



Report on the technical review of the seventh national communication of Austria

Parties included in Annex I to the Convention were requested by decision 9/CP.16 to submit their seventh national communication to the secretariat by 1 January 2018. 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 seventh national communication and relevant supplementary information under the Kyoto Protocol of Austria, 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”.



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Abbreviations and acronyms

ADC	Austrian Development Cooperation
AEA	annual emission allocation
BR	biennial report
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
CTF	common tabular format
ERT	expert review team
ESD	effort-sharing decision
EU	European Union
EU ETS	European Union Emissions Trading System
F-gases	fluorinated gases
GCOS	Global Climate Observing System
GDP	gross domestic product
GHG	greenhouse gas
HFC	hydrofluorocarbon
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
NA	not applicable
NC	national communication
NF ₃	nitrogen trifluoride
NIR	national inventory report
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
non-ETS sectors	sectors not covered by the European Union Emissions Trading System
N ₂ O	nitrous oxide
OECD	Organisation for Economic Co-operation and Development
OECD DAC	Organisation for Economic Co-operation and Development Development Assistance Committee
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’
WOM	‘without measures’

I. Introduction and summary

A. Introduction

1. This is a report on the in-country technical review of the NC7 of Austria. The review was coordinated 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 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.11).¹

2. In accordance with the same decisions, a draft version of this report was transmitted to the Government of Austria, which provided comments that were considered and incorporated, with revisions, into this final version of the report.

3. The review was conducted from 28 January to 2 February 2019 in Vienna by the following team of nominated experts from the UNFCCC roster of experts: Ms. Marcela Olguin-Álvarez (Mexico), Ms. Karima Oustadi (Italy), Mr. Orlando Rey (Cuba), Mr. Adrian Schilt (Switzerland) and Ms. Tian Wang (China). Mr. Rey and Mr. Schilt were the lead reviewers. The review was coordinated by Ms. Ruta Bubniene and Ms. Kirsten Macey (UNFCCC secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the NC7 of Austria in accordance with the UNFCCC reporting guidelines on NCs (decision 4/CP.5) and 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 (annex to decision 15/CMP.1 and annex III to decision 3/CMP.11).

1. Timeliness

5. The NC7 was submitted on 8 February 2018, after the deadline of 1 January 2018 mandated by decision 9/CP.16.

6. Austria informed the secretariat on 21 December 2018 about its difficulties with making a timely submission. In accordance with decision 22/CMP.1 a Party should inform the secretariat thereof by the due date of the submission, in order to facilitate the arrangements of the review process. The ERT noted with concern the delay in the submission and recommended that Austria make its next submission on time.

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

7. Issues and gaps identified by the ERT related to the reported information are presented in table 1. The information reported by Austria in its NC7, including the supplementary information under the Kyoto Protocol, mostly adheres to the UNFCCC reporting guidelines on NCs.

¹ At the time of the publication of this report, the Party had submitted its instrument of acceptance of the Doha Amendment; however, the amendment had not yet entered into force. The implementation of the provisions of the Doha Amendment is therefore considered in this report in the context of decision 1/CMP.8, paragraph 6, pending the entry into force of the amendment.

Table 1

Assessment of completeness and transparency of mandatory information reported by Austria in its seventh national communication, including supplementary information under the Kyoto Protocol

<i>Section of NC</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendations</i>	<i>Supplementary information under the Kyoto Protocol</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendations</i>
Executive summary	Complete	Transparent	NA	National system	Complete	Transparent	NA
National circumstances	Complete	Transparent	NA	National registry	Complete	Transparent	NA
GHG inventory	Complete	Transparent	NA	Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Complete	Transparent	NA
PaMs	Complete	Mostly transparent	Issue 7 in table 7	PaMs in accordance with Article 2	Mostly complete	Transparent	Issue 9 in table 7
Projections and the total effect of PaMs	Complete	Mostly transparent	Issue 4 in table 11 and issue 2 in table 13	Domestic and regional programmes and/or arrangements and procedures	Complete	Mostly transparent	Issue 1 in table 5
Vulnerability assessment, climate change impacts and adaptation measures	Mostly complete	Transparent	Issue 1 in table 18	Information under Article 10 ^a	Complete	Transparent	NA
Financial resources and transfer of technology	Mostly complete	Mostly transparent	Issue 1 in table 15, issue 1 in table 16	Financial resources	Complete	Transparent	NA
Research and systematic observation	Complete	Transparent	NA	Minimization of adverse impacts in accordance with Article 3, paragraph 14	Complete	Mostly transparent	Issue 8 in table 7
Education, training and public awareness	Complete	Transparent	NA				

Note: A list of recommendations pertaining to the completeness and transparency issues identified in this table is included in chapter III below. 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, paragraphs 3, 5 and 7, of the Convention reported under Article 10 of the Kyoto Protocol, which is relevant to Annex II Parties only. Assessment of the information provided by the Party 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.

3. Summary of reviewed supplementary information under the Kyoto Protocol

8. The supplementary information under Article 7, paragraph 2, of the Kyoto Protocol is incorporated in different sections of the NC7, and the supplementary information under Article 7, paragraph 1, of the Kyoto Protocol is reported in the NIR of the 2018 annual submission. Table 2 provides references to where the information is reported. The technical assessment of the information reported under Article 7, paragraphs 1 and 2, of the Kyoto Protocol is contained in the relevant sections of this report.

Table 2

Overview of supplementary information under the Kyoto Protocol reported by Austria

<i>Supplementary information</i>	<i>Reference to the section of NC7</i>
National registry	Chapter 3.4
National system	Chapter 3.3
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Chapter 5.4
PaMs in accordance with Article 2	Chapter 4.3
Domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures	Chapter 4.2
Information under Article 10	Chapters 3.3, 4, 6, 7.2, 8, 9 and 4.4
Financial resources	Chapter 7
Minimization of adverse impacts in accordance with Article 3, paragraph 14	Chapter 4.4 and in the NIR (chapter 15) of the Party's 2018 annual submission

II. Technical review of the information reported in the seventh national communication, including the supplementary information under the Kyoto Protocol

A. Information on national circumstances and greenhouse gas emissions and removals

1. National circumstances relevant to greenhouse gas emissions and removals

(a) Technical assessment of the reported information

9. The national circumstances of Austria explain the relationship between its historic and future emission trends and the climate change policy agenda. The changing nature of those circumstances defines the factors that affect the climate policy development and implementation of the Convention. The NC7 contains key data on legislation, population trends, geography and land use, climate and climate change, economic development, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater.

10. The energy profile of Austria shows that although the country continues to depend on fossil fuels (36 per cent oil, 20 per cent natural gas and 10 per cent coal) it has a high share of renewable energy. In 2015 biomass and hydropower contributed more than one quarter of total gross energy consumption.

11. Since 1990 the transport sector has shown the strongest increase in final energy consumption; however, the amount of fuel for road transportation that is sold in Austria but consumed abroad ("fuel export in the vehicle tank" sometimes known as "fuel tourism") is a

significant reason for that increase because of the lower fuel prices in Austria compared with many neighbouring countries and its geographical position as a transit country for important long-distance freight transport. Cars have also increased since 1990, increasing from 81 billion passengers per kilometre in 1990 to 113 billion in 2015; meanwhile inland freight transport increased from 35 billion tonnes per kilometre in 1990 to 73 billion tonnes in 2015. Public transport also has a relevant share: about one quarter of all passenger kilometres in 2015 were travelled by public transport. Rail and navigation had a share of slightly less than one third of freight transport.

12. Explanations are also provided in the NC7 on the drivers of emissions and on how national circumstances and changes in national circumstances affect GHG emissions and removals over time. The ERT noted that during the period 1996–2016 Austria’s GDP per capita increased by 41.9 per cent, while GHG emissions per GDP unit and GHG emissions per capita decreased by 37.3 and 11.0 per cent, respectively, showing a clear decoupling of GHG emissions from GDP and energy consumption. Table 3 illustrates the national circumstances of Austria by providing some indicators relevant to emissions and removals.

Table 3

Indicators relevant to greenhouse gas emissions and removals for Austria for the period 1990–2016

Indicator	Change (%)						
	1990	2000	2010	2015	2016	1990–2016	2015–2016
GDP per capita (thousands 2011 USD using purchasing power parity)	31.34	38.84	43.34	44.30	44.46	41.9	0.4
GHG emissions without LULUCF per capita (t CO ₂ eq)	10.25	10.04	10.16	9.12	9.12	–11.0	–0.1
GHG emissions without LULUCF per GDP unit (kg CO ₂ eq per 2011 USD using purchasing power parity)	0.33	0.26	0.23	0.21	0.21	–37.3	–0.4

Sources: (1) GHG emission data: Austria’s 2018 GHG inventory submission, version 3; (2) population and GDP: World Bank.

Note: The ratios per capita and per GDP unit are calculated relative to GHG emissions without LULUCF; the ratios are calculated using the exact (not rounded) values and may therefore differ from a ratio calculated with the rounded numbers provided in the table.

(b) Assessment of adherence to the reporting guidelines

13. The ERT assessed the information reported in the NC7 of Austria and recognized that the reporting is complete, transparent and adhering 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.

2. Information on greenhouse gas inventory arrangements, emissions, removals and trends

(a) Technical assessment of the reported information

14. Total GHG emissions² excluding emissions and removals from LULUCF increased by 1.2 per cent between 1990 and 2016, whereas total GHG emissions including net emissions or removals from LULUCF increased by 13.1 per cent over the same period. Table 4 illustrates the emission trends by sector and by gas for Austria.

² In this report, the term “total GHG emissions” refers to the aggregated national GHG emissions expressed in terms of CO₂ eq excluding LULUCF, unless otherwise specified. Values in this paragraph are calculated based on Austria’s 2018 annual submission, version 3.

Table 4
Greenhouse gas emissions by sector and by gas for Austria for the period 1990–2016

Sector	GHG emissions (kt CO ₂ eq)					Change (%)		Share (%)	
	1990	2000	2010	2015	2016	1990–2016	2015–2016	1990	2016
1. Energy	52 914.08	55 322.36	59 752.28	53 352.45	54 336.38	2.7	1.8	67.2	68.2
A1. Energy industries	14 075.55	12 318.99	13 989.19	10 757.24	10 577.63	–24.9	–1.7	17.9	13.3
A2. Manufacturing industries and construction	9 889.48	10 080.54	11 424.21	10 742.12	10 820.67	9.4	0.7	12.6	13.6
A3. Transport	13 973.42	18 817.14	22 533.91	22 591.60	23 488.20	68.1	4.0	17.8	29.5
A4. and A5. Other	14 273.83	13 609.22	11 337.14	8 837.11	9 058.05	–36.5	2.5	18.1	11.4
B. Fugitive emissions from fuels	701.81	496.47	467.83	424.39	391.83	–44.2	–7.7	0.9	0.5
C. CO ₂ transport and storage	NO	NO	NO	NO	NO	–	–	–	–
2. IPPU	13 662.30	14 639.68	15 925.86	16 669.37	16 468.38	20.5	–1.2	17.4	20.7
3. Agriculture	8 188.65	7 506.39	7 094.75	7 177.66	7 286.42	–11.0	1.5	10.4	9.1
4. LULUCF	–11 981.89	–16 364.09	–5 877.96	–4 445.35	–4 208.44	–64.9	–5.3	–	–
5. Waste	3 925.02	2 963.11	2 157.95	1 656.22	1 581.46	–59.7	–4.5	5.0	2.0
6. Other	NO	NO	NO	NO	NO	–	–	–	–
Gas ^a									
CO ₂	62 292.23	66 261.74	72 383.14	66 703.99	67 402.08	8.2	1.0	79.2	84.6
CH ₄	10 405.49	8 433.83	7 255.02	6 631.78	6 567.07	–36.9	–1.0	13.2	8.2
N ₂ O	4 336.50	4 349.44	3 391.18	3 527.07	3 613.51	–16.7	2.5	5.5	4.5
HFCs	2.44	713.63	1 483.45	1 620.32	1 640.61	67 205.5	1.3	0.0	2.1
PFCs	1 182.79	87.87	78.05	49.55	50.39	–95.7	1.7	1.5	0.1
SF ₆	470.61	574.53	335.87	309.55	392.84	–16.5	26.9	0.6	0.5
NF ₃	NO, NA	10.51	4.12	13.46	6.14	–	–54.4	–	0.0
Total GHG emissions without LULUCF	78 690.05	80 431.54	84 930.84	78 855.71	79 672.64	1.2	1.0	100.0	100.0
Total GHG emissions with LULUCF	66 708.16	64 067.45	79 052.88	74 410.36	75 464.20	13.1	1.4	–	–

Source: GHG emission data: Austria's 2018 annual submission, version 3.

^a Emissions by gas without LULUCF and without indirect CO₂.

15. A number of opposing factors account for the slight increase in total emissions. On the one hand, emissions from transport and IPPU increased, predominantly driven by increased transport volumes and increases in metal production. On the other hand, emissions from buildings decreased, owing to improvements in energy efficiency, fuel shifts and increased use of district heating as well as various sources of renewable energy, including ambient heat and biomass. Overall, Austria's total emissions approximately stabilized between 1990 and 2016, despite strong increases in GDP, population, living area, electricity and heating demand and transport volume.

16. Between 1990 and 2016, GHG emissions from the energy sector increased by 2.7 per cent (1,422.30 kt CO₂ eq). The trend in GHG emissions from fuel combustion showed a notable increase in transport (68.1 per cent or 9,514.78 kt CO₂ eq) and a notable decrease in energy use in other sectors (36.5 per cent or 5,215.78 kt CO₂ eq). Since 1990, the share of coal has decreased, while the share of renewables has considerably increased. Consumption of oil products decreased in the last decade. Since 1996, gross energy consumption per capita increased by 7 per cent, while the gross energy consumption per GDP decreased by 16 per cent.

17. Between 1990 and 2016, GHG emissions from IPPU increased by 20.5 per cent (2,806.08 kt CO₂ eq), owing mainly to an increase in metal production (mostly iron and steel),

with a smaller contribution from F-gas emissions. Between 1990 and 2016, GHG emissions from the agriculture sector decreased by 11.0 per cent (902.23 kt CO₂ eq), owing mainly to decreased livestock numbers and lower amounts of fertilizers applied to agricultural soils. The LULUCF sector was a net sink of 4,208.44 kt CO₂ eq in 2016; net annual GHG removals have decreased by 7,773.44 kt CO₂ eq since 1990. The trend was mainly driven by increased harvesting, natural mortality and salvage logging since the 1990s. Between 1990 and 2016, GHG emissions from the waste sector decreased by 59.7 per cent (2,343.56 kt CO₂ eq), owing mainly to increased waste separation, reuse and recycling activities, obligatory pre-treatment of deposited waste with high carbon content and increased recovery of landfill gas.

18. In Austria's NC7, the summary information provided on GHG emissions was consistent with the information reported in the 2017 annual submission, version 1.

19. To reflect the most recently available data, version 3 of Austria's 2018 annual submission has been used as the basis for discussion in chapter II.A of this review report. The ERT noted that the report on the individual review of the annual submission of Austria submitted in 2018³ was published on 16 January 2019, immediately before the review week for the NC; however, that inventory was not considered during the review. The ERT also noted that there are no substantive differences between the trends presented in the 2018 GHG inventory and the 2017 inventory reported in the NC7. Total GHG emissions excluding LULUCF, as reported in the NC7, increased by 0.2 per cent between 1990 and 2015, while according to the latest available annual submission they increased by 1.2 per cent between 1990 and 2016.

(b) Assessment of adherence to the reporting guidelines

20. The ERT assessed the information reported in the NC7 of Austria and recognized that the reporting is complete, transparent and adhering 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.

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

(a) Technical assessment of the reported information

21. Austria provided in the NC7 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.

22. Austria's national system is prepared in accordance with Article 5, paragraph 1, of the Kyoto Protocol and detailed information on the national inventory system is reported in Austria's 2006 initial report in accordance with decision 13/CMP.1. Austria has developed a high-quality management system for estimating emissions in its national inventories. The Austrian Environment Agency has been accredited as the inspection body for emission inventories since 2005. Austria's quality management system is accredited according to the International Standard EN ISO/IEC 17020 General Criteria. Austria outlined during the review that the criteria developed in order to comply with the International Standard demonstrate a high level of confidence in the national inventory system. The ERT took note of Austria's statement that its national inventory system remains unchanged since its last NC.

(b) Assessment of adherence to the reporting guidelines

23. The ERT assessed the information reported in the NC7 of Austria and recognized that the reporting is complete, transparent and adhering to the UNFCCC reporting guidelines on NCs.

³ <https://unfccc.int/sites/default/files/resource/aut.pdf>, published on 16 January 2019.

4. National registry

(a) Technical assessment of the reported information

24. In the NC7 Austria provided information on how its national registry performs the functions in accordance with the annex to decision 13/CMP.1 and the annex to decision 5/CMP.1 and complies with the requirements of the technical standards for data exchange between registry systems. The ERT took note that of Austria's statement that changes to its national registry were described in chapter 14 of the NIR 2017.

(b) Assessment of adherence to the reporting guidelines

25. The ERT assessed the information reported in the NC7 of Austria and recognized that the reporting is complete and transparent. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

B. Information on policies and measures and institutional arrangements

1. Domestic and regional programmes and/or legislative arrangements and procedures related to the Kyoto Protocol

(a) Technical assessment of the reported information

26. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, Austria committed to contributing to the joint EU effort to reduce GHG emissions by 20 per cent below the base-year level. The former Federal Ministry for Agriculture and Forestry, Environment and Water Management (now known as the Ministry of Sustainability and Tourism) has a coordinating function with respect to the overall climate change policy in Austria, while responsibilities to reduce GHG emissions and fulfil the obligations under the Kyoto Protocol are distributed among several federal ministries and other territorial authorities (Länder or provinces and municipalities). The Austrian Climate Change Act sets individual emission target paths for the relevant sectors. Most Länder have formulated their own regional climate change programmes that supplement the national programme.

27. The legislative arrangements for the implementation of the national programme are different for each of the elements of the strategy. Areas of responsibility are spread among ministries as well as between the federation, Länder and municipalities. Administrative procedures for implementation and monitoring are also different for the various instruments; for this reason, there is no unified framework for the monitoring of PaMs. Enforcement rules are laid down in the respective legal acts as appropriate.

28. In 2011 Austria passed the Climate Change Act (Federal Law Gazette I No. 106/2011). Quantitative sectoral targets and administrative responsibilities to fulfil international and European climate change commitments are established in the Act. The Ministry of Sustainability and Tourism reports annually on progress with respect to the targets of the Climate Change Act. If targets are not met, the Climate Change Act triggers negotiations on additional measures to meet the targets.

29. During the review, Austria explained that all laws, ordinances and treaties that are in force in Austria are published online in the electronic Federal Law Gazette as well as in the corresponding law gazettes of the Länder.⁴ Furthermore, EU legislation (implemented in Austria through the Environmental Information Act) allows all citizens to request public authorities to publish environmental information and data, including information on climate change and climate action.

30. Although the Climate Change Act triggers negotiations if the targets are not met Austria did not specify in its NC how the enforcement procedures for addressing cases of non-compliance under domestic law are implemented. During the review Austria provided additional information including examples of how it implements enforcement rules, including addressing cases of non-compliance. For example, the Emissions Allowance

⁴ See <https://www.ris.bka.gv.at/> (in German only).

Trading Act (No. 118/2011 as amended) includes monetary sanctions for non-compliance with rules under the EU ETS. In a situation where a company does not fully surrender in a timely manner emission allowances amounting to its verified emissions in a given year, sanctions are applied of at least EUR 100 per tonne of CO₂ eq emissions. The Climate Change Act has a requirement to initiate negotiations on strengthening existing and devising new PaMs in non-ETS sectors if overall annual targets for non-ETS sectors are not met. Furthermore, Austria has contractual obligations to ensure that companies repay any subsidies for climate action if conditions for receiving the subsidy are not met.

31. Austria reported that it has national legislative arrangements and administrative procedures in place that seek to ensure that activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol also contribute to the conservation of biodiversity and the sustainable use of natural resources. The implementation of sustainable forest management activities is guided by the Forest Act (Federal Law Gazette I No. 1975/440, as amended) and this Act aims to contribute to the conservation of biodiversity and the sustainable use of natural resources. During the review Austria further outlined that for the second commitment period of the Kyoto Protocol, under Article 3, paragraph 4, Austria accounts for forest management only and has not elected any other activities.

(b) Assessment of adherence to the reporting guidelines

32. The ERT assessed the information reported in the NC7 of Austria and identified an issue relating to transparency. The finding is described in table 5.

Table 5

Findings on domestic and regional programmes and/or legislative arrangements and procedures related to the Kyoto Protocol from the review of the seventh national communication of Austria

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 37 Issue type: transparency Assessment: recommendation	Although Austria states that its Climate Change Act will trigger negotiations if the targets are not met, it is not clear from the NC how Austria’s enforcement and procedures for addressing cases of non-compliance under domestic law are implemented. During the review, Austria provided additional information with some concrete examples of enforcement rules, such as sanctions through the Emissions Trading Act, requirements to strengthen or develop new PaMs under the Climate Change Act and contractual obligations to repay subsidies if conditions are not met. The ERT recommends that Austria include specific information on how the enforcement procedures it has in place to meet its commitments under the Kyoto Protocol will be implemented as well as on the procedures for addressing cases of non-compliance under domestic law.

Note: Paragraph number 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.

2. Policies and measures, including those in accordance with Article 2 of the Kyoto Protocol

(a) Technical assessment of the reported information

33. Austria provided information on its package of PaMs implemented since the last NC, by sector and by gas, in order to fulfil its commitments under the Convention and its Kyoto Protocol. Austria reported on its policy context and legal and institutional arrangements put in place to implement its commitments and monitor and evaluate the effectiveness of its PaMs.

34. Austria provided information on a set of PaMs similar to those previously reported, with a few exceptions. Austria also provided information on changes made since the previous submission to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of the progress made towards its target. During the review, Austria outlined that following a

revision to the Climate Change Act in 2017 the Committee and the Council were merged into a new single Committee to avoid overlap between membership and functions of the two bodies.

35. Austria gave priority to implementing the PaMs that make the most significant contribution to its emission reduction efforts. Austria provided general information on how it believes its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals in accordance with the objective of the Convention through sustainable structural and behavioural changes and by reducing emission intensity and improving efficiency in the sector affected. However, the ERT noted that it was not clear how Austria's PaMs were modifying long-term trends. During the review Austria provided more detailed information on how it believes its PaMs are modifying longer-term trends on a sectoral basis, such as through the national funding regime for industrial infrastructure and the constant improvement in energy efficiency for energy supply; changes in production structures and prices due to an increase in renewable energy as well as extension of the public transport system and infrastructure for the transport sector; a higher share of biofuels used for heating systems in the buildings sector; replacing F-gases with alternative solutions in the industry sector; the conversion to organic farming as well as the enhancement of soil carbon for the agriculture sector; and the ban on the deposition of untreated waste for the waste sector.

36. Because of the role of the Länder, some PaMs are deferred to the regional level, such as those for the buildings sector where any guidelines for higher energy efficiency standards must be translated to regional building law by the Länder. During the review Austria explained that the federal initiative on removing oil heating systems for further deployment of renewable heating systems also depends on the approval of regional standards.

37. The key overarching related cross-sectoral policy in the EU is the 2020 climate and energy package, adopted in 2009, which includes the revised EU ETS and the ESD. The package is supplemented by renewable energy and energy efficiency legislation and legislative proposals on the 2020 targets for CO₂ emissions from cars and vans, the carbon capture and storage directive, and the general programmes for environmental conservation, namely the 7th Environment Action Programme and the clean air policy package.

38. In operation since 2005, the EU ETS is a cap-and-trade system that covers all significant energy-intensive installations (mainly large point emissions sources such as power plants and industrial facilities), which produce 40–45 per cent of the GHG emissions of the EU. It is expected that the EU ETS will guarantee that the 2020 target (a 21 per cent emission reduction below the 2005 level) will be achieved for sectors under the scheme. The third phase of the EU ETS started in 2013 and the system now includes aircraft operations (since 2012) as well as N₂O emissions from chemical industries, PFC emissions from aluminium production and CO₂ emissions from some industrial processes that were not covered in the previous phases of the EU ETS (since 2013).

39. The ESD became operational in 2013 and covers sectors outside the EU ETS, including transport (excluding domestic and international aviation, and international maritime transport), residential and commercial buildings, agriculture and waste, together accounting for 55–60 per cent of the GHG emissions of the EU. The aim of the ESD is to decrease GHG emissions in the EU by 10 per cent below the 2005 level by 2020 and it includes binding annual targets for each member State for 2013–2020.

40. Austria introduced national-level policies to achieve its targets under the ESD and domestic emission reduction targets. One of the key policies reported is the Austrian Climate and Energy Fund, which aims to support innovation projects to reduce GHG emissions. The Fund focuses on research and development of renewable energy systems, testing new transport systems and market penetration of mitigation actions. During the review Austria indicated that the Fund disbursed EUR 1.2 billion in the period 2007–2018 and supported around 120,000 projects. The Fund aims to achieve success through demonstrating best practice and innovation.

41. Another measure where Austria provides financial support is the Domestic Environmental Support Scheme. This scheme provides financial support for projects on reducing GHG emissions, improving energy efficiency, promoting the use of renewable energy sources, decreasing waste and promoting sustainable transport. During the review

Austria explained that the financial support provided through this scheme amounts to EUR 70 million each year.

42. Other policies that have delivered significant emission reductions include the Austrian Fuel Ordinance to increase the share of biofuels, the Mineral Oil Tax Act, which is a fuel consumption-based tax to discourage the use of high-fuel consumption vehicles, and the Green Electricity Support Scheme, which uses a feed-in tariff to increase the share of renewable energy in the supply mix.

43. Austria explained in its NC that, although work had started on developing its Climate and Energy Strategy for 2030, an election in autumn 2017 temporarily stopped that work and therefore Austria was not able to report on any adopted or planned PaMs. During the review, Austria provided detailed information on the planned PaMs included in the integrated Climate and Energy Strategy (#mission2030), which was adopted in May 2018. The strategy includes 12 flagship projects to achieve three main objectives, namely environmental sustainability, competitiveness/affordability and energy security. Austria has set ambitious targets of reducing emissions by 36 per cent below the 2005 level by 2030 for the non-ETS sectors; achieving a 45–50 per cent share of renewable energy consumption (gross domestic) and 100 per cent of electricity from renewable energy sources (import/export balanced); and a 25–30 per cent reduction in primary energy intensity below the 2015 level by 2030. Specific targets have been set for GHG emission reductions (including sectoral targets for the transport and building sectors) and energy supply and renewable energy, which will be achieved by a more specific National Energy and Climate Plan. Austria is now developing a National Energy and Climate Plan towards 2030 with a new “PaMs package” encompassing the longer-term perspective to realize the targets and objectives in the 2030 strategy. Table 6 provides a summary of the reported information on the PaMs of Austria.

Table 6
Summary of information on policies and measures reported by Austria

<i>Sector</i>	<i>Key PaMs</i>	<i>Estimate of mitigation impact by 2020 (kt CO₂ eq)</i>	<i>Estimate of mitigation impact by 2030 (kt CO₂ eq)</i>
Policy framework and cross-sectoral measures	EU ETS Domestic Environmental Support Scheme Austrian Climate and Energy Fund	NA	NA
Energy	Green Electricity Support Scheme	NA	
Transport	Austrian Fuel Ordinance Mineral Oil Tax Act (a fuel consumption-based tax) Federal and regional programmes to encourage environmentally friendly transport modes		4 800 1 300 500
Renewable energy	Green Electricity Act 2012 Climate and Energy Fund and Domestic Environment Support Scheme to increase the share of renewable energy for heating	4 200 590	1 320
Energy efficiency	Energy Efficiency Act, Combined Heat and Power Act Construction standards for energy efficiency and heat demand	NA 440	610
IPPU	F-gas regulations	NA	
Agriculture	Austrian Agri-Environmental Programme	NA	
LULUCF	Forest Act and Austrian LULUCF Action Plan	NA	
Waste	Austrian Waste Management Act (2002) Austrian Landfill Ordinance	NA	

Note: The estimates of mitigation impact are estimates of emissions of CO₂ or CO₂ eq avoided in a given year as a result of the implementation of mitigation actions.

44. Austria reported in its NC that there is no unified framework for monitoring PaMs, thus it faces difficulties in providing quantified emission reduction impacts for individual

PaMs. During the review Austria explained that the monitoring and evaluation process is conducted annually for its achievement of sectoral targets set under the Climate Change Act but not for individual PaMs. Additionally, an evaluation process for the Climate and Energy Strategy is envisaged for 2023, which will be done in conjunction with the evaluation and update of the National Energy and Climate Plan under the EU Governance Regulation. Regarding individual PaMs, the Party explained that more information on assumptions, methodologies and results was provided in the *GHG Projection and Assessment Report*⁵ because quantified emission reduction impacts for some PaMs were calculated along with the projection modelling process. For monitoring non-GHG impacts there is a national impact assessment system in place, and evaluation and cost–benefit analysis is conducted for certain sectors (e.g. buildings sector) in the form of an annual progress report.

(b) **Policies and measures in the energy sector**

45. **Energy supply.** The primary energy supply in Austria in 2015 comprised 29 per cent from renewable energy sources (9 per cent from hydropower and 20 per cent from other renewables, mainly biomass), 36 per cent from oil products, 20 per cent from natural gas and 10 per cent from coal products. Total gross consumption increased by 37 per cent from 1990 to 2005 and decreased by 2 per cent from 2005 to 2015. Around 60 per cent of gross energy consumption is imported. There is a clear trend of decoupling GHG emissions from GDP and energy consumption since 2005. Gross energy consumption per GDP has decreased by 16 per cent since 1996.

46. PaMs in energy supply include projects implemented through cross-cutting policies, such as the Domestic Environmental Support Scheme and the Austrian Climate and Energy Fund, which are partially aimed at increasing the use of renewable energy sources.

47. **Renewable energy sources.** The Green Electricity Act 2012 has set quantitative targets until 2020 for increasing installed capacity and production of electricity in order to provide for further growth of renewable resources achieved by fixed feed-in tariffs. Tariff support is provided for a limited period for plants installed up to 2020. The four main renewable energy sources are hydropower, wind power, biomass and biogas, and photovoltaics. During the review the Party explained that, by 2015, installed hydropower reached 5,213 GWh, more than 1 TWh above the target, and for wind power an increase of 10,000 to 11,000 GWh of installed capacity is expected by 2020. In addition, Austria provided information on the operation of its Green Electricity Support Scheme, which includes obligatory contracts among the electricity trader, end user, renewable energy supplier and processing centres to ensure the fixed feed-in tariff and to avoid market price risk.

48. For biomass-based district heating systems investment support is granted under the Domestic Environmental Support Scheme and this serves to increase the share of biomass in the heat supply. Additional information provided by Austria during the review stated that a total of EUR 30 million was provided for projects in 2017, including 39 district heating systems, 44 projects extending heat distribution networks, 26 projects for micro-grids and more than 200 individual plants.

49. During the review, Austria also highlighted its new targets for renewable energy in the Climate and Energy Strategy. Austria aims to increase the share of renewable energy in gross energy consumption by 45–50 per cent by 2030 and 100 per cent of electricity from renewable energy sources by 2030. To reach this 100 per cent target, Austria needs to increase renewable electricity by 22–27 TWh and therefore PaMs are planned to increase the share of renewables in heat systems and the transport sector, as well as a rooftop photovoltaics programme. These targets are driven by the dual goals of economic opportunities and protection of nature.

50. **Energy efficiency.** Austria has implemented, through federal laws, the EU energy efficiency legislation which introduces requirements for annual improvements of 1.5 per cent in energy efficiency across EU member States. In addition, Austria provides financial support for cogeneration of power and heat to improve the efficiency of primary energy for electricity

⁵ <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REPO610.pdf>.

production. During the review Austria explained that, through the Climate and Energy Strategy, it has a target to improve energy efficiency by 25–30 per cent by 2030.

51. **Residential and commercial sectors.** Emissions from the residential and commercial sectors have been decreasing since 1990. PaMs in the residential and commercial sectors are largely focused on construction standards with respect to the energy demand of new buildings and criteria for the renovation of buildings, based on the EU directive on the energy performance of buildings. In addition to the mandatory standards, funding is granted for the construction of residential buildings with advanced efficiency standards. The mitigation impact is estimated to amount to 440 kt CO₂ eq in 2020 and 610 kt CO₂ eq in 2030. Financial support is also provided for the use of renewable energy sources for space heating and hot water supply (solar power, biomass, ambient heat, connection to district heating systems).

52. **Transport sector.** Energy demand for transport has more than doubled in the past three decades and is now the dominant sector in terms of final energy consumption (35 per cent in 2015). This is owing to the geographical position of Austria within the EU, the increasing share of fuel sold in Austria and used abroad (“fuel export in the vehicle tank”) along with increasing volumes of both passenger and freight transport. Austria has set various sectoral targets for transport under the Climate Change Act and implements various PaMs to increase the share of clean energy sources in road transport, increase fuel efficiency of road transport and shift to environmentally friendly transport modes. To increase the share of clean energy sources, Austria integrated the EU directive on biofuels into the Austrian Fuel Ordinance, which stipulates minimum targets for the share of biofuels in diesel and gasoline sold. In addition, there is an initiative to increase the share of both electric vehicles and plug-in hybrid vehicles from less than 0.1 per cent in 2013 to about 1 per cent in 2020.

53. Other policies that have delivered significant emission reductions are the Mineral Oil Tax Act (taxation of fuel sales) and the fuel consumption-based car registration levy. To increase fuel efficiency in road transportation, the rate of the levy increases parallel to the standard fuel consumption, penalizing cars with high consumption, while cars with CO₂ emissions below 90g per kilometre and electric vehicles are exempt from the registration tax. Other instruments, such as awareness-raising and training programmes for fuel-efficient driving to improve performance, speed limits and the mileage-based lorry toll on highways, also contribute to reduced fuel consumption.

54. To shift to more environmentally friendly transport modes, considerable investments have been made in railway infrastructure in the past decade and an extension of the public transport network in Vienna is also under way. Austria also undertakes mobility management and awareness-raising programmes, and the Länder pay for certain train and bus services to provide public transport services.

55. During the review Austria highlighted three good practices in the transport sector: the National Programme for Clean Mobility (“klimaaktiv mobil”), promotion of e-mobility with renewable energy and the Master Plan for Cycling and Walking. A strong increase in newly registered electric vehicles was observed owing to the implemented PaMs. Austria also provided information on its 2030 transport target to cut GHG emissions by 36 per cent, which will reduce emissions by around 7.2 Mt CO₂ eq. By 2050 Austria aims for zero-emission vehicles, extensive decarbonization and clean mobility. To reach the 2030 sectoral target, planned PaMs will promote zero-emission vehicles, expansion of rail and public transport, use of renewable energy and doubling of the share of cycling in 2025. During the review, Austria provided results of its “klimaaktiv mobil” initiative for 2007–2017, highlighting that 11,600 projects with annual savings of 500,000 kt CO₂ eq led to some 6000 green jobs being created or secured, with 77,500 children or young people being involved in the projects. The co-benefits of increased health and reduced GHG emissions helped to ensure the success of this project.

56. The NC7 includes information on how Austria actively supports the EU work on promoting and implementing the decisions of ICAO and IMO to limit emissions from aviation and marine bunker fuels. During the review, Austria explained that, since 2012, the EU ETS includes aviation emissions and that the EU has been a driving force behind the ICAO agreement on a global market-based mechanism to limit GHG emissions from

international aviation. Austria outlined that it plans to participate in the voluntary pilot phase of the ICAO mechanism, which starts in 2021.

57. Although Austria does not have a significant share of inland aviation travel, during the review the Party highlighted that it has been involved in a number of collective actions throughout Europe with the aim of reducing GHG emissions from aviation, including aircraft-related technology development, alternative fuels, improved air traffic management and infrastructure use, economic/market-based measures, EU initiatives and support to voluntary actions. Austria explained during the review that there are ongoing political and technical discussions to develop standards and recommended practices, involving key experts from the Austrian Environment Agency. Austria also reports annually its international aviation CO₂ emissions and submits to ICAO annual action plans for CO₂ emission reductions,⁶ including preparing a baseline scenario and estimating benefits of its implemented measures.

58. During the review, with regard to IMO, the Party highlighted that even though Austria is a landlocked country, it holds membership of IMO and its legal instruments continue to be relevant, but the practical effect of implementing actions to reduce maritime emissions is limited in scope.

59. **Industrial sector.** Most of Austria's industrial sector is covered by the EU ETS, including ceramics, steel, minerals, cement, lime and gas industry. However, Austria also has PaMs relating to energy efficiency in place and implemented in this sector and the Domestic Environmental Support Scheme helps to provide financial support to the industrial sector to reduce GHG emissions.

(c) **Policies and measures in other sectors**

60. **Industrial processes.** While mitigation of CO₂ and N₂O from IPPU is mainly covered by the EU ETS and the Domestic Environmental Support Scheme there are key domestic measures mainly focusing on prohibiting the use of F-gases. Austria has a long history in reducing emissions from F-gases, with national bans enacted since 2002, which were later complemented by EU laws. During the review, Austria provided further information on the EU quota system for producers and consumers on the use of HFCs from 2015 to 2030, on Austria's training and certification programmes and on the reduction plan for HFCs until 2030.

61. **Agriculture.** Austria has a number of programmes on agricultural policy with a key focus on environmental farming practices for Austria's largely small-scale agricultural system. The long-running Agri-Environmental Programme has been extended for the 2014–2020 period and includes initiatives to reduce GHG emissions through organic farming policies, restrictions on the use of mineral fertilizers, greening of arable land, maintenance of grassland, low-impact tilling practices, low-loss applications of manure, and education and training to enhance soil fertility. Austria stated in its NC7 that it is among the European countries with the highest number of organic farms.

62. **LULUCF.** Austria has significant forest cover which is steadily increasing. For over 100 years Austrian forest management policy has been guided by sustainable forest management, and since 1975 this has been applied through the Austrian Forest Act. Austria considers its forest as multifunctional, focusing on production, protection, recreation and environmental functions. The Austrian Programme for Rural Development 2014–2020 provides support measures to increase forest cover through actions that prevent forest fires and natural disasters and to increase the resilience of forest ecosystems. Austria also has a LULUCF Action Plan which states that the emissions/removals from the LULUCF sector have contributed by far the largest share in total emissions/removals. During the review Austria provided information on the Austrian forest strategy, which was launched in August 2018 and aims to ensure and optimize all dimensions of sustainable forest management in a balanced way and to help ensure the multifunctional services that forests provide for present and future generations.

⁶ https://www.icao.int/environmentalprotection/Lists/ActionPlan/Attachments/78/CO2%20Reduction%20Action%20Plan_Austria_July%202018.pdf.

63. **Waste management.** Solid waste disposal has dominated emissions in the waste sector and, as a result of the Austrian Landfill Ordinance, the deposition of untreated biodegradable waste has been banned since 2009. During the review Austria explained that it is capturing CH₄ from old landfill sites and has a number of waste-to-energy incineration plants.

(d) Minimization of adverse impacts in accordance with Article 2 and Article 3, paragraph 14, of the Kyoto Protocol

64. In the NC7 Austria 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. According to Austria, the Kyoto Protocol is, in principle and in general, designed to minimize adverse effects and that by striving to implement the features of the Protocol, including jointly with other EU member States, Austria is working in that direction. However, although these policies are executed at the national level they are not monitored and assessed by individual member States, but by the EU as a whole and the ERT noted that it was unclear how Austria itself minimizes adverse effects. It also noted that no additional information is provided in Austria's NIR (2018).

(e) Assessment of adherence to the reporting guidelines

65. The ERT assessed the information reported in the NC7 of Austria and identified issues relating to completeness, transparency and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 7.

Table 7

Findings on policies and measures, including those in accordance with Article 2 of the Kyoto Protocol from the review of the seventh national communication of Austria

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement ^a specified in paragraph 15 Issue type: transparency Assessment: encouragement	In its NC7, Austria outlined the role of national, state, provincial and local level action, but did not report on any PaMs undertaken at the regional or local level. During the review, Austria provided comprehensive information on the regional programmes and activities, including strategies for mitigation and adaptation programmes. In addition, Austria explained the multi-level cooperation and partnership between federal government and the Länder on climate change. The ERT encourages the Party to include information in its next NC on PaMs planned, adopted and/or implemented at the regional and local level.
2	Reporting requirement ^a specified in paragraph 16 Issue type: completeness Assessment: encouragement	In its NC7, Austria did not provide information on any PaMs that encourage activities that lead to greater levels of GHG emissions than would otherwise occur. During the review, Austria confirmed that such policies and practices were not identified during the preparation of the NC7 and provided more information, including a 2016 study prepared by the Austrian Institute of Economic Research funded by the Austrian Climate and Energy Fund (http://www.wifo.ac.at/wwa/pubid/58641) with broad analysis on subsidies and tax exemptions. The ERT encourages the Party to report in its next NC the information it has available with regard to the identification of policies and practices which encourage activities that lead to greater levels of GHG emissions.

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
3	Reporting requirement ^a specified in paragraph 20 Issue type: transparency Assessment: encouragement	<p>While describing the overall policy context and national targets for GHG mitigation, Austria reported that quantitative sectoral targets and administrative responsibilities to fulfil international and European climate change commitments are laid down in the Climate Change Act (2011). However, Austria did not report the value of its sectoral targets.</p> <p>During the review Austria provided information on its GHG emission reduction target of non-ETS sectors for 2020 (16 per cent below the 2005 level) and 2030 (36 per cent below the 2005 level) as well as information on its sectoral targets. In addition, information was provided on the objectives of renewable energy development and energy efficiency improvement for the years 2020 and 2030.</p> <p>The ERT encourages Austria, when describing the overall policy context, to also include its national and sectoral targets for GHG emission mitigation, including any other relevant policy objectives and targets such as for renewable energy and energy efficiency.</p>
4	Reporting requirement ^a specified in paragraph 21 Issue type: completeness Assessment: encouragement	<p>Austria did not provide a description of its processes for monitoring and evaluating the progress of PaMs.</p> <p>During the review, Austria explained that the achievement of sectoral targets under the Climate Change Act is monitored and evaluated on a continuous basis. However, annual progress reports and evaluation documents on the status of implementation of individual measures from the multi-annual plans under the Climate Change Act are in place. In addition, an evaluation process for the Climate and Energy Strategy is envisaged, to be established for 2023.</p> <p>The ERT encourages Austria in its next NC to provide a description of its processes for monitoring and evaluating the progress of its PaMs over time.</p>
5	Reporting requirement ^a specified in paragraph 23 Issue type: transparency Assessment: encouragement	<p>Austria only reported a quantitative estimate of the impacts of some PaMs in its NC7.</p> <p>During the review Austria explained that there are no uniform regulations for monitoring and reporting the effect of PaMs, which makes reliable calculation of the mitigation impact of policies very difficult. Therefore, the priority was given to those PaMs of political importance instead of greater mitigation impacts.</p> <p>The ERT encourages the Party to provide in its next NC a quantitative estimate of the impacts of individual PaMs or collections of PaMs or include the relevant explanations in its next NC as to why this may not be possible owing to its national circumstances.</p>
6	Reporting requirement ^a specified in paragraph 24 Issue type: completeness Assessment: encouragement	<p>Austria did not report costs and non-GHG mitigation benefits of PaMs in its NC7, although in its NC6 it had indicated that a requirement for compiling individual impact assessments for new legislative proposals by the federal government was initiated at the end of 2013.</p> <p>During the review, Austria explained that there is a national impact assessment system in place and some general information is available for individual PaMs. In addition, Austria has information on costs and non-GHG mitigation benefits for certain sectors (e.g. buildings sector) in related progress reports. However, a summary evaluation of impact assessments is not available.</p> <p>The ERT encourages the Party to provide in its next NC information on the costs and non-GHG mitigation benefits of PaMs.</p>

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
7	Reporting requirement ^a specified in paragraph 25 Issue type: transparency Assessment: recommendation	Austria reported that all policies are expected to modify the longer-term emission trend through sustainable structural and behavioural changes and by reducing emission intensity and improving efficiency in the sector affected. However, the ERT could not gain a clear understanding of how Austria's PaMs are modifying the longer-term emission trend, including how its PaMs link to the overall national climate strategy. During the review Austria provided information on how it believes the policies are expected to modify the longer-term trend on a sectoral basis and explained that it is drafting the Energy and Climate Plan for 2030 as well as the low-carbon strategy for 2050, which will include more information on the longer-term effects of PaMs. The ERT recommends that the Party improve the transparency of the reporting by including in its next report a clearer description demonstrating how Austria believes the PaMs are modifying the longer-term emission trend.
8	Reporting requirement ^b specified in paragraph 23 Issue type: transparency Assessment: recommendation	Austria reported information on how it seeks to implement commitments to minimize adverse social, environmental and economic impacts on developing country Parties; however, the ERT noted that Austria reported on how the EU as a whole monitors adverse effects and it was unclear how Austria itself minimizes adverse effects. During the review Austria explained that more work was needed to address this issue and that there was substantial work under way at the national level implementing EU-wide PaMs with EU-wide effects. The ERT recommends that in its next NC Austria report 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, effects on international trade, and social, environmental and economic impacts on other Parties, or provide the relevant references.
9	Reporting requirement ^b specified in paragraph 35 Issue type: completeness Assessment: recommendation	Austria reported information on how it supports the EU work with regard to ICAO and IMO but did not identify the steps it has taken at the national level to promote and/or implement any decisions. During the review Austria explained that it reports its annual GHG emissions from international aviation and is actively engaged in the political and technical discussions to develop the standards and recommended practices for ICAO. Furthermore, although Austria is a member of IMO, as a landlocked country it does not actively participate in IMO activities. The ERT recommends that in its next NC Austria report on the steps it has taken to promote and/or implement any ICAO and IMO decisions at the national level.

Note: The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on NCs.

^a Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs.

^b Paragraph number listed under reporting requirement refers to the relevant paragraph of the reporting guidelines for supplementary information.

C. Projections and the total effect of policies and measures, including information on supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol

1. Projections overview, methodology and results

(a) Technical assessment of the reported information

66. Austria reported updated projections for 2020, 2025, 2030 and 2035 relative to actual inventory data for 2015 under the WEM scenario. The WEM scenario reported by Austria includes implemented and adopted PaMs launched by June 2016.

67. Austria provided a definition of its WEM scenario, explaining that it includes climate change mitigation measures that were implemented and adopted before June 2016. The definition indicates that the scenario was prepared according to the UNFCCC reporting guidelines on NCs.

68. Austria explained that it did not report a WAM scenario because consensus on a set of planned PaMs to meet the 2030 target had not yet been reached at the time of preparation of the NC7. Austria also explained that preparations for the Climate and Energy Strategy for 2030 had begun, but that the early election of the Parliament in autumn 2017 temporarily stopped that work. During the review, Austria pointed out that the preparation of an updated WAM scenario is at an advanced state.

69. 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 CO₂, CH₄, N₂O, PFCs, HFCs (treating PFCs and HFCs collectively in each case), SF₆ and NF₃ for 2020, 2025, 2030 and 2035. The projections are also provided in an aggregated format for each sector as well as for a Party total using global warming potential values from the IPCC Fourth Assessment Report.

70. Emission projections related to fuel sold to ships and aircraft engaged in international transport were reported separately and were not included in the totals. In this regard, the ERT noted that Austria implemented a recommendation made in the previous review report, namely to report separate information on emission projections related to fuel sold to ships and aircraft engaged in international transport. Austria reported on some factors and activities affecting emissions for each sector.

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

71. The ERT noted that Austria has a well-established national system in place that facilitates the compilation and regular update of projections in a sound and efficient way. The excellent collaboration between the various institutions responsible for calculating projections for particular sectors ensures consistent results across all sectors as well as models applied.

72. The methodology used for the preparation of the projections is identical to that used for the preparation of the emission projections for the NC6. Austria reported supporting information further explaining the methodologies and the changes made since the NC6. To project GHG emissions, Austria applied the same methodologies as for the national GHG inventory, using sectoral forecasts of activities based on several models and methods. Austria summarized these models and methods in the NC7, providing a more detailed description in an annex to the NC7 as well as in an accompanying report on GHG projections and the assessment of PaMs in Austria. Differences compared with previous submissions mainly concern changes in the base data, revised assumptions for activities, updates of emission factors and changes to some models (i.e. the economic model and the model for the LULUCF sector).

73. To prepare its projections, Austria relied on the following key underlying assumptions: GDP growth rate (remaining constant at about 1.5 per cent per year from 2015 to 2030), population (increasing by almost 8 per cent from 2015 to 2030), number of households (increasing by about 11 per cent from 2015 to 2030), heating degree days (decreasing by about 3 per cent from 2020 to 2030), exchange rate USD/EUR (remaining constant at a value of 1.2 USD/EUR from 2015 to 2030), international energy prices for oil, coal and gas (increasing, depending on the fuel, in a range from 45 to 110 per cent between 2015 and 2030) as well as prices for CO₂ certificates (increasing by a factor of about 3.5 between 2015 and 2030). These variables and assumptions were reported in CTF table 5. The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections.

74. Austria provided information in its NC7 on methodologies, models and approaches used as well as on the key variables and assumptions underlying the projection scenarios. In particular, annex C to the NC7 provides detailed tables with descriptions of each model. Austria provided information on sensitivity analyses in the NC7. Austria also referred to a

report on energy scenarios until 2050 containing additional information regarding the assumptions made with regard to the projections in the energy sector.

75. Sensitivity analyses, while limited to the energy sector, were conducted for a number of important assumptions, such as economic growth, energy prices, subsidies and prices for CO₂ certificates. As these assumptions are interdependent, Austria provided the following two sensitivity scenarios. First, a scenario with a higher GDP growth rate of 2.5 per cent per year (and higher prices for fuels and CO₂ certificates), leading to 9 per cent higher emissions in 2030 compared with the WEM scenario. Second, a scenario with a lower GDP growth rate of 0.8 per cent per year (and lower prices for fuels and CO₂ certificates), leading to 4 per cent lower emissions in 2030 compared with the WEM scenario.

(c) Results of projections

76. The projected emission levels under the WEM scenario and information on the Kyoto Protocol targets and the quantified economy-wide emission reduction target are presented in table 8 and the figure below. Austria's projected emissions under the ESD and AEAs under the ESD are also presented in the figure below.

Table 8

Summary of greenhouse gas emission projections for Austria

	<i>GHG emissions (kt CO₂ eq per year)</i>	<i>Changes in relation to base-year^a level (%)</i>	<i>Changes in relation to 1990 level (%)</i>
Kyoto Protocol base year ^b	78 855.14	NA	NA
Quantified emission limitation or reduction commitment under the Kyoto Protocol (2013–2020) ^c	50 714.04	NA	NA
Quantified economy-wide emission reduction target under the Convention ^d	NA	NA	NA
Inventory data 1990 ^e	78 804.65	–	–
Inventory data 2015 ^e	78 850.81	0.06	0.06
WEM projections for 2020 ^f	75 392.77	–4.3	–4.4
WEM projections for 2030 ^f	69 766.99	–11.5	–11.5

Note: The projections are for GHG emissions without LULUCF. “Base year” in this column refers to the base year used for the target under the Kyoto Protocol, while for the target under the Convention it refers to the base year used for that target.

^a The Kyoto Protocol base-year level of emissions is provided in the initial review report, contained in document FCCC/IRR/2016/AUT.

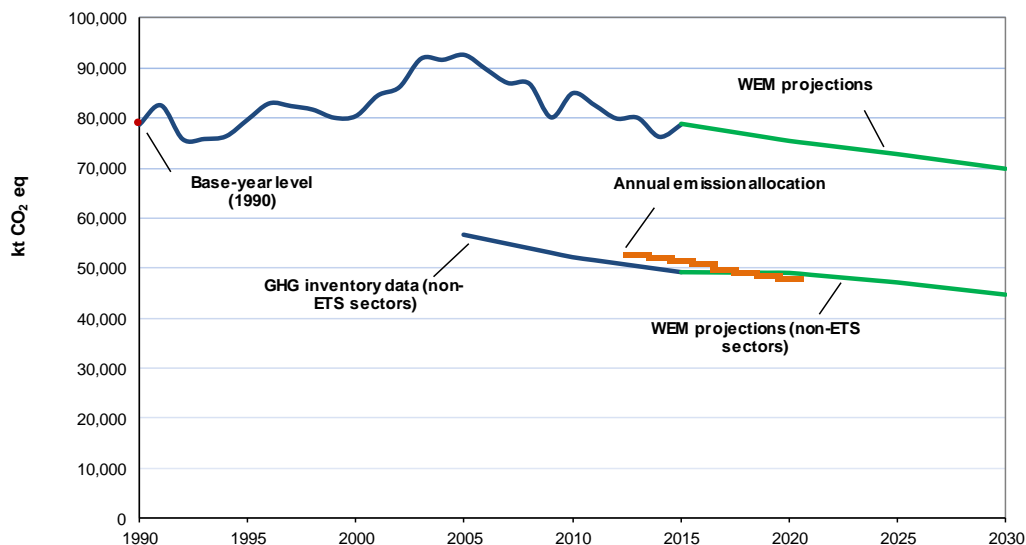
^b The Kyoto Protocol target for the second commitment period (2013–2020) is a joint target of the EU and its 28 member States and Iceland. The target is to reduce emissions by 20 per cent compared with the base-year (1990) level by 2020. The target for non-ETS sectors is a reduction of 16.0 per cent (compared with the 2005 level) for Austria under the ESD. The value presented in this line is based on annex II to European Commission decision 2013/162/EU and as adjusted by Commission implementing decision 2013/634/EU that established the assigned amount for the EU member States and divided by 8 years to calculate the annual emission level.

^c The quantified economy-wide emission reduction target under the Convention is a joint target of the EU and its 28 member States. The target is to reduce emissions by 20 per cent compared with the base-year (1990) level by 2020.

^d From Austria's BR3, CTF table 6.

^e From Austria's NC7.

Greenhouse gas emission projections reported by Austria



Sources: (1) data for the years 1990–2015: Austria’s 2017 annual submission, version 1; total GHG emissions excluding LULUCF; (2) data for the years 2016–2030: Austria’s NC7 and BR3; total GHG emissions excluding LULUCF.

77. Austria’s total GHG emissions excluding LULUCF in 2020 and 2030 are projected to be 75,392.77 and 69,766.99 kt CO₂ eq, respectively, under the WEM scenario, which represents a decrease of 4.3 and 11.5 per cent, respectively, below the 1990 level. The 2020 projections suggest that Austria will continue contributing to the achievement of the EU target under the Convention by reducing its emission levels by 2020.

78. Austria’s target for non-ETS sectors is to reduce its total emissions by 16 per cent below the 2005 level by 2020 (see para. 43 above). Austria’s AEAs, which correspond to its national emission target for non-ETS sectors, decrease from 52,625.04 kt CO₂ eq in 2013 to 47,750.11 kt CO₂ eq for 2020. According to the projections under the WEM scenario, emissions from non-ETS sectors are estimated to reach 49,142.00 kt CO₂ eq by 2020. The projected level of emissions under the WEM scenario is 2.9 per cent above the AEAs for 2020. The ERT noted that this suggests that Austria may face challenges in meeting its target for non-ETS sectors under the WEM scenario.

79. In addition to its target under the EU ETS and ESD, Austria defined national annual emission ceilings by sector for the period 2013–2020 in its Climate Change Act. For 2020, the cumulative national emission ceiling for all sectors is 48,800.00 kt CO₂ eq in 2020. The projections indicate that Austria may face challenges in achieving its national emission ceilings across all sectors.

80. Austria presented the WEM scenario by sector for 2020 and 2030, as summarized in table 9.

Table 9
Summary of greenhouse gas emission projections for Austria presented by sector

Sector	GHG emissions and removals (kt CO ₂ eq)			Change %	
	1990	2020	2030	1990–2020	1990–2030
		WEM	WEM	WEM	WEM
Energy (not including transport)	39 052	28 520	25 705	–27.0	–34.2
Transport	13 976	22 708	21 466	62.5	53.6
Industry/industrial processes	13 663	15 512	14 308	13.5	4.7
Agriculture	8 189	7 342	7 357	–10.3	–10.2
LULUCF	–12 139	–7 747	–4 608	–36.2	–62.0
Waste	3 925	1 312	930	–66.6	–76.3
Total GHG emissions without LULUCF	78 805	75 393	69 767	–4.3	–11.5

Source: Austria's BR3, CTF table 6 (LULUCF as provided in Austria's NC7).

81. According to the projections reported for 2020 under the WEM scenario, the most significant emission reductions are expected to occur in the energy (not including transport) and waste sectors, amounting to projected reductions of 10,532.23 kt CO₂ eq (27.0 per cent) and 2,613.30 kt CO₂ eq (66.6 per cent) between 1990 and 2020, respectively. The pattern of projected emissions reported for 2030 under the same scenario remains the same. Transport is the single most important sector. While this sector showed increasing emissions in the past, projections indicate that emission trends will stabilize and then start to decrease between 2020 and 2030.

82. Austria presented the WEM scenario by gas for 2020, as summarized in table 10.

Table 10
Summary of greenhouse gas emission projections for Austria presented by gas

Gas	GHG emissions and removals (kt CO ₂ eq)			Change (%)	
	1990	2020	2030	1990–2020	1990–2030
		WEM	WEM	WEM	WEM
CO ₂	62 293	63 562	59 525	2.0	–4.4
CH ₄	10 514	6 312	5 920	–40.0	–43.7
N ₂ O	4 342	3 544	3 440	–18.4	–20.8
HFCs	2	1 442	659	59 011.5	26 911.1
PFCs	1 183	34	21	–97.1	–98.2
SF ₆	471	476	159	1.1	–66.2
NF ₃	NO, NA	23	42	–	–
Total GHG emissions without LULUCF	78 805	75 393	69 767	–4.3	–11.5

Source: Austria's BR3, CTF table 6.

83. For 2020 the most significant reductions are projected for CH₄ and PFC emissions: 4,202.11 kt CO₂ eq (40.0 per cent) and 1,148.97 kt CO₂ eq (97.1 per cent; i.e. only minor emissions of PFCs remain) between 1990 and 2020, respectively. N₂O emissions are projected to decrease by 797.66 kt CO₂ eq (18.4 per cent) between 1990 and 2020. Over the same period, CO₂, HFC and SF₆ emissions are projected to increase by 1,268.82 kt CO₂ eq (2.0 per cent), 1,439.88 kt CO₂ eq (59,011.5 per cent) and 5.34 kt CO₂ eq (1.1 per cent), respectively. Projections for NF₃ emissions indicate that they remain of minor importance.

84. Between 2020 and 2030 emissions of CO₂, CH₄, N₂O, HFCs, PFCs and SF₆ are projected to decrease, with CO₂ contributing 4,036.31 kt CO₂ eq to the total decrease of 5,625.78 kt CO₂ eq of all gases. For 2030 the most significant reductions are projected for CH₄ and CO₂: 4,594.09 kt CO₂ eq (43.7 per cent) and 2,767.49 kt CO₂ eq (4.4 per cent) between 1990 and 2030, respectively. PFC, N₂O and SF₆ emissions are projected to decrease by 1,161.94 (98.2 per cent), 901.35 kt CO₂ (20.8 per cent) and 311.50 kt CO₂ eq (66.2 per cent) between 1990 and 2030, respectively. HFC emissions are projected to increase by 656.63 kt CO₂ eq (26,911.1 per cent) between 1990 and 2030.

85. The ERT noted that in the NC6 submission, Austria reported, under the WEM scenario, projected total GHG emissions excluding LULUCF of 79,066.98 kt CO₂ eq for 2020 and 75,957.16 kt CO₂ eq for 2030, which represents an increase of 0.5 per cent and a decrease of 3.5 per cent, respectively, compared with the 1990 level. Austria's projections as presented in the NC7 (see tables 9 and 10), under the WEM scenario, show stronger decreases of 4.3 per cent and 11.5 per cent for 2020 and 2030, respectively (for further details regarding changes since the previous submission see para. 72 above).

(d) Assessment of adherence to the reporting guidelines

86. The ERT assessed the information reported in the NC7 of Austria and identified issues relating to completeness, transparency and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 11.

Table 11

Findings on greenhouse gas emission projections reported in the seventh national communication of Austria

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement ^a specified in paragraph 28 Issue type: completeness Assessment: encouragement	Austria did not report WOM and WAM scenarios. In its NC7 Austria stated that it did not report a WOM scenario because it would be difficult to examine the emission path that would have evolved without any measures, it would cause considerable costs and would not provide reasonable value for policymaking. Austria also stated in its NC7 that it did not report a WAM scenario because the early election of the Parliament in autumn 2017 had temporarily stopped the work on the Climate and Energy Strategy for 2030 and, accordingly, consensus on a set of planned PaMs to meet the 2030 target has not yet been reached. During the review, Austria pointed out that a WAM scenario was provided in most of the previous submissions. It also explained that a WAM scenario will be available at the latest for the final National Energy and Climate Plan, enabling it to report this scenario in future submissions. However, Austria confirmed that the calculation of a WOM scenario cannot be justified for budgetary reasons. The ERT encourages Austria to report WOM and WAM scenarios in its next submission.
2	Reporting requirement ^a specified in paragraph 35 Issue type: completeness Assessment: encouragement	Austria did not report projections for the indirect GHGs carbon monoxide, nitrogen oxides and non-methane volatile organic compounds, or for sulfur oxides. During the review, Austria explained that it does not calculate projections for carbon monoxide. However, it informed the ERT that projections for nitrogen oxides, non-methane volatile organic compounds and sulfur oxides have been reported under the Convention on Long-Range Transboundary Air Pollution. The ERT encourages Austria to report projections for indirect GHGs in its next submission.

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
3	Reporting requirement ^a specified in paragraph 38 Issue type: completeness Assessment: encouragement	Austria reported diagrams illustrating the projections for the most important sectors in its NC7. However, the ERT noted that the diagrams do not completely illustrate the information addressed in paragraphs 34–37 of the UNFCCC reporting guidelines on NCs because diagrams for, among others, LULUCF, international transport and minor source categories are missing. During the review, Austria showed the ERT additional diagrams in its presentations. The ERT encourages Austria to include, in its next submission, diagrams illustrating all the information addressed in paragraphs 34–37 of the UNFCCC reporting guidelines on NCs (such as those for LULUCF, international transport and minor source categories).
4	Reporting requirement ^a specified in paragraph 48 Issue type: transparency Assessment: recommendation	Austria reported information on factors and activities for each sector. However, the ERT noted that this information did not include the necessary details to enable understanding of the emission trends for each sector, such as how and why the trends evolve over time, the shares of different fuels, the economic development in relevant industry branches, relevant factors in the transport and buildings sector and the evolution of factors driving the projections in agriculture. During the review, Austria presented insightful information, highlighting the most relevant factors and activities underlying the emission trends. The ERT also acknowledged that the report “GHG Projection and Assessment of Policies and Measures in Austria” contains detailed information to provide the reader with an understanding of the emission trends. The ERT reiterates the recommendation made in the previous review report that Austria provide additional information on the key factors and activities for each sector to provide an understanding of the emission trends for each sector.

Note: The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on NCs.

^a Paragraph numbers listed under reporting requirement refer to the relevant paragraph of the UNFCCC reporting guidelines on NCs.

2. Assessment of the total effect of policies and measures

(a) Technical assessment of the reported information

87. In the NC7 Austria presented the estimated and expected total effect of implemented and adopted PaMs. Information is presented in terms of GHG emissions avoided or sequestered, by gas (on a CO₂ eq basis), in 2015, 2020, 2025 and 2030. It also presented relevant information on factors and activities for each sector for 1990–2030. However, the ERT noted that this information did not include the details necessary for it to fully understand the underlying emission trends for each sector.

88. Austria reported that the total estimated effect of its adopted and implemented PaMs is 36,300.00 kt CO₂ eq and 50,700.00 kt CO₂ eq in 2020 and 2030, respectively. Table 12 provides an overview of the total effect of PaMs as reported by Austria.

Table 12

Projected effects of Austria's planned, implemented and adopted policies and measures by 2020 and 2030

<i>Gas</i>	<i>Effect of implemented and adopted measures (kt CO₂ eq)</i>	
	<i>2020</i>	<i>2030</i>
CO ₂	30 400.00	41 900.00
CH ₄	3 800.00	4 600.00
N ₂ O	1 000.00	1 300.00
F-gases	1 000.00	2 900.00
Total	36 300.00	50 700.00

Source: Austria's NC7.

Note: Austria calculated the total effect of implemented and adopted PaMs using an indicator-based approach and numbers above do not add up to the total, owing to rounding.

(b) Assessment of adherence to the reporting guidelines

89. The ERT assessed the information reported in the NC7 of Austria and identified issues relating to completeness, transparency and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 13.

Table 13

Findings on the assessment of the total effect of policies and measures from the review of the seventh national communication of Austria

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 39 Issue type: completeness Assessment: encouragement	Austria did not report the expected total effect of planned PaMs in its NC7 because it did not report a WAM scenario, owing to the difficulty in examining the emission path that would have evolved without any measures, cost constraints and lack of value for policymaking. During the review, Austria explained that the work on an updated WAM scenario is currently ongoing in line with the National Energy and Climate Plan for 2030. The ERT encourages Austria to report the expected total effect of planned PaMs in its next submission.
2	Reporting requirement specified in paragraph 40 Issue type: transparency Assessment: recommendation	In its NC7, Austria calculated the total effect of implemented and adopted PaMs using the same indicator-based approach as in previous submissions. The ERT noted that this approach potentially leads to an inaccurate estimation of the total effect of PaMs because it does not properly address autonomous improvements or other effects influencing the GHG intensity over time (e.g. trends to bigger cars, larger living areas). During the review, Austria explained that the calculation of the total effect of implemented and adopted PaMs could not be based on a WOM scenario or on the individual mitigation impacts of relevant PaMs because the necessary information was not available. The ERT reiterates the recommendation made in previous review reports that Austria improve the accuracy and transparency of its reporting on the total effect of implemented and adopted PaMs in its next submission, either through the preparation of a WOM scenario with underlying key assumptions that are consistent with those of the WEM scenario, or through an aggregation of the mitigation impacts of each significant PaM.

Note: Paragraph numbers listed under reporting requirement refer 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, transparent and adhering to the UNFCCC reporting guidelines on NCs.

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

(a) Technical assessment of the reported information

90. In the NC7 Austria provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action. The Party explained that joint implementation and/or clean development mechanism projects are expected to play a minor role during the second commitment period of the Kyoto Protocol and that it intends to reach the target by domestic measures.

91. During the review Austria explained that it does not plan to engage in joint implementation or clean development mechanism projects during the second commitment period; however, it may be noted that under a contract that was signed in 2003 a low number of certified emission reductions (less than 70,000) had been delivered in the second commitment period. Austria is still considering whether it will use these certified emission reductions.

(b) Assessment of adherence to the reporting guidelines

92. The ERT assessed the information reported in the NC7 of Austria and recognized that the reporting is complete and transparent. No issues relating to the topics discussed in this chapter of the review report were raised during the review.

D. Provision of financial and technological support to developing country Parties, including information under Articles 10 and 11 of the Kyoto Protocol

1. Financial resources, including under Article 11 of the Kyoto Protocol

(a) Technical assessment of the reported information

93. Austria reported information on the provision of public financial support required under the Convention and its Kyoto Protocol, including on financial support provided, committed and pledged, allocation channels and annual contributions.

94. Austria indicated what “new and additional” financial resources it has provided and clarified how it has determined such resources as being “new and additional”. Austria defines new and additional as a gradual scaling up of support over the years since the Convention and its Kyoto Protocol entered into force, with new programmes, projects and focus areas supplementing and/or extending existing initiatives over time, with the overall volume of support provided increasing in the longer term. Moreover, Austria outlined the efforts exerted to strike a balance between support for adaptation and mitigation in its bilateral cooperation.

95. Austria described its general approach on how its resources address the adaptation and mitigation needs of non-Annex I Parties, highlighting that all bilateral programmes, projects and initiatives are developed and implemented in close cooperation with partner countries, or result from priorities jointly identified or responding to individual requests from government agencies in partner countries. Austria did not specifically describe in textual format how those resources assist non-Annex I Parties to mitigate and adapt to the adverse effects of climate change, facilitate economic and social response measures, and contribute to technology development and transfer and capacity-building related to mitigation and adaptation. However, the ERT noted that Austria provided complete and transparent information in tabular format showing a significant improvement since its NC6. Austria used the CTF for delivering information on the provision of public financial support in both the BR3 and the NC7, outlining consistent information between the two reports.

96. With regard to the most recent financial contributions aimed at enhancing the implementation of the Convention by developing countries, Austria reported that its climate finance has been allocated across a broad range of actors involved in the process, including ADC, the Development Bank of Austria, the Federal Ministry of Finance and the Ministry of Sustainability and Tourism. Austria made a reference to its Climate Finance Strategy and its

2016 update,⁷ and to the work of the inter-ministerial working group which regularly takes stock of developments related to climate finance, including the tracking of support. During the review, Austria provided information on its Development Cooperation Act and the three-year programme on the Austrian Development Policy 2016–2018,⁸ which identified 11 priority countries for development cooperation. Austria specified that priority countries for cooperation in the field of environment and climate change are chosen according to several criteria, an important one being similarities in geography and morphology. In particular, the case of Bhutan⁹ was one in which the recipient country actively sought Austria as partner in developing climate change adaptation measures, in REDD-plus¹⁰ and in the use of the mitigation potentials of the main forest types. Table 14 includes some of the information reported by Austria on its provision of financial support.

Table 14

Summary of information on provision of financial support by Austria in 2013–2016

(Millions of United States dollars)

Allocation channel of public financial support	Year of disbursement			
	2013	2014	2015	2016
Official development assistance	584.512	579.66	828.54	1 076.79
Climate-specific contributions through multilateral channels, including:	65.97	55.04	66.23	74.23
Global Environment Facility	7.77	–	19.57	9.77
Least Developed Countries Fund	1.99	–	–	–
Special Climate Change Fund	–	–	–	–
Adaptation Fund	0.66	–	–	–
Green Climate Fund	–	–	6.64	12.83
Trust Fund for Supplementary Activities	–	–	–	–
Financial institutions, including regional development banks	54.02	53.51	38.47	50.14
United Nations bodies	1.52	1.53	1.55	1.48
Other	0.95	0.11	0.24	0.14
Climate-specific contributions through bilateral, regional and other channels	122.82	132.35	121.39	135.21

Sources: (1) Query Wizard for International Development Statistics, available at <http://stats.oecd.org/qwids/>; (2) Austria's NC7.

97. Austria indicated in its NC7 that the Climate Finance Strategy contains guidelines for tracking the provision of climate finance by using OECD DAC methodologies to ensure consistency with Austria's official development assistance figures. The methodology used for preparing information on international climate support is based on OECD DAC Rio markers for mitigation and adaptation. In particular, for projects marked with a Rio marker value "1", amounts reported as climate finance are discounted by 50 per cent, and no double counting is ensured. In its NC7, Austria described its efforts to track publicly mobilized private climate finance, both at the national level through ADC business partnerships and at the international level through active participation in the OECD Research Collaborative on Tracking Private Climate Finance. However, Austria did not elaborate on PaMs aiming to scale up mobilization, apart from the reference to the ADC partnerships.

⁷ https://www.bmnt.gv.at/dam/jcr:eb0ecc2a-e7b8-4a4c-9692-ffc6f32eb351/Revision%20der%20Klimafinanzierungsstrategie_2017.pdf.

⁸ https://www.entwicklung.at/fileadmin/user_upload/Dokumente/Publikationen/3_JP/Englisch/2016-2018_3-YP_UPDATE_2017.pdf.

⁹ https://www.entwicklung.at/fileadmin/user_upload/Dokumente/Publikationen/Landesstrategien/CS_Bhutan_2015-2018.pdf.

¹⁰ Reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70).

(b) Assessment of adherence to the reporting guidelines

98. The ERT assessed the information reported in the NC7 of Austria and identified issues relating to completeness and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 15.

Table 15

Findings on financial resources, including under Article 11 of the Kyoto Protocol, from the review of the seventh national communication of Austria

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	<p>Reporting requirement^a specified in paragraph 52</p> <p>Issue type: transparency</p> <p>Assessment: recommendation</p>	<p>Austria provided granular and improved information on the target countries of its assistance in tabular format and recognized that the Pacific island countries and surrounding territories are highly vulnerable to the effects of climate change. However, Austria did not report in its NC7 detailed information on the assistance provided for the purpose of assisting developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects. The ERT noted that this is not in accordance with the UNFCCC reporting guidelines on NCs.</p> <p>During the review, Austria stressed the complexity of adopting an established definition of “Parties that are particularly vulnerable to the adverse effects of climate change” and clarified that it had not elaborated a specific strategy focused on vulnerable countries.</p> <p>The ERT recommends that Austria provide in its next NC detailed information on the assistance provided for the purpose of assisting developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects.</p>

Note: The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on NCs.

^a Paragraph number listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on NCs.

2. Technology development and transfer, including information under Article 10 of the Kyoto Protocol

(a) Technical assessment of the reported information

99. Austria provided information on steps, measures and activities related to technology transfer, access and deployment benefiting developing countries, including information on activities undertaken by the public and private sectors. Austria is committed to a range of actions to advance technology development and transfer. Technology for mitigation and adaptation is a component of many of the programmes and projects supported by Austria’s climate finance commitments.

100. In particular, ADC has a strong focus on sustainable energy, in particular hydropower and solar power, as well as on the dissemination of decentralized renewable energy solutions. Another important actor is the Development Bank of Austria. The national designated entity for the Climate Technology Centre and Network, located in the Ministry of Sustainability and Tourism, undertakes cooperation projects in partner countries. Austria is also a member of institutions and initiatives that focus on the transfer of technology developments. For example, Austria is a key player, as both an initiator and a supporter, in the Global Forum on Sustainable Energy. The Forum is a multi-stakeholder platform facilitating international dialogue on energy for sustainable development, which takes into account the special interests and challenges of developing countries.

101. The ERT noted that Austria reported on its PaMs, as well as success stories, in relation to technology transfer, and in particular on measures taken to promote, facilitate and finance the transfer and deployment of climate-friendly technologies for both adaptation and mitigation. Austria described the implemented activities and projects and those under implementation in different regions of the world in which its expertise and best practice, especially in the energy sector, was used. In its reporting, Austria specified the

implementation period of every project in tabular format and specified whether the public and/or the private sector had been involved. For example, Austria highlighted its project “Contribution to the Energy and Environment Programme in Southern and Eastern Africa”, which provided EUR 4 million in financial support together with contributions from other EU member States, to increase access to modern, affordable and reliable energy services through increased use of renewable energy technologies. Nearly 600,000 households have benefited from the project, with 1.3 MW of installed renewable energy generation capacity (mostly photovoltaics) leading to a potential annual GHG emission reduction of 700,000 t CO₂ eq.

102. Austria 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.

(b) Assessment of adherence to the reporting guidelines

103. The ERT assessed the information reported in the NC7 of Austria and identified issues relating to completeness and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 16.

Table 16

Findings on technology development and transfer, including information under Article 10 of the Kyoto Protocol from the review of the seventh national communication of Austria

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement ^a specified in paragraph 56 Issue type: completeness Assessment: recommendation	Although Austria made a cross reference to research partnerships funded by the Commission for Development Studies which also contribute to the enhancement of endogenous capacities, the ERT noted that Austria did not report information in its NC7 on steps taken (e.g. how and through which initiatives the government supports the development and enhancement of endogenous technologies of developing countries). During the review Austria explained that projects and activities are often developed jointly with the partner countries, and the work relies upon local experts and consultants. Austria provided an example of how it does this through its Pacific Centre for Renewable Energy and Energy Efficiency programme. Support to regional centres is based on the involvement of local actors and building local knowledge and capacities; programmes include addressing barriers and drivers for sustainable energy markets through enhancing the productivity and competitiveness of industries with high value and job creation potential. The ERT recommends that Austria include information in its next NC on how the government supports the development and enhancement of endogenous technologies of developing countries.

Note: The reporting on the requirements not included in this table is considered to be complete, transparent and adhering to the UNFCCC reporting guidelines on NCs.

^a Paragraph numbers listed under reporting requirement refer to the relevant paragraphs of the UNFCCC reporting guidelines on NCs.

E. Vulnerability assessment, climate change impacts and adaptation measures

1. Technical assessment of the reported information

104. In the NC7 Austria provided the required information on the expected impacts of climate change in the country and on the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations. Austria provided a description of climate change vulnerability and impacts on agriculture, forestry, ecosystems and biodiversity, water resources and management, human health, tourism, construction and housing, transportation infrastructure, energy, industry and trade.

105. Austria considers itself a country particularly vulnerable to climate change because of its location in the Alpine region. The ERT noted that in its NC7 Austria described in more detail compared with previous NC reports the expected impacts of climate based on recent research, and provided other relevant expected impacts based on its vulnerability assessment.

106. The methodologies used for determining the climate change impacts and vulnerabilities are based on the Austrian Assessment Report 2014 (Austrian Panel on Climate Change, 2014) prepared by the Austrian Panel on Climate Change. This report reflects contributions from over 200 scientists from the field of climate change in Austria, that outcomes of which complement global efforts such as the IPCC Fifth Assessment Report. Key findings of the research indicate a 2 °C increase in temperature since circa 1880 (average global warming of 0.85 °C), considerable change in temperature extremes (more frequent hot days) and gradual shifts in temperature and precipitation, that are like to affect the national economy and natural capital of Austria.

107. Impetus has been given to addressing adaptation matters with the adoption of the Austrian Strategy for Adaption to Climate Change (Kronberger-Kießwetter, Balas and Prutsch, 2017). The strategy provides further direction to government agencies on enhancing preparedness for climate change. This is a comprehensive framework for the gradual implementation of adaptation measures at the national and regional level. The strategy was adopted by the Council of Ministers on 2012 and endorsed by the Provincial Governors' Conference in 2013. In 2017, the strategy, together with its integrated National Action Plan, were revised. Among the key improvements were the inclusion of the most recent scientific findings reported by the Austrian Panel on Climate Change, numerous recommendations focusing on 14 areas of action, as well as examples of good practices in which systems and areas can successfully respond to climate change. The ERT commends Austria for reporting information on both the adaptation strategy and the action plan.

108. The adaptation measures included in the Austrian strategy for adaptation to climate change aim at reducing the impacts of climate change on the most vulnerable sectors and areas, and include a wide range of activities, from optimization of network infrastructure and generation–consumption interaction in the power supply system, training on adaptation measurements in the area of construction and housing, improving coordination, planning and management and research support about natural resources (biodiversity, water, soil, forests), to education of society and preparedness for extreme events. Furthermore, Austria has assessed the cost of inaction (EUR 3.8 to EUR 8.8 billion by 2050), which highlights the need for the implementation of adaptation measures to be included in long-term planning.

109. Table 17 summarizes the information on vulnerability and adaptation to climate change presented in the NC7 of Austria and the Austrian Assessment Report 2014.

Table 17

Summary of information on vulnerability and adaptation to climate change reported by Austria

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
Agriculture and forestry	<p><i>Vulnerability:</i> changes in precipitation patterns pose high vulnerability owing to an increase in heat stress, reduced water supply, changes in tree life cycles and forest fire events. Other risks include invasive species and pathogens that may affect crop production, grassland and animal husbandry.</p> <p><i>Adaptation:</i> direct activities to sustainable soil practices (e.g. protection, fertility, stability), improved irrigation plans, use of plant protection products, improved treatments for new agricultural diseases and pests, breeding of adaptive plants (e.g. crops, grassland and trees), reduction in damage caused by game animals, preventative work to reduce the potential increase in forest fires and innovations in wood processing technology.</p>
Biodiversity and natural ecosystems	<p><i>Vulnerability:</i> shifts in precipitation patterns and increased temperatures pose high vulnerability by potentially changing species composition, spreading invasive species, and increasing habitat and species loss, particularly in Alpine regions with a high share of endemic species.</p>

Vulnerable area	Examples/comments/adaptation measures reported
Tourism	<p><i>Adaptation:</i> improve knowledge about the impacts of climate change on ecosystems/biodiversity through research, support of monitoring systems and education of society. Ensure the protection of key habitats (e.g. wetlands) and species, through area connectivity, restoration activities, adjustments in the design of leisure/vacation activities and residential areas, among others, to enhance sustainable land use and conservation of ecosystem services.</p> <p><i>Vulnerability:</i> vulnerability varies regionally from high to low. Shorter winters and less snow will result in considerable reductions in the number of tourists and associated short-term economic activities. In contrast, summer tourism may benefit from the extended summer season, but may bear risks caused by heatwaves in cities, warmer lakes with worsening water quality and lower diversity in the natural landscape.</p> <p><i>Adaptation:</i> integrate climate change into tourism strategies and develop climate-friendly adaptation measures, including improved regional databases and climate scenarios to support decision-making.</p>
Energy	<p><i>Vulnerability:</i> vulnerability is expected to be high for cooling buildings with increasing temperatures. Risk to energy generation because of increasing energy demand while energy production from hydropower decreases (high ambient air temperatures affect its efficiency, as well as seasonal changes in run-off of river power plants). However, in the case of housing, vulnerability is expected to be low because of a decrease in heating degree days.</p> <p><i>Adaptation:</i> optimize network infrastructure and generation–consumption interaction in the power supply system, increase security of supply through diversification of energy sources, enhance climate-adapted system planning for transport systems, consider the effects of climate change on energy sector decision-making and research activities, reduce energy demand (increase efficiency) and develop long-term energy supply strategies that take into account adaptation-relevant measures.</p>
Transportation infrastructure	<p><i>Vulnerability:</i> high vulnerability is expected in some regions owing to amounts of snow, higher risks of avalanches and permafrost thawing, rock falls and landslides. At the local level, heavy precipitation can result in flooding, erosion and washouts, while increased heat stress can damage materials and structures, increasing the risks for road transportation and construction.</p> <p><i>Adaptation:</i> further expand information and early warning systems, safeguard transportation systems and thermal comfort, reduce heat stress through air conditioning, review legal standards based on climate change, and implement research, knowledge dissemination and training opportunities in the area of transportation infrastructure in the context of climate change adaptation.</p>
Industry and trade	<p><i>Vulnerability:</i> moderate vulnerability. Risks are linked to potential impacts on the entire value chain of products because of shifts in the availability of materials and increased cooling requirements for product storage and transportation.</p> <p><i>Adaptation:</i> increase the resilience of products, sales and infrastructure, protect supply and energy security, develop climate-friendly goods that take into account climate adaptation requirements, and increase the insurability of climate- and weather-induced damage.</p>
Human health	<p><i>Vulnerability:</i> vulnerability varies from low to high depending on age and living circumstances (e.g. children, elderly people, people with heart disease) owing to heat stress, spread of pathogens, vector and allergic plants, and increased ground-level ozone and ultraviolet radiation.</p> <p><i>Adaptation:</i> increase preparedness for extreme events such as heatwaves, droughts, floods, mudslides, avalanches and landslides, and outbreaks of infectious diseases, and enhance the prevention of adverse health effects linked to pollutants and ultraviolet radiation.</p>
Construction and housing	<p><i>Vulnerability:</i> high vulnerability is expected in some regions (e.g. urban areas) because of heatwaves and higher risks of floods, snow loads, avalanches and landslides.</p>

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
	<i>Adaptation:</i> implement structural measures to ensure thermal comfort and protection from extreme weather events, support research/pilot projects and awareness-raising and training on adaptation measurements in the area of construction and housing.
Water resources	<p><i>Vulnerability:</i> strong regional variability. Shifts in seasonal precipitation may affect water management and water balance impacting shipping, quality and quantity of water bodies (including groundwater).</p> <p><i>Adaptation:</i> enhance data collection and analysis of water resources and the effect of climate change (e.g. adaptive flood management), improve coordination, planning and management of water quality and water consumption/demand for various uses (e.g. human consumption, agriculture, energy industry, commerce).</p>

110. In its NC7 Austria provided information on cooperation with non-Annex I Parties, particularly through support from the Commission for Development Research and ADC, on issues of financial resources, technology transfer and research related to adaptation measures in partnering countries in sub-Saharan Africa, Central and South America and Asia. See paragraph 119 below on research support to developing countries.

2. Assessment of adherence to the reporting guidelines

111. The ERT assessed the information reported in the NC7 of Austria and identified one issue relating to completeness and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 18.

Table 18

Findings on the vulnerability assessment, climate change impacts and adaptation measures from the review of the seventh national communication of Austria

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	<p>Reporting requirement specified in paragraph 49</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>Austria provided in its NC7 a reference to its National Adaptation Strategy and the associated National Adaptation Plan. However, the Party did not include an outline of the action taken to implement Article 4, paragraph 1(b) and (e), of the Convention in relation to the major activities reflected in the strategy and information on its cooperation with developing countries in research and technological development with regard to preparing for adaptation to the impacts of climate change.</p> <p>During the review Austria provided a comprehensive overview covering a variety of adaptation strategies integrated into the sectoral programmes and strategies at the federal and regional level, including a reference to an updated version of the Austrian strategy for adaptation to climate change. The report elaborates on the status of implementation of the actions taken on adaptation at the federal and regional level.</p> <p>The ERT recommends that Austria provide in its next NC an outline of the actions taken to implement Article 4, paragraph 1(b) and (e), of the Convention and include any cross references on issues related to vulnerability and adaptation assessments as required. The ERT notes that this could include adaptation measures and integrated plans for its most vulnerable areas/sectors and provide cross references to any relevant information on issues related to vulnerability and adaptation assessments in the appropriate chapters in its next NC.</p>

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, transparent and adhering to the UNFCCC reporting guidelines on NCs.

F. Research and systematic observation

1. Technical assessment of the reported information

112. Austria provided information on its general policy and funding relating to research and systematic observation and both domestic and international activities, including contributions to the World Climate Programme, the International Geosphere–Biosphere Programme, GCOS, the World Glacier Monitoring Service, the Global Observation Research Initiative in Alpine Environments, European research projects on climate modelling and the work of the IPCC.

113. Austria 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.

114. Austria is actively engaged in promoting research and systematic observation related to the climate system by supporting numerous research projects. As a considerable portion of the country's surface area is influenced by the Alps, emphasis has been given to supporting climate system research and research on climate change impacts for this region.

115. Research in Austria encompasses a wide range of actors, including several ministries, universities, research institutes (e.g. Federal Ministry of Science, Research and Economy, Federal Ministry of Transport, Innovation and Technology, Institute for Meteorology and Geodynamics, Federal Environment Agency, Federal Research and Training Centre for Forests, Natural Hazards and Landscape), climate research programmes (e.g. Start Climate, Austrian Climate Research programme) and funding programmes (e.g. Climate and Energy Fund) to further advance knowledge of sustainable development, applied research and technology development, and climate change impacts, adaptation and mitigation measures.

116. A notable example of multi-institutional coordination on scientific research with relevance to climate change is the Austrian Assessment Report 2014 (particularly its chapter D on vulnerability and adaptation). This comprises Austria's most up-to-date assessments covering climate process and climate system studies; modelling and prediction, including global circulation models; research on the impacts of climate change; socioeconomic analysis, including analysis of both the impacts of climate change and response options; and research and development on mitigation and adaptation technologies.

117. In its NC7, Austria reported on several issues regarding areas of competence and the legal basis to support climate research (e.g. the Research and Technology Funding Act, the Research Organization Act and the Universities Act), as well as a continuously increasing research budget (from 2.91 per cent of GDP in 2012 to 3.14 per cent in 2017), reflecting a robust system of both institutional arrangements and funding.

118. In terms of activities related to systematic observation, Austria reported on national plans, programmes and support for ground- and space-based climate observing systems, including satellite and non-satellite climate observation. Austria also reported on challenges related to the maintenance of a consistent and comprehensive observation system. Austria's instrumental time series are among the longest in Europe, beginning in the eighteenth century. Austria has a dense network of observing stations for meteorological and hydrological parameters and has intensively exchanged data within international networks such as the GCOS surface network, the GCOS upper air network, Global Atmosphere Watch, CLIMAT, the Global Terrestrial Network – Glaciers, the Network for the Detection of Atmospheric Composition Change and the World Data Centre for Greenhouse Gases.

119. In its NC7, Austria referred to its activities regarding research support to developing countries. For example, through funding by the Austrian Commission for Development Research and ADC for projects in partner countries in sub-Saharan Africa, Central and South America and Asia, research has played a role in strengthening adaptation/resilience in strategic ecosystems (e.g. semi-arid, mountain forest) and has contributed to achieving sustainable development in accordance with the United Nations Sustainable Development Goals. During the review week Austria provided additional information on ongoing efforts to strengthen institutional capacities in higher education and research for development, such as the ADC programme "Austrian Partnership Programme in Higher Education and Research

for Development”. However, the NC7 did not reflect specific actions taken to support capacity-building and the establishment and maintenance of observation systems and related data and monitoring systems in developing countries.

120. Austria did not provide 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. During the review, Austria provided more detailed information on its efforts to increase awareness within the Austrian research and monitoring community on the possibilities and advantages of contributing to international data centres, as well as on the dissemination of available national data sets via Austrian GCOS, the European Space Agency and peer-reviewed journals. The ERT commends Austria for reporting its active engagement on national and interactions data collection networks.

2. Assessment of adherence to the reporting guidelines

121. The ERT assessed the information reported in the NC7 of Austria and identified issues relating to completeness and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 19.

Table 19

Findings on research and systematic observation from the review of the seventh national communication of Austria

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 62 Issue type: completeness Assessment: encouragement	In its NC7 Austria did not report on the opportunities for and barriers to free and open international exchange of data and information and did not report on action taken to overcome barriers. During the review Austria explained that it has identified no barriers to free and open international exchange of data. The Party provided examples of key research and monitoring programmes in Austria which serves, among other purposes, to promote data compilation, harmonization and exchange at the national and international level (e.g. GCOS Austria, COPERNICUS programme). The ERT encourages Austria in its next NC to provide information on the opportunities for and barriers to free and open international exchange of data and the action taken to overcome such barriers.
2	Reporting requirement specified in paragraph 64 Issue type: completeness Assessment: encouragement	Austria did not provide summary information on its support for developing countries to establish and maintain observing systems, and related data and monitoring systems. During the review, Austria provided additional information on this issue, giving specific examples from the Austrian Climate Finance Portfolio regarding research and systematic observation in developing countries (e.g. REDD-plus projects), as well as international cooperation provided by the Austrian Met Service (ZAMG) focused on skills for weather prediction and early warning systems in developing countries. The ERT encourages Austria to include in its next NC relevant summary information on exchange and archiving of data in the area of support for developing countries to establish and maintain observation systems and related data and monitoring systems.

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, transparent and adhering to the UNFCCC reporting guidelines on NCs

G. Education, training and public awareness

1. Technical assessment of the reported information

122. In the NC7 Austria highlighted how environmental education has received increased attention in recent decades, and provided information on its actions relating to education, training and public awareness, with a focus on the domestic level, and some references to the international level.

123. Of particular relevance are the National Strategy for Education for Sustainable Development passed by the Austrian Council of Ministers in 2008, and the Network for Schools and Environment (ÖKOLOG), with more than 500 schools participating.

124. Austria reported on a substantial public awareness programme on climate change at the national level and highlighted the key role of the initiative “klimaaktiv” which encompasses a series of targeted group-oriented programmes in the areas of construction and energy efficiency, transport and mobility, communities and renewable energy sources. Klimaaktiv is defined as the Austrian climate initiative that supports communities, companies and citizens on their way to a fossil-free society. There are 25 klimaaktiv partner organizations implementing klimaaktiv branded training, with more than 18,500 participants; klimaaktiv also includes an e-learning service for 9 different training topics, with 1,500 participants.

125. Several relevant initiatives are taking place under klimaaktiv, including one on mobility management for children, parents and educational institutions. Some 74,000 children and young people as well as 5,000 pedagogues are part of the programme, and around 100,000 car trips and more than 750 tonnes of GHG emissions have been avoided.

126. Another important initiative is the Climate Alliance, which is a partnership between more than 1,700 European municipalities and the indigenous peoples of the rainforest in the Amazon Basin, with the goal of protecting the Earth’s atmosphere. More than 960 Austrian municipalities and all Länder, as well as a considerable number of companies and schools, have joined the Climate Alliance.

127. During the review the ERT noted that, according to the NC7, social partners and environmental and business organizations are involved and consulted during the development of national climate change related strategies and plans. For example, a representative of an environmental non-governmental organization is a member of the national Climate Change Committee. Also, there is a formalized process for the public to submit written comments to draft documents (e.g. during the preparation of the Climate and Energy Strategy). However, the ERT noted that this process of public consultation and public participation in the preparation of the national climate change policy related documents is not reflected in the NC7.

2. Assessment of adherence to the reporting guidelines

128. The ERT assessed the information reported in the NC7 of Austria and identified an issue relating to transparency and adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table 20.

Table 20

Findings on education, training and public awareness

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
1	Reporting requirement specified in paragraph 65 Issue type: completeness Assessment: encouragement	Austria did not report the extent of public participation in the preparation or domestic review of the NC. During the review Austria outlined that it considers the preparation of the NC as a process of compilation of information rather than of policy development and that is why public involvement is not deemed necessary. The ERT encourages Austria to specify the extent of public participation in the process of preparing and reviewing its NC. The Party may wish to elaborate on the public consultation and participation process in the preparation of the national climate change related documents.

III. Conclusions and recommendations

129. The ERT conducted a technical review of the information reported in the NC7 of Austria in accordance with the UNFCCC reporting guidelines on NCs. The ERT concludes

that the reported information mostly adheres to the UNFCCC reporting guidelines on NCs and that the NC7 provides an overview of the national climate policy of Austria.

130. The information provided in the NC7 includes all of the elements of the supplementary information under Article 7 of the Kyoto Protocol. 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 not provided by Austria in its 2018 annual submission.

131. Austria's total GHG emissions excluding LULUCF were estimated to be 1.2 per cent above the 1990 level, whereas total GHG emissions including LULUCF were 13.1 per cent above the 1990 level in 2016. Emissions excluding LULUCF stabilized, in part owing to improvements in the efficiency of energy supply and use, as well as the growing use of renewables, in particular in the buildings sector. However, strong economic and population growth, along with increased transport volumes and increases in metal production pose challenges to emission reductions.

132. Austria's main policy framework relating to climate change is the Austrian Climate Change Act (2011). This Act sets individual emission target paths for the relevant sectors to meet the 2020 targets. During the review Austria provided detailed information on planned PaMs included in the integrated Climate and Energy Strategy which was adopted in May 2018. The strategy has set the ambitious target of reducing emissions by 36 per cent below the 2005 level by 2030. The strategy includes 12 flagship projects to achieve three main objectives, namely environmental sustainability, competitiveness/affordability and energy security. Austria also set sectoral targets achieving a 45–50 per cent share of renewable energy consumption; and a 25–30 per cent reduction in primary energy intensity below the 2015 level. The mitigation actions with the most significant mitigation impact are the Green Electricity Support Scheme and Austrian Fuel Ordinance. During the review, Austria also highlighted its overarching support programme, the Climate and Energy Fund, which aims to cultivate innovation and research on sustainability projects and promote green transport.

133. The GHG emission projections provided by Austria include those under the WEM scenario. Under this scenario, total GHG emissions excluding LULUCF are projected to be 4.3 per cent below the 1990 level in 2020. On the basis of the reported information, the ERT concludes that Austria will continue contributing to the achievement of the EU target under the Convention by reducing its emission levels by 2020. Austria also provided projections covering emissions under the ESD only. Under this scenario, for non-ETS sectors, emissions are projected to be 2.9 per cent above Austria's AEs for 2020. On the basis of the reported information, the ERT concludes that Austria may face challenges in meeting its target for non-ETS sectors under the WEM scenario.

134. The ERT noted that Austria is making progress by implementing mitigation actions that are delivering some emission reductions which contribute to the EU target under the Convention. However, on the basis of the results of the projections under the WEM scenario, the ERT also noted that Austria may face challenges in achieving its target under the ESD and would need to further strengthen mitigation actions.

135. The NC7 contains information on how Austria is planning to meet its Kyoto Protocol target through domestic measures alone and without the use of the mechanisms under the Kyoto Protocol, although this position may be revised in the future.

136. Austria continued to provide climate financing to developing countries in line with its climate finance programmes such as its Climate Finance Strategy and with the work of the inter-ministerial working group which regularly takes stock of developments related to climate finance, including the tracking of support. A broad range of Austrian ministries are involved in providing climate finance. Austria has increased its contributions by 11.6 per cent since the NC6, and its public financial support totalled USD 187.62 million in 2015 and USD 209.43 million in 2016. For those years, Austria's support provided for mitigation action was higher than its support provided for adaptation.

137. Austria is committed to a range of actions to advance technology development and transfer. Technology for mitigation and adaptation is a component of many of the programmes and projects supported by Austria's climate finance commitments. ADC has a

strong focus on sustainable energy, in particular hydropower and solar power as well as on the dissemination of decentralized renewable energy solutions.

138. The methodologies used for determining the climate change impacts and vulnerabilities are based on the Austrian Assessment Report prepared by the Austrian Panel on Climate Change. Austria's Strategy for Adaptation to Climate Change is a comprehensive framework for the gradual implementation of adaptation measures at the national and regional levels. In 2017, Austria revised this strategy with updated national action plans, including the most recent scientific findings reported by the Austrian Panel on Climate Change.

139. Austria is actively engaged in promoting research and systematic observation related to the climate system by supporting numerous research projects including multi-institutional coordination on scientific research, culminating in the Austrian Assessment Report 2014 which is similar in scope and format to many IPCC assessment reports. Emphasis has been given to supporting climate system research and research on climate change impacts in the Alpine region, as this covers a significant amount of Austrian geography.

140. Austria identified relevant policies and instruments, demonstrating a sustained commitment to education and public awareness. Relevant initiatives, such as "klimaaktiv" and the Climate Alliance partnership, show significant public engagement and support.

141. In the course of the review, the ERT formulated the following recommendations for Austria to improve its adherence to the UNFCCC reporting guidelines on NCs and its reporting of supplementary information under the Kyoto Protocol:¹¹

- (a) To improve the completeness of its reporting by:
 - (i) Providing information on the steps it has taken to promote and/or implement any ICAO and IMO decisions (see issue 9 in table 7);
 - (ii) Including information on how Austria supports the development and enhancement of endogenous technologies of developing countries (see issue 1 in table 16);
 - (iii) Outlining the actions taken to implement Article 4, paragraph 1(b) and (e), of the Convention, including adaptation measures and integrated plans and provide cross references to any relevant information on issues related to vulnerability and adaptation assessments in the appropriate chapters in its next NC (see issue 1 in table 18);
- (b) To improve the transparency of its reporting by:
 - (i) Including specific information on how the enforcement procedures it has in place to meet its commitments under the Kyoto Protocol will be implemented as well as on the procedures for addressing cases of non-compliance under domestic law (see issue 1 in table 5);
 - (ii) Including a clearer description demonstrating how Austria believes its PaMs are modifying the longer-term emission trends (see issue 7 in table 7);
 - (iii) Providing more detailed 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, effects on international trade, and social, environmental and economic impacts on other Parties, or provide the relevant references (issue 8 in table 7);
 - (iv) Including information on the key factors and activities for each sector to provide an understanding of the emission trends for each sector (see issue 4 in table 11);
 - (v) Specifying the total effect of implemented and adopted PaMs by including a WOM scenario or aggregating the mitigation impacts of each significant PaM (see issue 2 in table 13);

¹¹ The recommendations are given in full in the relevant sections of this report.

(vi) Providing detailed information on the assistance provided for the purpose of assisting developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation to those adverse effects (see issue 1 in table 15);

(c) To improve the timeliness of its reporting by submitting its next NC on time (see para. 6 above).

IV. Questions of implementation

142. During the review the ERT assessed the NC7, including the supplementary information provided under Article 7, paragraph 2, of the Kyoto Protocol, and reviewed the information on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol with regard to timeliness, completeness and transparency. No question of implementation was raised by the ERT during the review.

Annex

Documents and information used during the review

A. Reference documents

2017 GHG inventory submission of Austria. Available at

https://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/aut-2017-nir-12apr17.zip.

2018 GHG inventory submission of Austria. Available at

<https://unfccc.int/sites/default/files/resource/aut-2018-nir-12apr18.zip>.

Austrian Panel on Climate Change. 2014. *Österreichischer Sachstandsbericht Klimawandel 2014* [Austrian assessment report on climate change 2014]. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.

BR3 of Austria. Available at

https://unfccc.int/sites/default/files/resource/27135408_Austria-BR3-2-AT_BR3-v2.pdf.

BR3 CTF tables of Austria. Available at

http://unfccc.int/files/national_reports/national_communications_and_biennial_reports/application/vnd.openxmlformats-officedocument.spreadsheetml.sheet/4892351_austria-br3-1-aut_2018_v1.0.xlsx.

“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”. Annex to decision 24/CP.19. Available at

<http://unfccc.int/resource/docs/2013/cop19/eng/10a03.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/1999/7. Available at <http://unfccc.int/resource/docs/cop5/07.pdf>.

“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”. Annex to decision 15/CMP.1. Available at

<http://unfccc.int/resource/docs/2005/cmp1/eng/08a02.pdf>.

“Guidelines for the preparation of the information required under Article 7 of the Kyoto Protocol”. Annex III to decision 3/CMP.11. Available at

<http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf>.

“Guidelines for review under Article 8 of the Kyoto Protocol”. Annex to decision 22/CMP.1. Available at <http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf>.

“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”. Annex to decision 13/CP.20. Available at

<http://unfccc.int/resource/docs/2014/cop20/eng/10a03.pdf>.

Kronberger-Kießwetter B, Balas M, and Prutsch A. 2017. *The Austrian Strategy for Adaption to Climate Change*. Vienna: Federal Ministry for Sustainability and Tourism.

Available at: <https://www.bmnt.gv.at/service/publikationen/umwelt/austrian-strategy-adaption-to-climate-change.html>.

NC7 of Austria. Available at

https://unfccc.int/sites/default/files/resource/69823015_Austria-NC7-1-AT_NC7.pdf.

Report on the review of the report to facilitate the calculation of the assigned amount for the second commitment period of the Kyoto Protocol of Austria. FCCC/IRR/2016/AUT.

Available at <https://unfccc.int/sites/default/files/resource/docs/2017/irr/aut.pdf>.

Report on the technical review of the sixth national communication of Austria. FCCC/IDR.6/AUT. Available at https://unfccc.int/documentation/documents/advanced_search/items/3594.php?rec=j&preref=600008051#beg.

Revisions to the guidelines for review under Article 8 of the Kyoto Protocol. Annex I to decision 4/CMP.11. Available at <http://unfccc.int/resource/docs/2015/cmp11/eng/08a01.pdf>.

B. Additional information provided by Austria

Responses to questions during the review were received from Mr. Martin Kriech, Federal Ministry for Sustainability and Tourism, including additional material. The following documents¹ were provided by Austria:

Austria. 2018. *The climate and energy strategy of the Federal Government has been adopted May 2018*. Available at <https://mission2030.info/wp-content/uploads/2018/10/Klima-Energiestrategie.pdf>. A translated version is available at https://mission2030.info/wp-content/uploads/2018/10/Klima-Energiestrategie_en.pdf

Austria. 2018. *The draft of the National Energy and Climate Plan according to the Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action*. Available at https://www.bmnt.gv.at/dam/jcr:25575560-8cba-489a-94dc-9109e9ae7648/Entwurf%20NEKP_%C3%96sterreich_20.12.2018_pdf.pdf (in German only).

“GHG Projections and Assessment of Policies and Measures in Austria” from March 2017 <http://www.umweltbundesamt.at/fileadmin/site/publikationen/REP0610.pdf>.

Energieszenarien bis 2050: Wärmebedarf der Kleinverbraucher: https://eeg.tuwien.ac.at/eeg.tuwien.ac.at_pages/research/downloads/PR_470_EnSzen_2017_Endbericht.pdf.

Information on LULUCF Actions Austria <https://www.bmnt.gv.at/dam/jcr:6449432b-022a-4b89-8ddb-482ddd5af699/Austrian%20Forest%20Report%202015.pdf>.

Austria 2015 Sustainable Forest Management in Austria , Austrian Forestry Report 2015 <https://www.bmnt.gv.at/dam/jcr:c0979609-92aa-4b89-8ddb-482ddd5af699/Austrian%20Forest%20Report%202015.pdf>.

Austria 2020+ Austrian Forest Strategy <https://www.bmnt.gv.at/english/forestry/Austriasforests/2020--Austrian-Forest-Strategy-.html>.

Austria 2013 Strategie Österreichs zur Internationalen Klimafinanzierung für die Jahre 2013-2020 Austria’s Climate Finance Strategy 2013-2020, <https://www.bmnt.gv.at/dam/jcr:e2794b42-7a08-4290-b273-43595ba1d41e/%C3%96sterr-Klimafinanzierungsstrategie%202013-2020.pdf>.

¹ Reproduced as received from the Party.