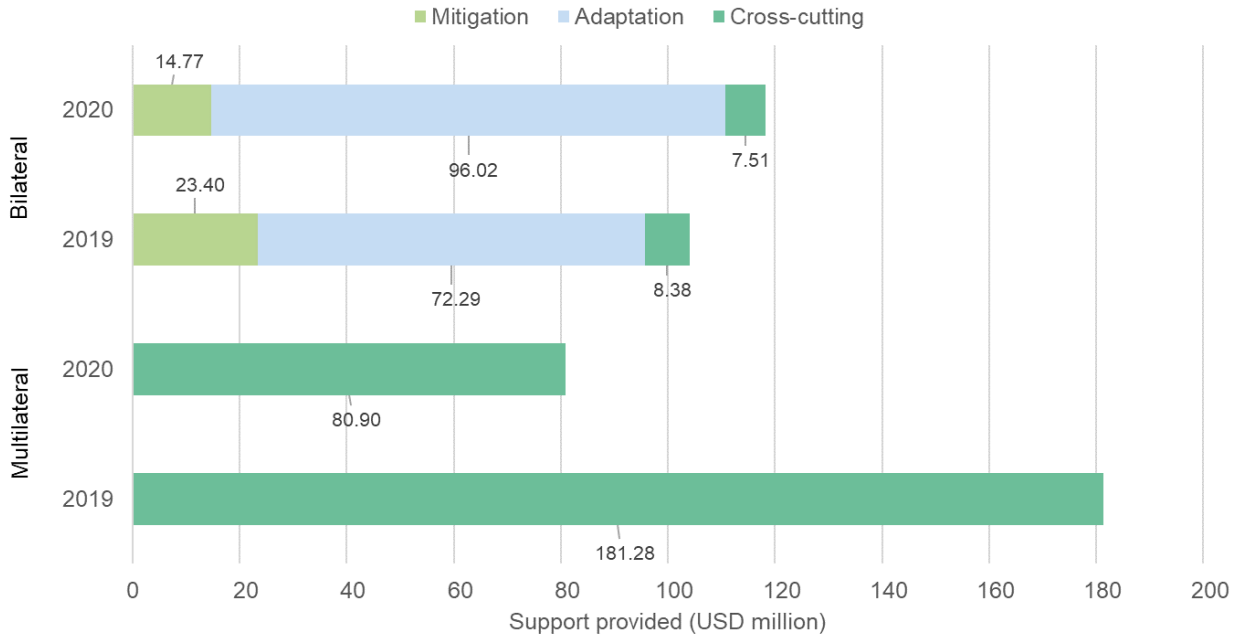
Allocation channel of public financial support	*Disbursement*
ODA	5 757.19
Climate-specific contributions through multilateral channels, including:	262.17
Global Environment Facility	23.50
Green Climate Fund	10.67
Other multinational climate change funds	11.09
Financial institutions, including regional development banks	202.96
United Nations bodies	13.96
Climate-specific contributions through bilateral, regional and other channels	222.37

Sources: Australia's BR5 CTF tables and Query Wizard for International Development Statistics, available at http://stats.oecd.org/qwids/.

77. Australia's climate-specific public financial support[7] totalled USD 484.54 million in 2019–2020, representing an increase of 1.1 per cent since the BR4 (2017–2018).[8] According to the NC8 and BR5, it is expected that financial support provided by Australia to developing countries will continue to increase. At the twenty-sixth session of the Conference of the Parties in Glasgow, United Kingdom of Great Britain and Northern Ireland, Australia committed to provide AUD 2 billion of climate finance in 2020–2025. This commitment was subsequently increased to AUD 3 billion in 2023. The Government of Australia increased its ODA budget by AUD 1.7 billion over five years from October 2022, including new spending on climate action.

78. Australia contributed USD 262.17 million through multilateral channels in 2019–2020. The contributions were made to specialized multilateral climate change funds, such as the Global Environment Facility, the Green Climate Fund and other multilateral financial institutions, including regional development banks. Information on financial support from the public sector provided through multilateral and bilateral channels and the allocation of that support by target area is presented in figure 3 and table 11. During the review, the Party explained that the 2019 contribution through multilateral sources included some forward provision of the 2020 contributions; the Party explained that both the 2019 and 2020 contributions were fully provided.

Figure 3
Provision of support by Australia in 2019–2020



Source: Australia's BR5 CTF tables 7, 7(a) and 7(b).

Table 11
Summary of information on channels of financial support reported by Australia
(Millions of United States dollars)

Allocation channel of public financial support	*Amount disbursed in 2019–2020*	*Amount disbursed in 2017–2018*	*Change (%)*[a]	*Share of total (2019–2020) (%)*
Detailed information by type of channel				
Multilateral channels				
Mitigation	–	–	–	–
Adaptation	–	–	–	–
Cross-cutting	262.17	241.69	8.5	100.0

[7] For the remainder of this chapter, the term "financial support" means climate-specific financial support, unless otherwise noted.

[8] Comparisons with data from previous years have been calculated directly without adjusting for inflation.

Allocation channel of public financial support	*Amount disbursed in 2019–2020*	*Amount disbursed in 2017–2018*	*Change (%)*[a]	*Share of total (2019–2020) (%)*
Other	–	–	–	–
Total multilateral	**262.17**	**241.69**	**8.5**	**100.0**
Bilateral channels				
Mitigation	38.17	42.03	–9.2	17.2
Adaptation	168.31	176.36	–4.6	75.7
Cross-cutting	15.89	19.25	–17.5	7.1
Other	–	–	–	–
Total bilateral	**222.37**	**237.64**	**–6.4**	**100.0**
Total multilateral and bilateral	**484.54**	**479.33**	**1.1**	**100.0**

Sources: Australia's BR5 CTF tables 7, 7(a) and 7(b), and the report on the technical review of the BR4 of Australia for 2017–2018 data.

[a] Note that variances in contribution amounts from year to year can occur that are not reflective of trends, owing to factors such as the biennial or triennial contribution cycles of some multilateral funds, the timing of approvals for individual bilateral projects or changes in exchange rates.

79. The Party reported information on the total financial support provided through bilateral, regional and other channels (USD 222.37 million) in 2019–2020. During the reporting period, Australia placed a particular focus on small island developing States and the least developed countries in the Indo-Pacific region. The majority of bilateral, regional and other support was provided to Pacific island countries. During the review, the Party noted that in recent years, since the NC8 and BR5, although the Pacific island countries are still its primary focus, particularly for adaptation climate finance, Australia has also been increasingly supporting the renewable energy transition goals of countries in South-East Asia. Australia's geographic pattern of support is unique, deliberate and holds great importance to the Party.

80. The NC8 and BR5 provide information on the types, sectors and instruments of support provided. For 2019–2020 Australia's financial support provided was 100 per cent in the form of grants. The information reported shows that in 2019–2020 the average shares of bilateral and regional financial support allocated to mitigation, adaptation and cross-cutting projects were 17.2, 75.7 and 7.1 per cent respectively. In 2019–2020 the majority of financial contributions through bilateral and regional channels in Pacific island countries focused on adaptation with a view to reducing vulnerability to the existential threats climate change poses to livelihoods, security and well-being. However, across South Asia and South-East Asia, the focus was on supporting partner Governments' plans to reach net zero emissions and provide access to affordable clean energy. Australia also supports hazard and risk science, water security and resilient infrastructure development.

81. While Australia reported no private finance mobilized for the reporting period, it recognizes that for developing countries to realize their net zero ambitions, large-scale mobilization of private finance and investment is needed to support public funds. Australia explained that it is increasing the development and deployment of non-grant financing mechanisms that help to connect ODA grant financing with private sector investment, with a renewed focus on using these mechanisms to focus on the climate. These mechanisms are used for infrastructure (e.g. renewable energy) and for enterprises that will support the shift to greener supply chains in the region. Since 2019–2020 Australia's shift in focus of its non-grant finance mechanisms towards climate has seen a material increase in the amount of private finance mobilized towards the climate, and Australia explained that this information will be captured in the next reporting period.

82. An example of Australia's support is the Australia Pacific Climate Partnership, which is a programme that supports the Government of Australia to integrate climate and disaster resilience in Australia's aid programme in the Pacific and Timor-Leste. The project provides technical advice, expertise and resources to programme managers and implementing partners on climate change, disaster risk reduction, and gender, disability and social inclusion. The Party also provided the example of the Australian Infrastructure Financing Facility for the Pacific, which provides financing across 10 major capital works in the Pacific, including two major renewable energy projects in Palau and Solomon Islands.

(c) Technology development and transfer

83. Australia reported on its measures and activities related to technology transfer, access and deployment benefiting developing countries, including activities undertaken by the public and private sector. It provided examples of support provided for the deployment and enhancement of the endogenous capacities and technologies of non-Annex I Parties, such as through the Climate and Oceans Support Program in the Pacific, through which Australia's Bureau of Meteorology works with Pacific country counterparts to prepare for climate extremes and communicate seasonal forecasts using a combination of the knowledge of Indigenous Pacific communities on plant and animal behaviour, temperature, rainfall and astronomical observations with developed country technology to provide information on sea level rise and data on tides and waves for shipping and fishing.

84. The Party provided information in the BR5 and NC8 on recipient countries, target areas, measures and focus sectors of technology transfer programmes. Consistent with the overall geographic pattern of support, the examples of technology transfer provided in CTF table 8 reflect Australia's focus on climate change assistance to small island developing States and the least developed countries in the Indo-Pacific region, notably Pacific island countries. While technology development and transfer occurs across all sectors of Australia's development programme, the two sectors with the greatest investments are infrastructure and transport. Technology development and transfer also occurs in the water, agriculture, education, food, fisheries, governance and finance sectors. The Party noted that the sectoral focus is dependent upon the priorities of partner countries.

85. Australia reported on its measures and activities, including on activities implemented since the NC7 and BR4, in relation to technology transfer by providing project examples in the NC8. During the review, the Party provided the ERT with 16 examples of new activities that commenced during the reporting period, including the Coral Reef Innovation Project and Promoting Rural Income through Support in Agriculture. Australia also described success stories in relation to technology transfer, in particular measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies. This information was reported in table 7.1 of the NC8, which noted the Climate and Oceans Support Program in the Pacific as a success story. The ERT acknowledges the efforts of Australia to address the recommendation of the previous ERT to include success stories in the NC8 and BR5.

(d) Capacity-building

86. Australia reported on its capacity-building support for mitigation, adaptation and technology that responds to the existing and emerging needs identified by non-Annex I Parties. It described individual measures and activities related to capacity-building support in textual and tabular format. For the tabular format, the information was reported in BR5 table 11 and CTF table 9.

87. Australia's capacity-building is underpinned by a localization approach that emphasizes programme implementation by skilled local people. In the NC8, and during the review, the Party provided several examples of skills-building programmes throughout the Indo-Pacific, including the Vanuatu Skills Partnership, the Tonga Skills for Inclusive Economic Growth programme, the Climate Resilient Green Growth project in Papua New Guinea and the Australia Awards programme.

88. During the review, the Party provided additional details about the Australia Pacific Climate Partnership, which responds to requests regarding critical knowledge gaps and has developed tools to make climate and disaster knowledge actionable. The Australia Pacific Climate Partnership has created a series of climate education resources comprised of five pieces of climate and disaster-focused reading material and two handbooks, which have been distributed to primary and secondary schools, and technical and vocational education and training programmes to support climate- and disaster-specific classes in the curriculum in 11 Pacific island countries. The programme also created eight farmer training modules that focus on Fiji to foster innovative and sustainable agriculture practices.

89. Australia has supported climate-related capacity development activities relating to adaptation, mitigation, technology transfer and other sectors. Since the BR4, the focus of support has remained the same in terms of skills-building and ecosystem restoration;

however, the ERT noted that there is a shift in focus away from MRV. Australia also reported on how it has responded to the existing and emerging capacity-building needs of non-Annex I Parties by following the principles of national ownership and country-driven demand approaches to the delivery of support.

2. Assessment of adherence to the reporting guidelines

90. The ERT assessed the information reported in the NC8 and BR5 of Australia and identified issues relating to completeness and transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are described in tables I.3 and II.3.

3. Reporting on finance, capacity-building and technology transfer information related to the Kyoto Protocol

(a) Technical assessment of the reported information

91. In its NC8 Australia reported its activities, actions and programmes undertaken in fulfilment of its commitments under Article 10 of the Kyoto Protocol. Australia provided information on steps taken to promote, facilitate and finance the transfer of technology to developing countries and to build their capacity in order to facilitate implementation of Article 10 of the Kyoto Protocol.

92. Australia provided information on its implementation of Article 11 of the Kyoto Protocol, including how its support addresses the needs of recipient countries. The Party described how its contributions are "new and additional" (see para. 67 above).

(b) Assessment of adherence to the reporting guidelines

93. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the reporting guidelines for supplementary information. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

H. Vulnerability assessment, climate change impacts and adaptation measures

1. Technical assessment of the reported information

94. In its NC8 Australia provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. Australia provided a description of climate change vulnerability and impacts on erosion and infrastructure damage along the coastline, increased threats to tourism infrastructure, disruption to supply chains, damage to cultural sites, heat stress on livestock and crops, coral bleaching, heat-related deaths, and increased fire season duration and bushfire intensity. Since the NC7 Australia has released its first adaptation communication to enhance the visibility and profile of adaptation and to reflect on the adaptation progress made both at home and abroad and planned at different levels of government. The progress includes a commitment to work in partnership with First Nations people to respond to the impacts and adaptation opportunities of climate change and a plan to establish a centre focused on enabling a coordinated response to climate change for the different sectors.

95. Australia has addressed adaptation matters through the adoption of several policies and strategies that seek to build resilience, such as the National Climate Resilience and Adaptation Strategy 2021–2025, the ACT Nature Conservation Strategy 2013–2023, the ACT Planning Strategy (including the planning system review that is under way), Canberra's Living Infrastructure Plan: Cooling the City, and the Climate-wise Landscape Guide for the ACT of the Parliamentary and Governing Agreement of the 10th Legislative Assembly. Table

12 summarizes the information on vulnerability and adaptation to climate change presented in the NC8 of Australia.

Table 12
Summary of information on vulnerability and adaptation to climate change reported by Australia

Vulnerable area	*Examples/comments/adaptation measures reported*
Agriculture and food security	Vulnerability: Increased evapotranspiration and reduced rainfall. Regions impacted by extreme rainfall events will be more at risk from flash and riverine flooding. Increased incidence of forest fires owing to longer periods with reduced precipitation. The appearance of new invasive species and pathogens.
	Adaptation: Under the Future Drought Fund, Australia is supporting adaptation actions, such as equipping farmers with improved climate risk information, fostering the creation of drought resilience plans at various levels, and promoting the development and uptake of drought-resilient agricultural practices and technologies. Additionally, the Carbon + Biodiversity Pilot is exploring market mechanisms to reward landholders and farmers for undertaking plantings that yield both biodiversity benefits and carbon reductions. To complement these initiatives, in October 2018, Australia contributed its plant genetic resources for food and agriculture to the Multilateral System of Access and Benefit-Sharing under the International Treaty on Plant Genetic Resources for Food and Agriculture. This System grants access to crucial crops to farmers, researchers and breeders from around the world, supporting the global endeavour to conserve and use plant genetic resources sustainably, thereby securing food security and advancing sustainable agriculture.
Biodiversity and natural ecosystems	Vulnerability: Heat and rainfall vulnerability, such as heat stress of crops. Increased incidence of forest fires owing to longer periods with reduced precipitation. Reduced water supply owing to changing precipitation patterns. The appearance of new invasive species and pathogens, affecting crop production, grassland and animal husbandry.
	Adaptation: Australia is promoting planting of trees and urban greening, regenerative growth and improvements to soil health, which cause a significant reduction in GHGs from bushfires by reducing the frequency and extent of late dry-season fires.
Coastal zones	Vulnerability: Storm tides, coastal erosion and rising sea levels. Risk of flooding, bringing increased risk to communities. Increase in sea temperature affecting the Great Barrier Reef. Marine heatwaves leading to mass coral reef bleaching events.
	Adaptation: The Australian Government is implementing five projects to restore degraded coastal blue carbon ecosystems in Australia as part of the Blue Carbon Conservation, Restoration and Accounting Program. The Coastal and Estuarine Risk Mitigation Program will help communities to mitigate disasters relating to coastal hazards and regional resilience strategies. The application of high-resolution climate simulations to build preparedness for natural disasters. The application and development of a risk management framework. The introduction of flood mapping by identifying and protecting priority coastal ecosystems. The management and protection of coastal regions. Guidance and direction to stakeholders on the sustainable use and development of the coast. The administration of grant programmes to support coastal councils to design and construct protection works. Applying integrated hazard management plans for coastal and riverine catchments. The coastal wave monitoring programme. Sea level rise modelling and commissioning studies to determine risk and adaptation options for coastal hazards.
Fisheries	Vulnerability: Fish biodiversity has increased from 20 species (from seven families) in 2018 to 55 species (from 13 families) in 2022. Changes in water salinity and quality owing to extreme heat events, leading to ocean acidification. Increases and changes in nutrient levels and species distribution.
	Adaptation: The different territories have incorporated strategies to increase the resilience of habitats and species to climate change. For example, in Western Australia the Conservation and Land Management Act 1984 established a series of management plans to monitor both marine and terrestrial ecosystems and adapt management responses to reduce pressures that can impact the health and sustainability of ecosystems and species. In Western Australia a healthy rivers programme routinely monitors the ecological health of more than 150 river sites and estuaries in order to build the health and resilience of aquatic ecosystems by reducing nutrients and repairing riparian areas.

Vulnerable area	*Examples/comments/adaptation measures reported*
Forests	Vulnerability: Extreme heat resulting in bushfires. Biodiversity losses. Increased susceptibility to threats and extinctions owing to increased heat and reduced rainfall (e.g. Alpine and eucalyptus ecosystems).
	Adaptation: Protection and preservation of tree species; biodiversity planting projects aimed at enhancing ecological diversity by strategically planting a variety of native plant species; and promotion of regenerative growth so that the ecosystem can thrive and regenerate after being disturbed, such as by a controlled burn. The Government of New South Wales is increasing the number of trees in parks, streets and neighbourhoods through the Five Million Trees for Greater Sydney by 2030 project, which will help to reduce the effect of climate change; this is a project that is being replicated in other territories.
Human health	Vulnerability: Extreme events such as heatwaves (high vulnerability for children, elderly people and people with heart disease).
	Adaptation: The Government of Australia is investing in research to strengthen the Australian health system's resilience, preparedness and responsiveness to changing environmental conditions and extreme weather events and to address environmental and health impacts. In late 2021, the National Health and Medical Research Council, through the Special Initiative on Human Health and Environmental Change, awarded the Healthy Environments and Lives Network AUD 10 million over five years and incorporated climate-relevant topics in the training and further education of medical professionals.
Infrastructure and economy	Vulnerability: Sea level and temperature rise and extreme events (floods, heatwaves and bushfires) present challenges to the built environment, including commercial and residential buildings, communications utilities, and transport, energy and water infrastructure.
	Adaptation: The Government of Australia has increased its ambition on adaptation by establishing the Disaster Ready Fund, which spends AUD 200 million every year on disaster preparation and resilience projects. During the design and construction of buildings, new sustainability guidelines for capital works are applied to provide information on the implications of climate change and appropriate responses. Western Australia's State Coastal Planning Policy provides guidance for the incorporation of coastal hazards, including sea level rise, in the determination of land use and coastal zone development.
Water resources	Vulnerability: Increased evapotranspiration and reduced rainfall, leading to increased water demand from communities, agriculture and industries. Risk of interruptions to critical infrastructure and services owing to more extreme weather events. Reduced groundwater recharge and seawater intrusion to coastal aquifers. Reduction of fresh water availability on small islands. Declining riverine health conditions.
	Adaptation: Climate change, sea level rise and a long-term oceanographic data collection programme are used to identify vulnerable coastal areas and inform the planning and design of coastal infrastructure, improve coordination of water consumption for various uses and implement adaptive flood risk management with robust measures.

96. Australia's bilateral and regional cooperation emphasizes support for non-Annex I Parties to prepare for adaptation. In 2019–2020, more than 75.0 per cent of bilateral and regional financial support was for adaptation. Australia provided a detailed description of international adaptation activities, including support for partner countries in adapting to the impacts of climate change, with a focus on the Indo-Pacific region, and continues to make major contributions to address the impacts of climate change through development assistance programmes. During the review, Australia provided information regarding the new International Development Policy, released in August 2023, which mandates all development programming to include climate risk, and must take NDCs and national adaptation plans into account.

2. Assessment of adherence to the reporting guidelines

97. The ERT assessed the information reported in the NC8 of Australia and identified an issue relating to completeness and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.4.

I. Research and systematic observation

1. Technical assessment of the reported information

98. In its NC8 Australia provided information on support for a cross-programme climate adaptation initiative to drive integrative adaptation research and both domestic and international activities, including contributions to the World Climate Programme, the International Geosphere–Biosphere Programme, the Global Climate Observing System and the IPCC. Australia's national agency for scientific research, the Commonwealth Scientific and Industrial Research Organisation, provides measurements of all radiatively important atmospheric constituents, including long-lived GHGs (e.g. CO_2 and N_2O), short-lived climate forcers (e.g. black carbon and CH_4), hydrogen and other pollutants. High-quality atmospheric data are collected at three monitoring stations around Australia as part of the World Meteorological Organization's Global Atmosphere Watch programme. The Commonwealth Scientific and Industrial Research Organisation, which has strong collaborative links with international agencies to ensure that data are calibrated and compatible, delivers a consistent global understanding of atmospheric composition change and the scientific evidence demonstrating that anthropogenic emissions are driving that change. Australia also provided information on the identification of opportunities for and barriers to free and open international exchange of data and information and on action taken to overcome such barriers.

99. Australia has implemented and planned international and domestic policies and programmes on climate change research, systematic observation and climate modelling that aim to advance capabilities to predict and observe the physical, chemical, biological and human components of the Earth's system over space and time. The Commonwealth Scientific and Industrial Research Organisation's research includes climate adaptation and mitigation; modelling and observing systems needed to monitor, understand and predict climate variability; investigation of the impact of weather and climate variability and change; and research into emission reduction technologies. Similarly, the Australian Centre for Excellence in Antarctic Science has a strong focus on research and training for the career development of early career researchers.

100. In terms of activities related to systematic observation, Australia reported on national plans, programmes and support for ground- and space-based climate observing systems, including satellite and non-satellite climate observation. Australia also reported on challenges related to the maintenance of a consistent and comprehensive observation system. Australia has six Centennial Observing Stations, which are recognized by the World Meteorological Organization as providing a high-quality, 100-year record of at least one climate variable. The National Research Infrastructure Roadmap details a path for Australia to build on strong existing national research infrastructure foundations and deliver step-change capability to support future research needs. The ERT noted changes since the NC7; for example, research funding was provided to additional projects such as the Atlas of Living Australia, the Australian Community Climate and Earth System Simulator, the Australian Research Data Commons, the National Sea Simulator and the Pawsey Supercomputing Research Centre.

101. The NC8 reflects action to support capacity-building and the establishment and maintenance of observation systems and related data and monitoring systems in developing countries. Australia provided funding for scientists from developing countries working on global climate change research. The NC8 highlights the Climate and Oceans Support Program in the Pacific, which supported 15 Pacific island countries to monitor, analyse and communicate climate, ocean and sea level information to strengthen climate and disaster resilience, prediction services, training and capacity development. Under the midterm review of the second phase of the Program (2018–2023), Pacific island countries acknowledged its contribution, noting that it fills critical needs in generating short-term seasonal climate projections and capacity-building of national meteorological services.

2. Assessment of adherence to the reporting guidelines

102. The ERT assessed the information reported in the NC8 of Australia and identified an issue relating to completeness, and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.5.

J. Education, training and public awareness

1. Technical assessment of the reported information

103. In its NC8 Australia provided information on its actions relating to education, training and public awareness at the domestic and international level. The Party provided information on the general policy on education, training and public awareness; primary, secondary and higher education; public information campaigns; training programmes; education materials; resource or information centres; the involvement of the public and non-governmental organizations; and its participation in international activities. The Australian curriculum includes sustainability as a cross-curriculum priority. A review of the curriculum carried out in 2020–2022 strengthened this, and schools across the country are progressively implementing the revised curriculum as of 2023. Additionally, Australia is investing in training with a view to ensuring that the future workforce is adept in renewable energy and is equipped with other skills pertinent to a net zero future, as demonstrated by initiatives like the New Energy Skills Program. To aid in climate change mitigation and adaptation, Australia provides extensive public information and resources, including an online learning initiative developed through the Australia Pacific Climate Partnership and data sets on GHG emissions. Furthermore, non-governmental organizations play a crucial role in raising public awareness and understanding of climate change, acting as intermediaries between the public, educators and policymakers.

2. Assessment of adherence to the reporting guidelines

104. The ERT assessed the information reported in the NC8 of Australia and recognized that the reporting is complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

III. Conclusions and recommendations

105. The ERT conducted a technical review of the information reported in the NC8 of Australia in accordance with the UNFCCC reporting guidelines on NCs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting guidelines on NCs and that the NC8 provides an overview of the national climate policy of Australia.

106. The information provided in the NC8 includes most of the elements of the supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. Australia reported on the national system, the national registry, supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol, PaMs in accordance with Article 2 of the Kyoto Protocol, domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures, information under Article 10 of the Kyoto Protocol, and financial resources provided to developing country Parties. Supplementary information under Article 7, paragraph 1, of the Kyoto Protocol on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol was provided by Australia in its 2022 annual submission.

107. The ERT conducted a technical review of the information reported in the BR5 and BR5 CTF tables of Australia in accordance with the UNFCCC reporting guidelines on BRs. The ERT concluded that the reported information mostly adheres to the UNFCCC reporting guidelines on BRs and that the BR5 and its CTF tables provide an overview of emissions and removals related to the Party's quantified economy-wide emission reduction target; assumptions, conditions and methodologies related to the attainment of the target; the progress of Australia towards achieving its target; and the Party's provision of support to developing country Parties.

108. In its NC8, Australia reported on its key national circumstances related to GHG emissions and removals, including its vast size and diverse climate zones, significant population growth (15.0 per cent between 2010 and 2020) and an economy that has more than doubled in size over 30 years, while its emission intensity fell in the same period. The nation has faced challenges in the agriculture sector owing to extreme weather events.

Governance structures, including DCCEEW, support a robust MRV system, allowing for quarterly GHG emission estimates to inform and guide policy. Furthermore, Australia has institutionalized the assessment of climate progress through an annual climate change statement delivered to Parliament. The establishment of the Energy and Climate Change Ministerial Council in 2022 underscores the integrated approach to coordinating energy, climate change and adaptation policies to meet emission targets and facilitate the transition to a net zero economy. The independent Climate Change Authority offers expert policy advice, while the Net Zero Economy Agency ensures community engagement in the net zero transformation. The Nature Repair Market is a collaborative effort which will allow landholders, including First Nations people and organizations, conservation groups and farmers to earn and sell biodiversity certificates by restoring or managing local habitats.

109. Australia's total GHG emissions including LULUCF covered by its quantified economy-wide emission reduction target were estimated to be 9.8 per cent below its 2000 level, using GWP values from the AR4. The changes in Australia's total emissions between 1990 and 2021 were driven mainly by factors such as economic growth. The most significant change in emission trend occurred in the LULUCF sector, which was a net source in 1990 but has been a net sink since 2015. Emissions including LULUCF peaked in 2007 and declined thereafter, owing mainly to lower emissions in the energy sector, the effects of the pandemic and the uptake of wind and solar electricity production in Australia.

110. As reported in the BR5, under the Convention Australia committed to achieving a quantified economy-wide emission reduction target of 5.0 per cent below the 2000 level by 2020, which was made operational through an emission budget approach covering 2013–2020. The target covered CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and NF_3, expressed using GWP values from the AR4, and covered all sources and sectors included in the annual GHG inventory. Emissions and removals from the LULUCF sector were included in the target, and Kyoto Protocol LULUCF classifications were used. Australia reported that it does not plan to make use of market-based mechanisms for achieving its target. In absolute terms, this means that under the Convention Australia's cumulative emissions for the period 2013–2020 cannot exceed 4,628.00 Mt CO_2 eq.

111. In addition to its 2020 target, Australia also reported on its longer-term target of a 43.0 per cent reduction of GHG emissions by 2030 compared with the 2005 level. The Government of Australia is committed to implementing a substantial and rigorous suite of new policies across the economy in order to become a renewable energy superpower and achieve net zero by 2050.

112. Between 2013 and 2020 Australia's total GHG emissions excluding LULUCF amounted to 4,316.01 Mt CO_2 eq, the contribution of LULUCF amounted to –116.23 Mt CO_2 eq, resulting in a net figure of 4,199.78 Mt CO_2 eq, which equals 90.7 per cent of the Party's emission budget for 2013–2020. The ERT concluded that the total GHG emissions excluding LULUCF of Australia including the contribution of LULUCF do not exceed the Party's emission budget (4,628.00 Mt CO_2 eq) corresponding to the 2020 target, and therefore the target has been achieved.

113. The GHG emission projections provided by Australia in its NC8 and BR5 correspond to the WEM and WAM scenarios. Under the WEM scenario, emissions in 2030 are projected to be 34.1 per cent below the 1990 level and 15.2 per cent below the 2020 level. Under the WAM scenario, emissions in 2030 are projected to be 42.5 per cent below the 1990 level and 26.0 per cent below the 2020 level.

114. Australia's main policy framework relating to energy and climate change is the Climate Change Act 2022, which sets out in legislation its GHG emission reduction targets for 2030 and 2050. The Party described the mitigation actions that it has implemented to help it achieve its 2020 target, in particular its ACCU Scheme, the Large-scale Renewable Energy Target and the Small-scale Renewable Energy Scheme. It additionally described the PaMs that it has in place to achieve its 2030 and longer-term targets, which include the Safeguard Mechanism reforms adopted in 2023, its Net Zero Plan and PaMs such as the Capacity Investment Scheme, the Rewiring the Nation programme, the National Energy Performance Strategy, the National Hydrogen Strategy and the National Electric Vehicle Strategy. It has

also provided extensive information on policies implemented, adopted or planned at the state and territory level that are aimed to achieve the respective net zero targets.

115. Australia continued to provide climate financing to developing countries through bilateral and multilateral channels. The NC8 and BR5 provide information on the types, sectors and instruments of support provided. For 2019–2020 Australia's financial support was provided 100 per cent though grants. Australia has increased its contributions by 1.1 per cent since the BR4; its public financial support in 2019–2020 totalled USD 484.54 million. For those years, Australia provided more bilateral support for adaptation than for mitigation and cross-cutting sectors, while overall support (bilateral and multilateral) was higher for the cross-cutting sector than for the adaptation and mitigation sectors. Australia considers the climate change vulnerability of a country or region as the key criterion in providing bilateral, regional and global financial, technological or capacity-building support, and, as a consequence, focuses strongly on the neighbouring Pacific and Oceania region, small island developing States and the least developed countries. As such, the biggest share of support went to bilateral and regional channels in Pacific island countries to address the existential threats that climate change poses to livelihoods, security and well-being. Australia also provides support to South-West Asia and South-East Asia and to some other countries through global programmes and multilateral funds. In South Asia and South-East Asia, the focus was on supporting partner Governments' plans to reach net zero emissions and provide access to affordable clean energy. An example of support is the Australia Pacific Climate Partnership, a programme that integrates climate and disaster resilience in Australia's aid programme in the Pacific and Timor-Leste, providing technical advice, expertise and resources to programme managers and implementing partners on climate change, disaster risk reduction, and gender, disability and social inclusion.

116. Australia continued to provide support for technology development and transfer and capacity-building. Priority for technological and capacity-building support was given to projects in the Pacific and Oceania, notably Pacific island countries. While technology development and transfer occur across all sectors of Australia's development programme, the two sectors with the greatest investments are infrastructure and transport. Technology development and transfer also occurs in the water, agriculture, education, food, fisheries, governance and finance sectors. Priority for capacity-building support was given to projects and programmes in adaptation, mitigation, technology transfer and other sectors, with an overall emphasis on the development of skills. Over time, the focus of technology development and transfer and capacity-building has largely remained the same, and it will continue to be driven by country-driven demand due to the underlying principles of national ownership and approaches to the delivery of support.

117. In its NC8 Australia provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention with regard to adaptation. A key achievement is the development of the adaptation communication, which includes national and subnational adaptation priorities. One successful initiative is the implementation of integrated hazard management plans for coastal and riverine catchments, which has significantly improved the country's resilience to climate-related hazards. The NC8 also provides practical examples of Australia's adaptation actions.

118. In its NC8 Australia provided information on its activities relating to research and systematic observation. The Party provided information on climate processes and research focused on the ocean and climate. Australia has established the Australian Community Climate and Earth System Simulator as part of its national research infrastructure. In the NC8, the Party reported on extensive world-leading research on climate change processes and impacts.

119. In its NC8 Australia provided information on its actions relating to education, training and public awareness. Australia has made significant strides in integrating sustainability into the education system. Awareness and climate change education are supported through the Australian curriculum, which is aimed at ensuring quality and consistency of education for all students. The Party is also preparing its workforce for a sustainable future, highlighted by the New Energy Skills Program, which is aimed at equipping individuals with skills related

to the net zero economy. Australia has made publicly available a plethora of information, including through an online learning initiative of the Australia Pacific Climate Partnership, and actively collaborates with non-governmental organizations to bridge the gap between climate science and community awareness.

120. In the course of the review, the ERT formulated the following recommendations for Australia to improve its adherence to the UNFCCC reporting guidelines on NCs in its next NC:

(a) To improve the completeness of its reporting by:

(i) Including WAM projections for 2035 by sector and by gas (see issue 2 in table I.2);

(ii) Providing information on the financial support provided to assist non-Annex I Parties to adapt to any economic and social consequences of response measures, or explaining why it did not provide such information (see issue 1 in table I.3);

(b) To improve the transparency of its reporting by:

(i) Including quantitative estimates of the effects of its PaMs, or, conversely, if such information is not available, by explaining why it is the case; and by including information on the methods used to estimate the effects of PaMs, for example, explaining how the estimation is based on a comparison between emissions under a baseline scenario and emissions under a WEM scenario (see issue 3 in table I.1);

(ii) In relation to projections, presenting relevant information on factors and activities for each sector where the greatest mitigation impact is expected, for example, in a tabular format, in particular to improve the transparency of the projected time series of the uptake of emerging technologies, such as battery storage and hydrogen across the economy, such as the information provided to the ERT during the review (see issue 8 in table I.2);

(iii) In relation to technology transfer, where activities are undertaken by both the public and private sector, clearly describing which technology transfer activities are undertaken by the public and private sector (see issue 4 in table I.3).

121. In the course of the review of Australia's NC8, the ERT formulated the following recommendation relating to adherence to the reporting guidelines for supplementary information: to improve the completeness of its reporting by including a description of the process and the results of key source identification in its next submission (see issue 1 in table I.6). The ERT concludes that this potential problem of a mandatory nature does not influence the Party's ability to fulfil its commitments for the second commitment period of the Kyoto Protocol.

122. In the course of the review of Australia's BR5, the ERT formulated the following recommendations relating to adherence to the UNFCCC reporting guidelines on BRs:

(a) To improve the completeness of its reporting by providing information on the financial support provided to assist non-Annex I Parties to adapt to any economic and social consequences of response measures, or explaining why it did not provide such information (see issue 1 in table II.3);

(b) To improve the transparency of its reporting by:

(i) Including quantitative estimates of the effects of its PaMs, or, conversely, if such information is not available, by explaining why it is the case (see issue 2 in table II.1);

(ii) In relation to projections, presenting relevant information on factors and activities for each sector, for example, in a tabular format, in particular to improve the transparency of the projected time series of the uptake of emerging technologies, such as battery storage and hydrogen across the economy, such as the information provided to the ERT during the review (see issue 7 in table II.2);

(iii) In relation to technology transfer, where activities are undertaken by both the public and private sector, to clearly describe which technology transfer activities are undertaken by the public and private sector (see issue 4 in table II.3).

Annex I

Assessment of adherence to the reporting guidelines for the eighth national communication of Australia

Tables I.1–I.6 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on NCs for Australia's NC8.

Table I.1
Findings on policies and measures from the review of the eighth national communication of Australia

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 10 Issue type: completeness Assessment: encouragement	In its NC8 Australia did not indicate the PaMs that are innovative and/or effectively replicable by other Parties. During the review, Australia explained that key innovative PaMs reported in its NC8 include the development of hydrogen hubs across Australia, the National Energy Performance Strategy and the National Soil Carbon Innovation Challenge. Australia also explained that a number of its reported policies may be replicable by other Parties and that Australia publishes detailed and transparent information around its PaMs. Additionally, Australia explained that it works through several international forums, including the Group of 20 and OECD, to communicate and influence international innovation and policy-setting and that it is seeking to amplify the voice of Pacific countries and respond to needs identified by Pacific countries to support their own policy development and capability. The ERT encourages Australia to provide information on PaMs that are innovative and/or effectively replicable by other Parties.
2	Reporting requirement specified in paragraph 13 Issue type: completeness Assessment: encouragement	In its NC8 Australia did not report information on the assessment of the economic and social consequences of response measures. During the review, Australia provided information on the impact analysis that must be completed for any policy proposal or action, which addresses social, competition, environmental, distributional and regulatory impacts. The Party seeks to take into consideration all relevant factors, both domestic and international, consistent with best practice policy formulation. The ERT encourages Australia to provide, to the extent possible, information on the assessment of the economic and social consequences of response measures, for example, by explaining its impact analysis process and how its policymaking process takes into account any economic and social consequences of its measures.
3	Reporting requirement specified in paragraph 20 Issue type: transparency Assessment: recommendation	In its NC8 Australia reported quantitative effects for a few PaMs (for 7 PaMs for 2020 and for 15 PaMs for 2030 out of the 97 PaMs reported) but did not clarify why it did not estimate the impact of the rest of the reported PaMs. Furthermore, while reporting on its PaMs, Australia provided descriptions of the methods used to estimate the impacts of PaMs only for some of the PaMs reported, particularly those that support renewable generation deployment. During the review, Australia clarified that a major limitation on estimating the mitigation impact of all PaMs is the interlinkages between measures at the state, territory and federal level. Australia stressed that it is difficult to estimate how GHG emissions may have evolved in the absence of any individual policy or suite of policies and that it is difficult to disentangle the impact of specific policies from the prevailing economic factors. For its NC8 Australia prioritized estimating the impact of the measures with the largest impact on emissions and where sufficient data are available or defensible assumptions can be made, and is prioritizing estimating the mitigation impacts of new PaMs that are expected to have the largest impacts on emissions in the future. Moreover, at the time of submission of the NC8 and BR5, in December 2022, many key policies were still under development and their mitigation effects could not yet be quantified, and, in addition, while many key policies are expected to result in direct and quantifiable emission reductions once fully implemented, others are enablers of emission reductions.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		During the review, Australia informed the ERT that its process to quantify the effect of PaMs usually involves estimating emissions under a baseline scenario and comparing them to estimated emissions under a WEM scenario. The methodology is dependent on the policy design, sectors involved, jurisdiction and availability of data, and methodologies may differ between the state and federal level. When estimating mitigation impacts, Australia uses common emission factors and emission intensities. These emission factors and intensities are updated annually in Australia's national inventory report, the National Greenhouse Accounts Factors Workbook and Australia's emission projections, and are available on the DCCEEW website. The ERT recommends that Australia improve the transparency of its next NC by including quantitative estimates of the effects of its PaMs, or, conversely, if such information is not available, by explaining why it is the case; and by including information on the methods used to estimate the effects of PaMs, for example, explaining how the estimation is based on a comparison between emissions under a baseline scenario and emissions under a WEM scenario.
4	Reporting requirement specified in paragraph 23 Issue type: transparency Assessment: encouragement	In its NC8 Australia presented a list of PaMs that are no longer in place since the NC7, but clarification of why the PaMs have been discontinued was not provided. During the review, Australia provided an explanation of why the relevant PaMs are no longer in place at the federal, state and territory level. For example, the Carbon Capture and Storage Research Development and Demonstration Fund had delivered its allocated AUD 23.7 million grant funding to seven projects, and the Energy Efficient Communities Program was superseded by the Community Batteries for Household Solar Program. At the state and territory level, several policies are now out of date, such as the ACT Renewable Energy Industry Development Strategy 2015 or the New South Wales Energy Efficiency Action Plan. South Australia's Climate Change Strategy 2015–2050, Tasmania's Energy Strategy and Tasmania's Climate Action 21 were superseded by relevant updated actions. The ERT encourages the Party to increase the transparency of its next NC by, when reporting on policies no longer in place, including reasons why particular PaMs are no longer in place.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.2
Findings on projections including aggregate effects of policies and measures reported in the eighth national communication of Australia

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 27 Issue type: completeness Assessment: encouragement	Australia did not report a sensitivity analysis for any of the 2022 projections, as stated in section 5.1 of the NC8 and BR5. During the review, Australia explained that time and resources were prioritized for preparing the WEM and WAM scenarios, given their value in understanding the outlook for emissions in the light of, at the time, recent significant policy announcements from the Government. Furthermore, the Party acknowledged the value of including a sensitivity analysis and would consider this during the planning for Australia's 2024 projections and Australia's NC9. The ERT reiterates the encouragement from the previous review report for the Party to include a sensitivity analysis in the next NC.
2	Reporting requirement specified in paragraphs 31–32 Issue type: completeness Assessment: recommendation	The Party, in chapter 5 of annex A to the NC8 and in CTF table 6(c) (under a custom footnote), reported total GHG emissions without LULUCF for 2035 under the WAM scenario as 367,409.96 kt CO_2 eq; however, it did not report the WAM scenario for 2035 by sector and by gas. During the review, Australia clarified that the WAM scenario reported in the NC8 and BR5 includes two additional measures: an 82.0 per cent renewable electricity target and the reforms to the Safeguard Mechanism. At the time of the submission of the NC8, the Party had completed analysis of other measures under the WAM scenario. In 2023, Australia updated its modelling approach for measures included in the WAM scenario to

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		enable the estimation of emissions by sector and by gas, and the results were published by DCCEEW on 30 November 2023. The ERT recommends that the Party include projections under the WAM scenario for 2035 by sector and by gas in the next submission.
3	Reporting requirement specified in paragraph 32 Issue type: completeness Assessment: encouragement	The Party did not report projections of indirect GHG emissions, such as for carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur dioxide, in the NC8 or BR5. During the review, Australia noted that it prioritizes the use of resources, data collection and model development for activities that improve the projection of direct GHG emissions. The ERT reiterates the encouragement from the previous review report for Australia to report projections of indirect GHG emissions in its next NC.
4	Reporting requirement specified in paragraph 36 Issue type: completeness Assessment: encouragement	The Party did not present information on the mitigation impact of individual planned PaMs and hence did not present an estimate of the total impact of planned PaMs in the NC8 or BR5. During the review, Australia noted that the primary barriers to developing estimates of mitigation impacts of planned PaMs include the policy or measure still being in the design phase and interlinkages with other PaMs, which make it difficult to quantify the impact of the emissions. Furthermore, the Party indicated that the mitigation impact of individual planned PaMs and the total mitigation impact of planned PaMs will be included in future NCs where possible. The ERT encourages the Party to include an estimate of the total impact of planned PaMs in future NCs.
5	Reporting requirement specified in paragraph 38 Issue type: transparency Assessment: encouragement	The ERT noted differences in the data presented regarding the estimated and expected total effect of implemented and adopted PaMs in NC8 table 5.15 when compared with CTF table 3, with lower values in table 5.15 for 2020 than the sum of all the PaMs in CTF table 3 and higher values in table 5.15 for 2030 than the sum of all the PaMs in CTF table 3. The ERT noted that the explanation of the method used to derive the estimated total impact of all measures was not clear. During the review, the Party explained that there are challenges in estimating the impact of PaMs where they interact and overlap, for example, across PaMs at the federal and state or territory level. The Party noted that the data in table 5.15 are the best estimate of the total impact of PaMs, with a focus on an analysis of the impact of PaMs with the greatest anticipated mitigation impact only. Furthermore, the Party clarified that the total PaMs impact assessment includes an estimate of the aggregate impact of all renewable energy policies based on an assessment of future renewable electricity generation. The total mitigation impacts of renewable energy policies were then calculated using an emission factor from 2006, when the Australian power grid was primarily coal-fired (i.e. to estimate the avoided emissions per GWh renewable generation). The ERT encourages the Party to expand the description of the methodology used to derive the estimated total impact of PaMs that is provided in the NC8 (section 5.6.1) to improve transparency by clearly describing the methods used to derive estimates where policies overlap. For example, it may be helpful to explain how the analysis of the total impact of PaMs relates to the data on impacts presented per policy or measure in CTF table 3 for different groups of PaMs and to provide further information to explain whether the use of a predominantly coal-fired power grid factor from 2006 delivers an accurate estimate of the impact of fuel-switching to renewable fuels, given that the current Australian power sector fuel mix encompasses coal, gas and other fuels.
6	Reporting requirement specified in paragraph 40 Issue type: completeness Assessment: encouragement	The scope of gases projected per model is not described in the NC8 or BR5 even though the previous review report included an encouragement to provide information on the gases for which specific sectoral models or approaches were used. During the review, the Party provided a table to indicate the gases projected per model and clarified that the text in the NC8 and BR5 on the projections methodology for fugitive emissions from the oil and gas sector, mining sector and LNG sector indicated the projection of a total GHG intensity figure per source, whereas the projection methods are gas-specific.

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		The ERT reiterates the encouragement from the previous review report for the Party to provide information in the next NC on the gases for which specific sectoral models or approaches were used, for example, by including the table provided to the ERT during the review, and encourages the Party to correct the description of the gas-specific fugitive emission projection methods for the mining, oil and gas, and LNG sectors.
7	Reporting requirement specified in paragraph 43 Issue type: completeness Assessment: encouragement	Within the NC8 text on the projections methodology, for some sources there is an indication of the type of sensitivities to key parameters that were explored during the development of the PaMs appraisal and/or the WEM projection. For example, the transport section (section 5.5.5.2, p.155) notes several sensitivities regarding the modelling assumptions for the future uptake of different emerging technologies (e.g. electric vehicles). However, for many other sources no such narrative is evident. During the review, the Party clarified that no sensitivity analysis was prepared for the NC8 or BR5 but noted that separate documents include some sector sensitivity analysis, for example, for transport energy emission research, for which light-duty vehicle CO_2 emission factors are considered in the sensitivity analysis of the transport projections modelling. The ERT reiterates the encouragement from the previous review report for Australia to provide qualitative, and, where possible, quantitative, information on the sensitivity of the projections to underlying assumptions in its next NC by providing information on the sectors for which sensitivity analyses were performed and the sensitivity of sectoral projections to the factors considered, and quantitative information on the factors characterizing the sensitivity scenarios.
8	Reporting requirement specified in paragraph 45 Issue type: transparency Assessment: recommendation	The key drivers that influence the projected estimates are outlined per sector throughout chapter 5 of the NC8, but information on factors and activities for each sector to explain past and future trends and key underlying assumptions is not clearly presented. For example, emerging technologies, such as hydrogen and battery storage, are noted throughout the NC8 as key emerging fuels/energy sector solutions that will support decarbonization across the economy; the NC8 and BR5 present a graph of the generation fuel mix to 2035 (figure 5.4 of the NC8) but no supporting quantitative data per fuel or technology were provided. During the review, Australia noted that at the time of preparation of the NC8 and BR5 there were limited data available regarding the scale and phasing in of hydrogen electrolyser capacity. Furthermore, the Party clarified that the underpinning assumptions for the WEM scenario included consideration of all hydrogen electrolyser capacity for projects with finalized investment decisions in order to model hydrogen uptake across the economy. The ERT recommends that Australia present relevant information on factors and activities for each sector where the greatest mitigation impact is expected, for example, in a tabular format, in particular to improve the transparency of the projected time series of the uptake of emerging technologies, such as battery storage and hydrogen, across the economy in future NCs, such as the information provided to the ERT during the review.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.3
Findings on financial, technological and capacity-building support from the review of the eighth national communication of Australia

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 52 Issue type: completeness Assessment: recommendation	The Party did not report information on the financial support provided to assist non-Annex I Parties to adapt to any economic and social consequences of response measures or explain why it did not provide such information in its NC8. During the review, Australia explained that chapter 7.4 of the NC8 describes an approach to monitoring the impact of response measures. The Party indicated that climate finance is mainstreamed through ODA investments, in recognition that the effects of climate change must be addressed wholistically, not in isolation. The economic and social consequences of response measures are identified and addressed

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
		through country-driven processes to identify needs and prioritize Australia's grant-based ODA funding. This country-driven approach is described in chapter 7.1 of the NC8. Australia does not request disaggregated data from country partners to specifically identify which of their stated needs are as a result of response measures since the reporting burden would be too high. The ERT reiterates the recommendation from the previous review report for the Party to provide information on the financial support provided to assist non-Annex I Parties to adapt to any economic and social consequences of response measures or explain why it did not provide such information in its next NC.
2	Reporting requirement specified in paragraph 55 Issue type: completeness Assessment: encouragement	The Party did not report on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties in its NC8. During the review, Australia explained that it described in chapter 7.1.3 of its NC8 the shift in focus to increase the use of non-grant finance mechanisms (debt, equity and guarantees), and that this will be captured in the next reporting period. The reporting period of the BR5 was too soon after the policy shift for Australia to report the amount of private finance flows mobilized from this policy shift. The ERT reiterates the encouragement from the previous review report for the Party to report, to the extent possible, on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties.
3	Reporting requirement specified in paragraph 55 Issue type: transparency Assessment: encouragement	In its NC8 and BR5, the Party did not clearly report the link between non-grant finance mechanisms (debt, equity and guarantees) towards climate and the scaling up of private investment in mitigation and adaptation activities in developing country Parties. During the review, Australia explained that it is making efforts to increase private finance and investment towards the net zero ambitions of partner countries. When the NC8 and BR5 were under preparation, these efforts were in the early stages and links between those efforts and Australia's reported support for mitigation and adaptation in developing country Parties had not been sufficiently developed, and therefore related information could not be included. Australia is currently increasing the development and deployment of non-grant financing mechanisms that use ODA grant financing to catalyse greater private sector investment, with a renewed focus on using these mechanisms to focus on climate. These mechanisms are used for infrastructure (e.g. renewable energy), for enterprises in the green economy and to support the shift to greener supply chains in the region. In the past two years, Australia's shift in focus of its non-grant finance mechanisms (debt, equity and guarantees) towards climate has seen a material increase in the amount of private finance mobilized towards climate. The ERT encourages Australia to report transparent information on the PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties in its next NC.
4	Reporting requirement specified in paragraph 58 Issue type: transparency Assessment: recommendation	The Party reported information on measures and activities related to technology transfer implemented or planned; however, where activities are undertaken by both the public and private sector, Australia did not clearly describe which technology transfer activities are undertaken by the public and private sector in its NC8. During the review, Australia clarified that it provided general information regarding the programmes listed in the NC8 and CTF table 8 consistently with the template. Australia noted that illustrative examples can be included in future. The ERT reiterates the recommendation from the previous review report for the Party to clearly describe, where activities are undertaken by both the public and private sector, which technology transfer activities are undertaken by the public and private sector.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.4
Findings on vulnerability assessment, climate change impacts and adaptation measures from the review of the eighth national communication of Australia

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 46 Issue type: completeness Assessment: encouragement	The Party reported information on the Commonwealth Scientific and Industrial Research Organisation as the national agency for scientific research in Australia but did not report on specific results of scientific research in the field of vulnerability assessment and adaptation. During the review, the Party clarified that its inaugural National Climate Risk Assessment is set to identify the key climate change risks facing the nation up until 2100. Scheduled for 2024, the National Climate Risk Assessment will focus on a carefully selected subset of these risks, particularly focusing on Australia's vulnerability to them. The findings from this evaluation are expected to highlight both current and impending vulnerabilities, pinpoint areas where scientific research is lacking for future exploration, and guide adaptation strategies and actions within a national adaptation plan. Updates and further details about the National Climate Risk Assessment and the national adaptation plan will progressively be shared on the DCCEEW website. Complementing this national effort, other significant research on Australia's climate vulnerability is encapsulated in chapter 11 of the contribution of Working Group II to the AR6, which serves as a comprehensive resource on Australia's climate change vulnerability assessments up to 2022, based on official and peer-reviewed sources. The ERT encourages the Party to report on the specific results of scientific research in the field of vulnerability assessment and adaptation in its next NC.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.5
Findings on research and systematic observation from the review of the eighth national communication of Australia

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 64 Issue type: completeness Assessment: encouragement	The Party provided information on funding of research and systematic observation in its NC8, including information on the funding of research hubs and support for a cross-programme climate adaptation initiative to drive integrative adaptation research. However, a general policy on research and systematic observation was not provided. During the review, the Party clarified that the National Science and Research Priorities and the associated National Science Statement provide guidance for the Government of Australia's investment in science. While all relevant Government of Australia agencies fund research in line with these priorities and additional directions or obligations specific to their agency, there is no single general document that sets out the policy on funding of research and systematic observation. Refreshed priorities and a new science statement are due to be released in early 2024. General information about funding national science priorities was not supplied in the NC8 owing to the timing of the shift in priorities. The shift in priorities was announced in 2022, with an outcome to replace the 2015 National Science and Research Priorities and the 2017 National Science Statement. The ERT encourages the Party to provide information on its general policy on the funding of research and systematic observation in its next NC.

Note: Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.6
Findings on minimization of adverse impacts and supplementary information related to the Kyoto Protocol reported in the eighth national communication of Australia

No.	*Reporting requirement, issue type and assessment*	*Description of the finding with recommendation*
1	Reporting requirement specified in paragraph 30 Issue type: completeness Assessment: recommendation	Each Party included in Annex I to the Convention shall provide a description of how it is performing the general and specific functions defined in the guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol, as contained in decision 20/CP.7. Among the mandatory elements is a description of the process for and the results of key source identification. Australia did not provide such information in its NC8. During the review, the Party noted that this element was unintentionally omitted. Furthermore, the Party explained that a description of the process and results of key source category identification can be found in the 2020 national inventory report (vol. 1, section 1.5, with further details in vol. 3, annex 1) and provided a short summary of that element. The ERT recommends that the Party include a description of the process and results of key source identification in its next NC. The ERT concludes that this potential problem of a mandatory nature does not influence the Party's ability to fulfil its commitments for the second commitment period of the Kyoto Protocol.

Note: Item listed under reporting requirement refers to the relevant paragraph of the reporting guidelines for supplementary information. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the reporting guidelines for supplementary information.

Annex II

Assessment of adherence to the reporting guidelines for the fifth biennial report of Australia

The BR5 of Australia is the final BR under the MRV system established under the Convention.[1] Nevertheless, ERTs continue to provide recommendations and encouragements to the Parties on completeness, transparency and adherence to the UNFCCC reporting guidelines on BRs. Parties may find these recommendations and encouragements relevant, as appropriate, when preparing their initial biennial transparency report under the enhanced transparency framework of the Paris Agreement. Tables II.1–II.3 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on BRs for Australia's BR5.

Table II.1
Findings on mitigation actions and their effects from the review of the fifth biennial report of Australia

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 8 Issue type: completeness Assessment: encouragement	In its BR5 Australia did not report information on the assessment of the economic and social consequences of response measures in relation to its policies. During the review, Australia provided information on the impact analysis that must be completed for any policy proposal or action, which addresses social, competition, environmental, distributional and regulatory impacts. The Party seeks to take into consideration all relevant factors, both domestic and international, consistent with best practice policy formulation. The ERT encourages Australia to increase the completeness of future reporting by providing, to the extent possible, information on the assessment of the economic and social consequences of response measures in relation to its policies, for example, by explaining its impact analysis process and how its policymaking process takes into account any economic and social consequences of its measures.
2	Reporting requirement specified in CTF table 3 Issue type: transparency Assessment: recommendation	In its BR5 Australia reported quantitative effects for a few PaMs (for 7 PaMs for 2020 and for 15 PaMs for 2030 out of the 97 PaMs reported) but did not clarify why it did not estimate the impact of the rest of the reported PaMs. During the review, Australia clarified that a major limitation on estimating the mitigation impact of all PaMs is the interlinkages between measures at the state, territory and federal level. Australia stressed that it is difficult to estimate how GHG emissions may have evolved in the absence of any individual policy or suite of policies and that it is difficult to disentangle the impact of specific policies from the prevailing economic factors. For its BR5, Australia prioritized estimating the impact of the measures with the largest impact on emissions and where sufficient data are available or defensible assumptions can be made, and is prioritizing estimating the mitigation impacts of new PaMs that are expected to have the largest impacts on emissions in the future. Moreover, at the time of submission of the NC8 and BR5, in December 2022, many key policies were still under development and their mitigation effects could not yet be quantified, and, in addition, while many key policies are expected to result in direct and quantifiable emission reductions once fully implemented, others are enablers of emission reductions. The ERT recommends that Australia improve the transparency of future reporting by including quantitative estimates of the effects of its PaMs, or, conversely, if such information is not available, by explaining why it is the case, as appropriate.

Note: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs or to the CTF table number from the "Common tabular format for 'UNFCCC biennial reporting guidelines for developed country

[1] The Conference of the Parties, by decision 1/CP.24, decided that the final BRs shall be those submitted to the secretariat no later than 31 December 2022 and reaffirmed that, for Parties to the Paris Agreement, following the submission of the final BR, the modalities, procedures and guidelines contained in the annex to decision 18/CMA.1 will supersede the MRV system established under decision 1/CP.16, paras. 40–47 and 60–64, and decision 2/CP.17, paras. 12–62.

Parties'". The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

Table II.2
Findings on projections reported in the fifth biennial report of Australia

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 27 Issue type: completeness Assessment: encouragement	Australia did not report a sensitivity analysis for any of the 2022 projections, as stated in section 5.1 of the NC8 and BR5. During the review, Australia explained that time and resources were prioritized for preparing the WEM and WAM scenarios, given their value in understanding the outlook for emissions in the light of, at the time, recent significant policy announcements from the Government. Furthermore, the Party acknowledged the value of including a sensitivity analysis and will consider this during the planning for Australia's 2024 projections and next submission. The ERT reiterates the encouragement from the previous review report for the Party to include a sensitivity analysis in future reporting.
2	Reporting requirement specified in paragraph 32 Issue type: completeness Assessment: encouragement	The Party did not report projections of indirect GHG emissions, such as for carbon monoxide, nitrogen oxides, non-methane volatile organic compounds and sulfur dioxide, in the NC8 or BR5. During the review, Australia noted that it prioritizes the use of resources, data collection and model development for activities that improve the projection of direct GHG emissions. The ERT reiterates the encouragement from the previous review report for Australia to report projections of indirect GHG emissions.
3	Reporting requirement specified in paragraph 40 Issue type: completeness Assessment: encouragement	The scope of gases projected per model is not described in the NC8 or BR5 even though the previous review report included an encouragement to provide information on the gases for which specific sectoral models or approaches were used. During the review, the Party provided a table to indicate the gases projected per model and clarified that the text in the NC8 and BR5 on the projections methodology for fugitive emissions from the oil and gas sector, mining sector and LNG sector indicated the projection of a total GHG intensity figure per source, whereas the projection methods are gas-specific. The ERT reiterates the encouragement from the previous review report for the Party to provide information on the gases for which specific sectoral models or approaches are used, for example, by including the table provided to the ERT during the review, and encourages the Party to correct the description of the gas-specific fugitive emission projection methods for the mining, oil and gas, and LNG sectors.
4	Reporting requirement specified in paragraph 43 Issue type: completeness Assessment: encouragement	Within the text of the NC8 on the projections methodology, for some sources there is an indication of the type of sensitivities to key parameters that were explored during the development of the PaMs appraisal and/or the WEM projection. For example, the transport section (section 5.5.5.2, p.155) notes several sensitivities regarding the modelling assumptions for the future uptake of different emerging technologies (e.g. electric vehicles). However, for many other sources no such narrative is evident. During the review, the Party clarified that no sensitivity analysis was prepared for the NC8 or BR5 but noted that separate documents include some sector sensitivity analysis, for example, for transport energy emission research, for which light-duty vehicle CO_2 emission factors are considered in the sensitivity analysis of the transport projections modelling. The ERT reiterates the encouragement from the previous review report for Australia to provide qualitative, and, where possible, quantitative, information on the sensitivity of the projections to underlying assumptions in its reporting by providing information on the sectors for which sensitivity analyses were performed and the sensitivity of sectoral projections to the factors considered, and quantitative information on the factors characterizing the sensitivity scenarios.
5	Reporting requirement specified in paragraph 45	The key drivers that influence the projected estimates are outlined per sector throughout chapter 5 of the NC8, but information on factors and activities for each sector to explain past and future trends and key underlying assumptions is not clearly presented. For example, emerging technologies, such as hydrogen and battery storage, are noted

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
	Issue type: transparency Assessment: recommendation	throughout the NC8 as key emerging fuels/energy sector solutions that will support decarbonization across the economy; the NC8 and BR5 present a graph of the generation fuel mix to 2035 (figure 5.4 of the NC8) but no supporting quantitative data per fuel or technology were provided. During the review, Australia noted that at the time of preparation of the NC8 and BR5 there were limited data available regarding the scale and phasing in of hydrogen electrolyser capacity. Furthermore, the Party clarified that the underpinning assumptions for the WEM scenario included consideration of all hydrogen electrolyser capacity for projects with finalized investment decisions in order to model hydrogen uptake across the economy. The ERT recommends that Australia present relevant information on factors and activities for each sector where the greatest mitigation impact is expected, for example, in a tabular format, in particular to improve the transparency of the projected time series of the uptake of emerging technologies, such as battery storage and hydrogen, across the economy in future reporting, such as the information provided to the ERT during the review.

Notes: The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs and on BRs. Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs, as per para. 11 of the UNFCCC reporting guidelines on BRs.

Table II.3
Findings on provision of financial, technological and capacity-building support to developing country Parties from the review of the fifth biennial report of Australia

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
1	Reporting requirement specified in paragraph 17 Issue type: completeness Assessment: recommendation	The Party did not report information on the financial support provided to assist non-Annex I Parties to adapt to any economic and social consequences of response measures or explain why it did not provide such information in its BR5. During the review, Australia explained that chapter 7.4 of the NC8 describes an approach to monitoring the impact of response measures. The Party indicated that climate finance is mainstreamed through ODA investments, in recognition that the effects of climate change must be addressed wholistically, not in isolation. The economic and social consequences of response measures are identified and addressed through country-driven processes to identify needs and prioritize Australia's grant-based ODA funding. This country-driven approach is described in chapter 7.1 of the NC8. Australia does not request disaggregated data from country partners to specifically identify which of their stated needs are as a result of response measures since the reporting burden would be too high. The ERT reiterates the recommendation from the previous review report for the Party to provide information on the financial support provided to assist non-Annex I Parties to adapt to any economic and social consequences of response measures or explain why it did not provide such information.
2	Reporting requirement specified in paragraph 19 Issue type: completeness Assessment: encouragement	The Party did not report on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties in its BR5. During the review, Australia explained that it described in chapter 7.1.3 of its NC8 the shift in focus to increase the use of non-grant finance mechanisms (debt, equity and guarantees), and that this will be captured in the next reporting period. The reporting period of the BR5 (2020–2022) was too soon after the policy shift for Australia to report the amount of private finance flows mobilized from this policy shift. The ERT reiterates the encouragement from the previous review report for the Party to report, to the extent possible, on private financial flows leveraged by bilateral climate finance towards mitigation and adaptation activities in non-Annex I Parties.
3	Reporting requirement specified in paragraph 19 Issue type:	In its NC8 and BR5, the Party did not clearly report the link between non-grant finance mechanisms (debt, equity and guarantees) towards climate and the scaling up of private investment in mitigation and adaptation activities in developing country Parties. During the review, Australia explained that it is making efforts to increase private finance and investment towards the net zero ambitions of partner countries. When the

No.	*Reporting requirement and issue type*	*Description of the finding with recommendation or encouragement*
	transparency Assessment: encouragement	NC8 and BR5 were under preparation, these efforts were in the early stages and links between those efforts and Australia's reported support for mitigation and adaptation in developing country Parties had not been sufficiently developed, and therefore related information could not be included. Australia is currently increasing the development and deployment of non-grant financing mechanisms that use ODA grant financing to catalyse greater private sector investment, with a renewed focus on using these mechanisms to focus on climate. These mechanisms are used for infrastructure (e.g. renewable energy), for enterprises in the green economy and to support the shift to greener supply chains in the region. In the past two years, Australia's shift in focus of its non-grant finance mechanisms (debt, equity and guarantees) towards climate has seen a material increase in the amount of private finance mobilized towards climate. The ERT encourages Australia to report transparent information on the PaMs that promote the scaling up of private investment in mitigation and adaptation activities in developing country Parties.
4	Reporting requirement specified in paragraph 22 Issue type: transparency Assessment: recommendation	The Party reported information on measures and activities related to technology transfer implemented or planned; however, where activities are undertaken by both the public and private sector, Australia did not clearly describe which technology transfer activities are undertaken by the public and private sector in its BR5. During the review, Australia clarified that it provided general information regarding the programmes listed in the BR5 and CTF table 8 consistently with the template. The Australian Infrastructure Financing Facility for the Pacific, under which technology transfer activities were undertaken by both public and private sector actors, involves more than AUD 1 billion in financing across 10 major capital works. Australia noted that such illustrative examples can be included in future. The ERT reiterates the recommendation from the previous review report for the Party to clearly describe, where activities are undertaken by both the public and private sector, which technology transfer activities are undertaken by the public and private sector.

Note: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

Annex III

Documents and information used during the review

A. Reference documents

2022 GHG inventory submission of Australia. Available at https://unfccc.int/ghg-inventories-annex-i-parties/2022.

2023 GHG inventory submission of Australia. Available at https://unfccc.int/documents/627765.

BR4 of Australia. Available at https://unfccc.int/BR4.

BR5 CTF tables of Australia. Available at https://unfccc.int/BR5.

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"Common tabular format for 'UNFCCC biennial reporting guidelines for developed country Parties'". Annex to decision 19/CP.18. Available at https://unfccc.int/resource/docs/2012/cop18/eng/08a03.pdf.

"Compilation of economy-wide emission reduction targets to be implemented by Parties included in Annex I to the Convention". FCCC/SBSTA/2014/INF.6. Available at http://unfccc.int/resource/docs/2014/sbsta/eng/inf06.pdf.

"Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications". FCCC/CP/2019/13/Add.1. Available at https://unfccc.int/documents/210471.

"Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol". Annex to 15/CMP.1. Available at https://unfccc.int/documents/4253.

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Report on the simplified review of the national inventory report of Australia submitted in 2023. Available at https://unfccc.int/documents/633086.

Report on the technical review of the BR4 of Australia. FCCC/TRR.4/AUS. Available at https://unfccc.int/documents/230802.

"UNFCCC biennial reporting guidelines for developed country Parties". Annex I to decision 2/CP.17. Available at http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

B. Additional information provided by the Party

Responses to questions during the review were received from Nicole Mitchell and Kamala Rangarajan (DCCEEW), including additional material. The following references were provided by Australia and may not conform to UNFCCC editorial style as some have been reproduced as received:

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