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

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

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

The review of these submissions took place in Bonn from 27 to 31 March 2023.

Contents

	<i>Page</i>
Abbreviations and acronyms	3
I. Introduction and summary	5
A. Introduction	5
B. Summary.....	5
II. Technical review of the information reported in the eighth national communication and fifth biennial report	8
A. National circumstances relevant to greenhouse gas emissions and removals.....	8
B. Greenhouse gas inventory information.....	9
C. Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies.....	11
D. Information on policies and measures	13
E. Estimates of emission reductions and removals and the use of units from market-based mechanisms and land use, land-use change and forestry and progress in achieving the quantified economy-wide emission reduction target	17
F. Projections	18
G. Provision of financial, technological and capacity-building support to developing country Parties	23
H. Vulnerability assessment, climate change impacts and adaptation measures	23
I. Research and systematic observation.....	26
J. Education, training and public awareness.....	27
III. Conclusions and recommendations	27
Annexes	
I. Assessment of adherence to the reporting guidelines for the eighth national communication of Slovakia	31
II. Assessment of adherence to the reporting guidelines for the fifth biennial report of Slovakia	38
III. Documents and information used during the review.....	42
A. Reference documents.....	42
B. Additional information provided by the Party	43

Abbreviations and acronyms

AEA	annual emission allocation
Annex II Party	Party included in Annex II to the Convention
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BR	biennial report
CER	certified emission reduction
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
COPERT	software tool for calculating road transport emissions
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CTF	common tabular format
EEA	European Environment Agency
ENVISAGE	Environmental Impact and Sustainability Applied General Equilibrium
ERT	expert review team
ERU	emission reduction unit
ESD	European Union effort-sharing decision
ESR	European Union effort-sharing regulation
EU	European Union
EU ETS	European Union Emissions Trading System
GCOS	Global Climate Observing System
GDP	gross domestic product
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
N ₂ O	nitrous oxide
NA	not applicable
NAP	national adaptation plan
NC	national communication
NE	not estimated
NF ₃	nitrogen trifluoride
NIR	national inventory report
NO	not occurring
ODA	official development assistance
PaMs	policies and measures
PFC	perfluorocarbon
PRIMES	Price-Induced Market Equilibrium System
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”
RES	renewable energy source(s)
SF ₆	sulfur hexafluoride
SWOT	strengths, weaknesses, opportunities and threats
TIMES	The Integrated Market Allocation–Energy Flow Optimization Model System
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 centralized technical review of the NC8 and BR5 of Slovakia. The review was organized by the secretariat in accordance with the “Guidelines for the technical review of information reported under the Convention related to greenhouse gas inventories, biennial reports and national communications by Parties included in Annex I to the Convention”, particularly “Part IV: UNFCCC guidelines for the technical review of biennial reports from Parties included in Annex I to the Convention” and “Part V: UNFCCC guidelines for the technical review of national communications from Parties included in Annex I to the Convention” (annex to decision 13/CP.20), and the “Guidelines for review under Article 8 of the Kyoto Protocol” (annex to decision 22/CMP.1 and annex I to decision 4/CMP.1).

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

3. The review was conducted together with the review of one other Party included in Annex I to the Convention from 27 to 31 March in Bonn by the following team of nominated experts from the UNFCCC roster of experts: Lukas Emele (EU), Jozsef Feiler (Hungary), Liviu Gheorghe (Romania), Admore Mureva (Zimbabwe), Sekai Ngarize (Zimbabwe), Spyridoula Ntemiri (Greece), Nasimjon Rajabov (Tajikistan) and Shanshan Yang (China). Liviu Gheorghe and Sekai Ngarize were the lead reviewers. The review was coordinated by Anna Sikharulidze, Sevdalina Todorova and Huyen Tran (secretariat).

B. Summary

4. The ERT conducted a technical review of the information reported in the NC8 of Slovakia in accordance with the UNFCCC reporting guidelines on NCs,¹ the reporting guidelines for supplementary information, in particular the supplementary information required under Article 7, paragraph 2, and on the minimization of adverse impacts under Article 3, paragraph 14, of the Kyoto Protocol² and of the information reported in the BR5 of Slovakia in accordance with the UNFCCC reporting guidelines on BRs.³

1. Timeliness

5. The NC8 was submitted on 3 February 2023, after the deadline of 31 December 2022 mandated by decision 6/CP.25.

6. Slovakia did not inform the secretariat about its difficulties with making a timely NC8 submission. In accordance with decision 13/CP.20, a Party should inform the secretariat thereof by the due date of the submission in order to facilitate the arrangement of the review process. The ERT noted with concern the delay in the submission and recommended that Slovakia make its next submission on time.

7. The BR5 was submitted on 3 February 2023, after the deadline of 31 December 2022 mandated by decision 6/CP.25. The CTF tables were also submitted on 3 February 2023.

8. Slovakia did not inform the secretariat about its difficulties with making a timely BR5 submission. In accordance with decision 13/CP.20, a Party should inform the secretariat thereof by the due date of the submission in order to facilitate the arrangement of the review process. The ERT noted with concern the delay in the submission.

¹ Decision 6/CP.25, annex.

² Decision 15/CMP.1, annex, and decision 3/CMP.11, annex III.

³ Decision 2/CP.17, annex.

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

9. Issues and gaps identified by the ERT related to the information reported by Slovakia in its NC8 are presented in tables 1–2. The information reported, including the supplementary information under the Kyoto Protocol, mostly adheres to the UNFCCC reporting guidelines on NCs.

10. The ERT noted that the Party’s NC8 does not closely follow the outline set out in the appendix to the UNFCCC reporting guidelines on NCs. In particular, some subsection headings were omitted, for example in chapters 6, 8 and 9. During the review, Slovakia explained that, although the headings from the guidelines were omitted, other headings were used for consistency with the original sources of information – especially for the subsections on sectoral policies (sectoral models, sectoral analysis). The Party indicated that it had not been possible to follow the subsection headings suggested in the guidelines without significant reorganization and division of information sets as they are based on the above-mentioned sectoral models and analysis. The ERT recommends that Slovakia improve the transparency of its reporting by following the outline set out in the appendix to the UNFCCC reporting guidelines on NCs, to the extent possible, or, if this is not possible, provide the reasons for the use of different subsection headings at the beginning of each relevant chapter.

11. Slovakia made improvements to the reporting in its NC8 compared with that in its NC7, including by addressing some recommendations from the previous review report. The ERT noted that the Party has improved:

(a) The transparency of the information reported on PaMs by clarifying how it believes its PaMs are modifying longer-term trends in anthropogenic GHG emissions and removals;

(b) The transparency of the information reported on projections and the total effects of PaMs by clarifying the relevance of International Maritime Organization decisions for Slovakia in the light of its national circumstances and by presenting current relevant information on factors and activities for each sector to provide the reader with an understanding of emission trends for 1990–2020;

(c) The transparency of the information reported on research and systematic observation by reporting on the actions taken by the country to support capacity-building activities in developing countries related to participation in GCOS.

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

<i>Section of NC</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of recommendations</i>
Executive summary	Mostly complete	Mostly transparent	
National circumstances relevant to GHG emissions and removals	Complete	Transparent	
GHG inventory	Complete	Transparent	
PaMs	Complete	Mostly transparent	Issues 3 and 5 in table I.2
Projections and the total effect of PaMs	Mostly complete	Transparent	Issues 3 and 6 in table I.3
Vulnerability assessment, climate change impacts and adaptation measures	Complete	Mostly transparent	Issue 1 in table I.4
Financial resources and transfer of technology ^a	NA	NA	
Research and systematic observation	Complete	Transparent	
Education, training and public awareness	Complete	Transparent	

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

^a Slovakia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

Table 2

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

<i>Supplementary information under the Kyoto Protocol</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of finding(s)</i>
National system	Complete	Transparent	
National registry	Complete	Transparent	
Supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17	Complete	Transparent	
PaMs in accordance with Article 2	Complete	Mostly transparent	Issue 1 in table I.7
Domestic and regional programmes and/or arrangements and procedures	Mostly complete	Transparent	Issue 2 in table I.7
Information under Article 10 ^a	NA	NA	
Financial resources ^b	NA	NA	
Minimization of adverse impacts in accordance with Article 3, paragraph 14	Complete	Transparent	

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

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

^b Slovakia is not an Annex II Party and is therefore not obliged to provide information on financial resources under Article 11 of the Kyoto Protocol, including on “new and additional” resources.

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

13. Slovakia made improvements to the reporting in its BR5 compared with that in its BR4, including by addressing recommendations and encouragements from the previous review report. The ERT noted that the Party has improved the transparency of the information reported on progress in achievement of quantified economy-wide emission reduction targets and relevant information by ensuring the consistency of the projections between the CTF tables and the text in the BR5, providing adequate descriptions for the WEM and WAM scenarios for the agriculture and waste sectors, and using the latest inventory year (2020) as the basis for its projections.

Table 3

Summary of completeness and transparency of mandatory information reported by Slovakia in its fifth biennial report

<i>Section of BR</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of finding(s)</i>
GHG emissions and removals	Complete	Transparent	
Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies	Complete	Transparent	
Progress in achievement of targets	Mostly complete	Mostly transparent	Issues 1 and 3 in table II.1 Issues 1–3 in table II.2 Issue 3 in table II.3

<i>Section of BR</i>	<i>Completeness</i>	<i>Transparency</i>	<i>Reference to description of finding(s)</i>
Provision of support to developing country Parties ^a	NA	NA	

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

^a Slovakia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paras. 3–5, of the Convention.

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

A. National circumstances relevant to greenhouse gas emissions and removals

1. Technical assessment of the reported information

14. The NC8 contains key data on legislation, population trends, geography and land use, climate and climate change, economic developments, energy, transport, the buildings sector, industry, trade, the services sector, agriculture, forestry, resource efficiency and wastewater.

15. There has been a considerable decrease in Slovakia’s GHG emissions per capita, from 13.85 t CO₂ eq in 1990 to 6.78 t CO₂ eq in 2020. Slovakia’s emissions are decoupled from economic growth; the carbon intensity in 2020 was 0.36 kt CO₂ eq per unit of GDP as opposed to 0.77 in 2005. This decoupling has been achieved mainly through structural changes in the industry sector, the transition to less energy-intensive industries (an increase in the manufacturing of transport equipment mainly at the expense of the energy-intensive manufacturing of basic metals in 2001–2006) and energy savings in the household sector.

16. Slovakia’s fuel mix comprises natural gas, nuclear energy, oil, coal and hydropower. The large proportion of nuclear energy (24.0 per cent) and natural gas (24.9 per cent) means that Slovakia has one of the lowest emissive energy mixes in the EU. The Party has experienced a significant increase in its annual mean temperature since the nineteenth century, resulting in lower fuel consumption for heating. Industry in Slovakia makes a substantial contribution to GDP but its growth decreased considerably in 2020 as a result of the coronavirus disease 2019 pandemic. The industry is highly dependent on the manufacturing of transport equipment, followed by the manufacturing of basic metals and of fabricated metal products. The Act on Waste, adopted in 2016, imposed new rules on extended producer responsibility and on biodegradable municipal waste. With respect to agriculture, livestock production has decreased since 2017 owing to a decrease in animal numbers, while the decreased use of synthetic fertilizers has been the main driver of the reduction in emissions from crops since 1990. The forest area has increased by 1.55 per cent since 1990 and is largely occupied by deciduous tree species. The age structure of forests is unbalanced and affects the increasing trend of growing stocks, which is, however, expected to decrease in line with a gradual change in the age structure in the coming years.

2. Assessment of adherence to the reporting guidelines

17. The ERT assessed the information reported in the NC8 of Slovakia and identified an issue relating to transparency, and thus adherence to the UNFCCC reporting guidelines on NCs. The finding is described in table I.1.

B. Greenhouse gas inventory information⁴

1. Technical assessment of the reported information

18. Slovakia reported information in its BR5 and NC8 on its historical GHG emissions and inventory arrangements. Total GHG emissions⁵ excluding emissions and removals from LULUCF decreased by 49.6 per cent between 1990 and 2020, while total GHG emissions including net emissions or removals from LULUCF decreased by 54.1 per cent over the same period. Emissions peaked in 1990 and gradually decreased thereafter. The changes in total emissions were driven mainly by factors such as industrial and technological restructuring connected with fuel switching from coal and oil to natural gas, economic restructuring towards less energy-intensive production (mostly in recent years) and temporary changes in production intensity (driven by global and EU markets). Transport (mostly road transport), with an increase in emissions of 3.6 per cent between 1990 and 2020, is the exception to the trend of decreasing emissions.

19. Table 4 illustrates the emission trends by sector and by gas for Slovakia. The emissions reported in the 2022 annual submission are the same as those reported in CTF table 1.

Table 4

Greenhouse gas emissions by sector and by gas for Slovakia for 1990–2020

	GHG emissions (kt CO ₂ eq)					Change (%)		Share (%)	
	1990	2000	2010	2019	2020	1990–2020	2019–2020	1990	2020
<i>Sector</i>									
1. Energy	56 279.49	35 982.78	32 020.50	26 848.46	24 608.52	–56.3	–8.3	76.7	66.5
A1. Energy industries	18 965.53	12 111.24	9 179.14	7 067.37	6 446.81	–66.0	–8.8	25.8	17.4
A2. Manufacturing industries and construction	16 096.72	9 435.52	7 666.18	6 329.17	5 932.71	–63.1	–6.3	21.9	16.0
A3. Transport	6 823.77	5 725.61	7 425.74	8 132.58	7 069.21	3.6	–13.1	9.3	19.1
A4. and A5. Other	11 980.87	6 844.11	6 756.33	4 839.36	4 734.70	–60.5	–2.2	16.3	12.8
B. Fugitive emissions from fuels	2 412.60	1 866.30	993.11	479.99	425.09	–82.4	–11.4	3.3	1.1
C. CO ₂ transport and storage	NO	NO	NO	NO	NO	NA	NA	NA	NA
2. IPPU	9 701.66	8 529.84	9 423.49	8 688.33	8 129.84	–16.2	–6.4	13.2	22.0
3. Agriculture	5 987.29	2 817.09	2 607.63	2 572.24	2 579.71	–56.9	0.3	8.2	7.0
4. LULUCF	–9 319.41	–9 390.87	–5 211.08	–5 513.02	–7 593.17	18.5	–37.7	NA	NA
5. Waste	1 406.35	1 374.46	1 572.40	1 667.33	1 684.65	19.8	1.0	1.9	4.6
6. Other ^a	NO	NO	NO	NO	NO	NA	NA	NA	NA
<i>Gas^b</i>									
CO ₂	61 470.19	41 135.93	38 403.93	33 776.19	31 094.73	–49.4	–7.9	83.8	84.0
CH ₄	7 300.92	4 834.14	3 907.62	3 318.38	3 261.56	–55.3	–1.7	10.0	8.8
N ₂ O	4 288.77	2 601.09	2 670.59	1 946.98	1 944.73	–54.7	–0.1	5.8	5.3
HFCs	NO	105.04	597.24	720.74	678.88	NA	–5.8	NA	1.8
PFCs	314.86	14.91	25.01	5.19	5.61	–98.2	8.0	0.4	0.0
SF ₆	0.06	13.04	19.62	8.86	17.20	²⁹ 370.0	94.0	0.0	0.0
NF ₃	NO	NO	NO	NO	NO	NA	NA	NA	NA

⁴ GHG emission data in this section are based on Slovakia's 2022 annual submission, version 5, submitted on 20 October 2022. All emission data in subsequent chapters are based on Slovakia's BR5 CTF tables unless otherwise noted.

⁵ In this report, the term "total GHG emissions" refers to the aggregated national GHG emissions expressed in terms of CO₂ eq excluding LULUCF and including indirect CO₂ emissions, unless otherwise specified.

	<i>GHG emissions (kt CO₂ eq)</i>					<i>Change (%)</i>		<i>Share (%)</i>	
	<i>1990</i>	<i>2000</i>	<i>2010</i>	<i>2019</i>	<i>2020</i>	<i>1990– 2020</i>	<i>2019– 2020</i>	<i>1990</i>	<i>2020</i>
	Total GHG emissions excluding LULUCF	73 374.79	48 704.17	45 624.02	39 776.35	37 002.71	–49.6	–7.0	100.0
Total GHG emissions including LULUCF	64 055.38	39 313.30	40 412.94	34 263.33	29 409.53	–54.1	–14.2	NA	NA
Total GHG emissions excluding LULUCF, including indirect CO₂	73 462.56	48 769.61	45 673.22	39 821.65	37 048.58	–49.6	–7.0	NA	NA
Total GHG emissions including LULUCF, including indirect CO₂	64 143.15	39 378.74	40 462.14	34 308.63	29 455.41	–54.1	–14.1	NA	NA

Source: GHG emission data: Slovakia's 2022 annual submission, version 5.

^a Emissions and removals reported under the sector other (sector 6) are not included in total GHG emissions.

^b Emissions by gas without LULUCF and excluding indirect CO₂.

20. In brief, Slovakia's national inventory arrangements were established in accordance with a decision of the Ministry of Environment of 1 January 2007. The Slovak Hydrometeorological Institute is the entity that prepares the GHG inventory for Slovakia. In 2017, the Institute established the Department of Emissions and Biofuels, which has two main tasks: preparing emissions inventories (for reporting under the UNFCCC, the EU directive on national emission reduction commitments and the Convention on Long-range Transboundary Air Pollution) and managing the national system for biofuels and bioliquids. The Department includes a single national entity with a defined structure and overall responsibility for compiling and finalizing inventory reports and submitting them to the secretariat and the European Commission. This single national entity was officially appointed by decision 16/2011 of the Director General of the Slovak Hydrometeorological Institute in August 2011 (amended in 2012). It also coordinates Slovakia's national inventory system. Since the last reporting cycle (BR4), the national inventory system has been strengthened by involving more institutions in the preparation of the NIR, such as the control and testing body for road vehicles, the Construction Section of the Ministry of Transport and Construction (for buildings' energy balance, mostly focusing on residential heating and cooling) and the State Nature Conservancy (for wetlands identification). Experts with different fields of competence are used for preparing the waste sector inventory.

2. Assessment of adherence to the reporting guidelines

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

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

(a) Technical assessment of the reported information

22. Slovakia provided in the NC8 a description of how its national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol is performing the general and specific functions defined in the annex to decision 19/CMP.1 in conjunction with decisions 3/CMP.11 and 4/CMP.11. The description includes all the elements mandated by paragraph 30 of the annex to decision 15/CMP.1. The NC8 also contains a reference to the description of the national system provided in the NIR of the 2022 annual submission. The ERT took note of the review of the changes to the national system reflected in the report on the individual review of the 2021 annual submission of Slovakia.

(b) Assessment of adherence to the reporting guidelines

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

4. National registry**(a) Technical assessment of the reported information**

24. In its NC8 Slovakia provided information on how its national registry performs the functions in accordance with the annex to decision 13/CMP.1 in conjunction with decision 3/CMP.11 and the annex to decision 5/CMP.1 and complies with the requirements of the technical standards for data exchange between registry systems. The ERT took note of the review of the changes to the national registry reflected in the report on the individual review of the 2021 annual submission of Slovakia.

(b) Assessment of adherence to the reporting guidelines

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

C. Quantified economy-wide emission reduction target and related assumptions, conditions and methodologies**1. Technical assessment of the reported information**

26. Slovakia reported information on its economy-wide emission reduction target in its BR5. For Slovakia the Convention entered into force on 23 November 1994. Under the Convention Slovakia committed to contributing to the achievement of the joint EU economy-wide emission reduction target of 20 per cent below the 1990 level by 2020.

27. The target for the EU and its member States is formalized in the EU 2020 climate and energy package. The legislative package regulates emissions of CO₂, CH₄, N₂O, HFCs, PFCs and SF₆ using GWP values from the AR4 to aggregate the GHG emissions of the EU until 2020. Emissions and removals from the LULUCF sector are not included in the quantified economy-wide emission reduction target under the Convention.

28. The EU-wide targets are primarily implemented through the EU ETS and ESD. The EU ETS covers mainly point emissions sources in the energy, industry and aviation sectors. An EU-wide emission cap was put in place for 2013–2020 for the EU ETS with the goal of reducing emissions by 21 per cent below the 2005 level by 2020. For 2030, a reduction target of 62 per cent below the 2005 level has been set for emissions covered by the EU ETS. The ESD became operational in 2013 and covers sectors outside the EU ETS, including transport (excluding aviation and international maritime transport), residential and commercial buildings, agriculture, small industry and waste. The ESD is regulated through targets for each member State that add up to a reduction at the EU level of 10 per cent below the 2005 level by 2020. The ESR, the successor to the ESD, was adopted in 2018 and amended in 2023 with the target of reducing emissions covered under the ESR by 40 per cent below the 2005 level by 2030.

29. The EU generally allows its member States to use units from the Kyoto Protocol mechanisms for compliance purposes, subject to a number of restrictions in terms of origin and type of project and up to an established limit. Operators and airline operators can use such units to fulfil their requirements under the EU ETS, and member States can use such units for their national ESD targets, within specific limitations.

30. The European Commission set out its vision for a climate-neutral EU in November 2018, and in December 2019 presented the European Green Deal as a road map with actions

for making the EU economy sustainable. The European Council endorsed in December 2019 the objective of making the EU climate-neutral by 2050. As part of the European Green Deal, the 2050 climate-neutrality target was made binding in the first European Climate Law, adopted in 2021. It also increased the ambition of the 2030 emission reduction target to at least 55 per cent below the 1990 level. Member States will set out any increased ambition in the update of their national energy and climate plans.

31. Slovakia has a national target of limiting its emission growth to 13 per cent above the 2005 level by 2020 for ESD sectors. This target has been translated into binding quantified AEAs for 2013–2020. Slovakia’s AEAs change following a linear path from 24,023.50 kt CO₂ eq in 2013 to 25,948.87 kt CO₂ eq in 2020.⁶ Under the ESR, Slovakia has a national target of reducing emissions from covered sectors to 12 per cent below the 2005 level by 2030.

32. In addition to its ESD target, Slovakia committed to achieving a domestic target of a 14 per cent share of renewable energy in gross final energy consumption by 2020 under the EU renewable energy directive and an indicative target to decrease final energy consumption to 378 PJ and primary energy consumption to 686 PJ by 2020 under the EU energy efficiency directive.

33. Slovakia reported on the longer-term EU targets of achieving a 32 per cent share of renewable energy in gross final energy consumption by 2030 and a 32.5 per cent energy efficiency target for 2030 under the EU renewable energy and energy efficiency directives respectively.

34. In its NC8 and BR5 Slovakia provided information on the Government’s approval in 2019 of the Strategy of the Environmental Policy of Slovakia until 2030, which sets a voluntary increase of the emission reduction target for sectors not covered by the EU ETS of up to 20 per cent by 2030 against the 2005 level. In addition, Slovakia’s Low-Carbon Development Strategy until 2030 with a View to 2050 was approved in March 2020; it sets the national 2030 targets for the share of renewable energy at 18.9 per cent and for the increase in energy efficiency at 28.4 per cent to assist the Party in achieving climate neutrality by 2050.

35. The Party reported the total GHG emission distribution between the EU ETS and the ESR for 2013–2020 in table A1.4 of its BR5. The ERT noted that, although the ESD emissions are reported as relevant for 2013–2020 under EU legislation in the text of the BR5, the Party reported those emissions in table A1.4 as ESR emissions. In addition, the value for 2020 in table A1.4 does not match the value recorded in the EU transaction log⁷ and the ERT could not match the ESD-relevant emission reductions for 2020 reported in the BR5 with the 2005 ESD emission values estimated by EEA.⁸ During the review, the Party clarified that the value in table A1.4 is based on a calculation made before the annual ESD review (i.e. it is a theoretical value) and that the correct ESD value for 2020 is provided in its NC8. In addition, the Party provided the ESR value for the base year (2005 under EU legislation) and explained why it differs from the ESD value. Further, the Party indicated that the 2005 value, as estimated and provided by EEA, is not correct. The ERT notes that transparency could be improved by providing correct and clear information on the ESD and ESR values for the base year and the relevant time series.

2. Assessment of adherence to the reporting guidelines

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

⁶ According to the EU transaction log.

⁷ <https://ec.europa.eu/clima/ets/esdAllocations.do>.

⁸ See <https://www.eea.europa.eu/data-and-maps/data/esd-4>.

D. Information on policies and measures

1. Technical assessment of the reported information

37. Slovakia provided in its NC8 and BR5 information on its PaMs⁹ implemented, adopted and planned to fulfil its commitments under the Convention. Slovakia's set of PaMs is similar to that previously reported, with a few exceptions. No PaMs with a significant impact on GHG emission reduction have been discontinued without replacement.

38. Slovakia reported on its policy context and legal and institutional arrangements in place for implementing its commitments and monitoring and evaluating the effectiveness of its PaMs. Slovakia also indicated that there have been no changes to its institutional, legal, administrative and procedural arrangements used for domestic compliance, monitoring, reporting, archiving of information and evaluation of progress towards its target. The Climate Change Policy Department of the Ministry of Environment serves as the national focal point for the UNFCCC. Together with the Greenhouse Gas Emissions Reduction Policy Department, it plays a key coordinating role in ensuring that Slovakia meets its international commitments under the Convention and its Kyoto Protocol.

39. Slovakia's current framework of institutional arrangements for climate change policy and its implementation includes, as the first level of the monitoring of climate change policy, the preliminary review of the inventory reports and independent review of the annual report submitted under EU regulation 2018/1999, EU regulation 2018/841 and EU implemented regulation 2020/1208. The next level of the monitoring process is the report on the interim status of implementation of the international commitments in the field of climate change policy, which is submitted to the Government by the Ministry of Environment and serves as an internal review of the current PaMs. During the review, Slovakia indicated that it has started the legislative process for a new act on climate change, which will have mechanisms for establishing national legal arrangements for reporting on PaMs and projections. The act will contain a new description of the national system for climate change, including GHG inventory preparation, preparation of projections, evaluation of PaMs and international reporting.

40. Slovakia reported information on the economic consequences and the societal cost, but not the social consequences, of its response measures. Slovakia's assessment of the economic and social consequences, including information on workforce restructuring, social rights and energy poverty, is included in its Low-Carbon Development Strategy. During the review, the Party explained that, owing to the political instability and other effects of the conflict between the Russian Federation and Ukraine, new macroeconomic and social impact modelling will need to be part of the Party's updated Integrated National Energy and Climate Plan and next version of the Low-Carbon Development Strategy.

41. Slovakia did not report on its actions to identify and review its own policies and practices that encourage activities that lead to greater levels of emissions. During the review, Slovakia clarified that it has not identified any PaMs in the sectors of the national economy that would contribute to an increase in emissions in Slovakia.

42. In its reporting on PaMs, Slovakia did not provide the estimated emission reduction impacts for all of its PaMs. The Party explained during the review that estimated impacts were not provided for some PaMs because of the lack of proper indicators or parameters, and any expert estimate would therefore have a high level of uncertainty.

43. 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. The 2021 European Climate Law, which forms part of the European Green Deal, made climate

⁹ The UNFCCC reporting guidelines on BRs use the term "mitigation actions", whereas the UNFCCC reporting guidelines on NCs use the term "policies and measures". The terms are used interchangeably in this report to refer to the relevant information in either the NC or BR.

neutrality by 2050 legally binding and raised the EU-wide 2030 emissions reduction target to at least 55 per cent compared with the 1990 level. In 2023, the European Parliament adopted a series of legislative proposals, collectively referred to as Fit for 55, intended to help achieve the new 2030 target. These new regulations strengthened both the ESR and EU ETS 2030 targets, extended the EU ETS to include maritime shipping in 2024, and established the Social Climate Fund to address equitability of mitigation impacts. The regulations also created the EU ETS 2 to cover at the point of distribution most fuel used in sector not covered by the EU ETS, beginning in 2027.

44. The 2021–2030 EU-wide policies are operationalized through the national energy and climate plans of EU member States, which should set out national objectives for each of the five dimensions of the Energy Union, namely energy security; the internal energy market; energy efficiency; decarbonization; and research, innovation and competitiveness. The national energy and climate plans are periodically updated to reflect changes to EU policy, such as the implementation of the European Green Deal. Slovakia’s National Energy and Climate Plan, namely the Integrated National Energy and Climate Plan for 2021 to 2023 adopted by government resolution 606/2019, specifies that, by 2030, Slovakia will reduce its emissions for sectors not covered by the EU ETS by 20 per cent and the share of RES will be 19.2 per cent. The industrial and buildings sectors will be key to achieving the objectives.

45. Slovakia introduced national-level policies to achieve its targets under the ESD and domestic emission reduction targets. Road transport and residential heating were among the largest contributors of emissions within ESD sectors. Accordingly, two of the country’s key policies are the National Renewable Energy Action Plan (government resolution 677/2010), the aim of which is to increase the share of electricity generation from RES in the energy system and increase biomass consumption for electricity and heat production, and Act 277/2020, the latest amendment of Act 309/2009 on the Promotion of the Use of Energy from Renewable Energy Sources and High Efficiency Cogeneration, the aim of which is to increase the efficiency of vehicles, including electric vehicles, and low-carbon fuels. Slovakia also reported on the improvements in energy efficiency resulting from various measures that have been in force since 2014, including improvements in buildings, industry and energy transformation. Key measures in other sectors include decree 410/2012 of the Ministry of Environment, aimed at improving animal waste management systems; Act 79/2015 on Waste, aimed at enhancing recycling and reducing deposits to landfills; using best available techniques for servicing electrical equipment, aimed at reducing SF₆ emissions; and reducing N₂O emissions from aerosol cans. In the LULUCF sector, among the PaMs reported was the Rural Development Programme, implemented in 2014, on enhancing forest management, afforestation and reforestation.

46. Slovakia highlighted the domestic mitigation actions that are under development, such as those being revised to align with the more ambitious 2030 target of the EU to reduce domestic emissions by at least 55 per cent compared with the 1990 level. Among the mitigation actions that provide a foundation for significant additional action are the Integrated National Energy and Climate Plan for 2021 to 2030 and the Low-Carbon Development Strategy. Other mitigation actions may also provide such a foundation include the early decommissioning of solid fuel power plants and a vehicle registration fee based on g CO₂ emitted per km. The ERT identified the vehicle registration fee as a mitigation action of particular interest because this policy encourages low-carbon transformation on both the production and the consumption side by influencing the vehicle market. Table 5 provides a summary of the reported information on the PaMs of Slovakia.

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

<i>Sector</i>	<i>Key PaMs</i>	<i>Estimated mitigation impact in 2020 (kt CO₂ eq)</i>	<i>Estimated mitigation impact in 2030 (kt CO₂ eq)</i>
Policy framework and cross-sectoral measures	EU ETS	NE	NE
Energy			

<i>Sector</i>	<i>Key PaMs</i>	<i>Estimated mitigation impact in 2020 (kt CO₂ eq)</i>	<i>Estimated mitigation impact in 2030 (kt CO₂ eq)</i>
Energy efficiency	Increasing energy efficiency with a number of measures in force since 2014 on the energy consumption side	NE	NE
Energy supply and renewable energy	National Renewable Energy Action Plan, government resolution 677/2010	NE	NE
Transport	Act 277/2020 on the Promotion of the Use of Energy from Renewable Energy Sources and High Efficiency Cogeneration	NE	NE
IPPU	Best available techniques for servicing electrical equipment	NE	NE
	Further reduction of N ₂ O emissions from aerosol cans	NE	NE
Agriculture	Decree 410/2012 of the Ministry of Environment on animal waste management systems	NE	NE
LULUCF	Rural Development Programme 2014–2020, extended until 2022	NE	NE
Waste	Act 79/2015 on Waste	NE	NE

Note: Slovakia did not report estimates of the impacts of individual PaMs in its NC8.

2. Assessment of adherence to the reporting guidelines

47. The ERT assessed the information reported in the NC8 and BR5 of Slovakia and identified issues relating to completeness and transparency, and thus adherence to the UNFCCC reporting guidelines on NCs and the UNFCCC reporting guidelines on BRs. The findings are described in tables I.2 and II.1.

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

(a) Technical assessment of the reported information

48. In its NC8 Slovakia reported that the implementation of the Kyoto Protocol is underpinned by the National Reform Programme, which supports meeting the structural policy objectives under the Europe 2020 strategy. The National Reform Programme contains an action plan with targeted policies for specific sectors.

49. The overall responsibility for climate change policymaking lies with the Ministry of Environment, and a number of national institutions are involved in policy implementation. As of January 2017 the Department of Emissions and Biofuels of the Slovak Hydrometeorological Institute includes the single national entity with the overall responsibility for compilation and finalization of the inventory reports and their submission to the secretariat and the European Commission. The main bodies dealing with climate change within the Ministry of Environment are the Climate Change Policy Department and the Emissions Trading Department. In January 2012 the Commission for Climate Change Policy Coordination was established. In 2021 this Commission was replaced by the Council of the Slovak Republic for the European Green Deal, under which six sectoral working groups were created. This institutional architecture serves for policymaking as well as for monitoring and evaluating the policies adopted. Furthermore, the Ministry of Environment regularly submits to the Government a report on the interim status of implementation of international climate change related commitments. The most recent report was adopted in April 2020 and included a dedicated chapter on the fulfilment of Slovakia's commitments under the Convention and its Kyoto Protocol.

50. For the second commitment period of the Kyoto Protocol, from 2013 to 2020, Slovakia committed to contributing to the joint EU effort to reduce GHG emissions by 20 per cent below the base-year level (see paras. 26–32 above).

51. The Party reported that it has not made any changes to its arrangements and enforcement procedures to meet its commitments under the Kyoto Protocol, including procedures for addressing non-compliance, since its previous NC and BR.

52. Slovakia reported that it has provisions in place to make information on legislative arrangements and administrative procedures related to compliance and enforcement publicly accessible, such as the Slovak Hydrometeorological Institute website and dedicated publications of the Slovak Statistical Office.

53. Slovakia did not report on the national legislative arrangements and administrative procedures in place that seek to ensure that the implementation of activities under Article 3, paragraph 3, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. During the review, the Party explained that afforestation mainly occurs through expansion of forests on unused agricultural land, while any deforestation is subject to approval by the State Forestry Administration under specific conditions and must be justified. With respect to Article 3, paragraph 4, of the Kyoto Protocol, the Party specifically referred to the forest management plans established for all forests in Slovakia; these plans include activities aimed at ensuring that forest logging does not exceed the forest's natural increment and habitat restoration. The Party indicated that further policy tools are under development, namely the National Forestry Program for 2023–2030, and that more forest areas will be declared as protected.

(b) Assessment of adherence to the reporting guidelines

54. The ERT assessed the information reported in the NC8 of Slovakia and identified issues relating to transparency and completeness, and thus adherence to the reporting guidelines for supplementary information. The findings are described in table I.7.

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

(a) Technical assessment of the reported information

55. In the NC8 Slovakia 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. Legally adopted measures that may have adverse impacts include fiscal policy instruments, biofuel-related policies and some GHG mitigation policies, such as those for emissions trading and stricter quality standards for fuels and cars. The Party addresses the minimization of such impacts through, for example, its contribution to the shaping of international sustainability standards for biofuels and its efforts to build other Parties' capacity for climate change adaptation and mitigation.

56. The NC8 includes information on how Slovakia promotes and implements the decisions of the International Civil Aviation Organization and the International Maritime Organization to limit emissions from aviation and marine bunker fuels. Major policies in civil aviation include the EU ETS and CORSIA. CORSIA offers a harmonized way to reduce emissions from international aviation while minimizing market distortions and respecting the specific circumstances and respective capabilities of member States of the International Civil Aviation Organization. The inclusion of maritime transport in the EU ETS is discussed as part of the Fit for 55 package.

57. Further information on how Slovakia strives to implement its commitments under Article 3, paragraph 14, of the Kyoto Protocol in such a way as to minimize adverse social, environmental and economic impacts on developing country Parties was reported in the 2022 annual submission. The Party reported information on what it prioritized in implementing its commitments under Article 3, paragraph 14, which includes measures to address carbon leakage. Slovakia reported that future GHG emission reduction policies could have additional impacts, explaining that the consideration of climate change in projects related to food safety

and agriculture, infrastructure and the sustainable use of resources financed through ODA and implemented in developing countries contributes to addressing such impacts.

(b) Assessment of adherence to the reporting guidelines

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

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

1. Technical assessment of the reported information

59. Slovakia reported in its BR5 that it does not intend to use units from market-based mechanisms under the Kyoto Protocol and other market-based mechanisms under the Convention to meet its commitment under the ESD. It reported in CTF tables 4 and 4(b) that it did not use any units from market-based mechanisms in 2019 or 2020. The Party explained in its BR5 that flexible mechanisms in Slovakia are used only by operators under the EU ETS. Given that the contribution of LULUCF activities is not included in the joint EU target under the Convention, reporting thereon is not applicable to Slovakia. The ERT noted that the transparency of Slovakia's reporting could be improved by reporting "NA" in the relevant cells in CTF table 4. Table 6 illustrates Slovakia's ESD emissions and use of units from market-based mechanisms for achieving its ESD target.

Table 6

Summary of information on emissions covered by the European Union effort-sharing decision annual emission allocation and use of units from market-based mechanisms by Slovakia

(kt CO₂ eq)

<i>Year</i>	<i>ESD emissions</i>	<i>AEA</i>	<i>Use of units from market-based mechanisms</i>	<i>AEAs transferred to (–) or from (+) other Parties</i>	<i>Annual AEA surplus/deficit</i>	<i>Cumulative AEA surplus/deficit</i>
2013	21 080.25	24 023.50	NA	NA	2 943.25	2 943.25
2014	19 782.14	24 383.53	NA	NA	4 601.39	7 544.64
2015	20 084.62	24 743.57	NA	NA	4 658.95	12 203.58
2016	19 758.69	25 103.60	NA	NA	5 344.91	17 548.49
2017	22 063.23	25 041.60	NA	NA	2 978.37	20 526.85
2018	21 065.07	25 344.02	NA	NA	4 278.95	24 805.80
2019	20 087.96	25 646.45	NA	NA	5 558.49	30 364.29
2020	18 877.70	25 948.87	NA	NA	7 071.17	37 435.46

Sources: Slovakia's BR5 and BR5 CTF table 4(b), information provided by the Party during the review and EU transaction log (AEAs).

Note: For a given year, a positive number (surplus) indicates that annual or cumulative ESD emissions were lower than the corresponding AEA or cumulative AEAs, while a negative number (deficit) indicates that annual or cumulative ESD emissions were higher than the corresponding AEA or cumulative AEAs.

2. Assessment of adherence to the reporting guidelines

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

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

61. In assessing the Party's contribution towards achievement of the 2020 joint EU target on the basis of the information reported in its BR5, the ERT noted that, under the EU 2020 climate and energy package, Slovakia committed to limiting its emission growth under the

ESD to 13 per cent above the 2005 level by 2020 (see para. 31 above). This target has been translated into binding quantified AEAs for 2013–2020. In 2020 Slovakia’s ESD emissions were 27.3 per cent (7,071.17 kt CO₂ eq) below the AEA. Slovakia has a cumulative surplus of 37,435.46 kt CO₂ eq with respect to its AEAs between 2013 and 2020. The ERT noted that the Party did not make use of units from market-based mechanisms in 2020.

62. The ERT noted that the EU reported in its BR5 that the total GHG emissions excluding LULUCF of the EU and including the use of units from market-based mechanisms do not exceed the emission level corresponding to the target in 2020, and thus that the EU has achieved its joint target. See the report on the review of the BR5 of the EU for further details. Therefore, the ERT concluded that, on the basis of the information reported in the BR5, Slovakia has met its 2020 commitment under the Convention through its contribution to achieving the joint EU target. The ERT noted that the Party’s ESD emissions in 2020 do not exceed its AEA for 2020.

F. Projections

1. Projections overview, methodology and results

(a) Technical assessment of the reported information

63. Slovakia reported in its BR5 and NC8 updated projections for 2030–2050 relative to actual inventory data for 2020 under the WEM scenario. The WEM scenario reported by Slovakia includes PaMs implemented and adopted until 2021.

64. In addition to the WEM scenario, Slovakia reported the WAM scenario. The WAM scenario includes planned PaMs, complemented by more ambitious targets for RES and energy efficiency and new measures proposed by the European Commission under the European Green Deal. The definitions indicate that the scenarios were prepared in accordance with the UNFCCC reporting guidelines on BRs.

65. 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 and SF₆ (treating PFCs and HFCs collectively in each case) for 2025, 2030, 2040 and 2050. Projections on a gas-by-gas basis for 2035 were provided during the review. The projections are also provided in an aggregated format for each sector and for a Party total using GWP values from the AR4. Slovakia reported on factors and activities affecting emissions for each sector.

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

66. The methodology used for the preparation of the projections is different from that used for the preparation of the emission projections for the NC7. Slovakia provided limited information on changes since the submission of its NC7 in the assumptions, methodologies, models and approaches used for the projection scenarios. During the review, Slovakia provided supporting information further explaining the methodology and the changes made since the NC7. It indicated that the methodology was aligned with its Low-Carbon Development Strategy, which facilitates the modelling of the development of individual PaMs and their impact on the national economy. Slovakia used a country-level energy model (Compact-PRIMES) and TIMES for the energy sector; TIMES for the IPPU sector; COPERT/SYBIL¹⁰ for the transport sector; and various Microsoft Excel tools or models for the agriculture, LULUCF and waste sectors. All these models were complemented by the use of the ENVISAGE model.

67. To prepare its projections, Slovakia relied on key underlying assumptions relating to population (increase of 0.4 per cent in 2030 compared with 2020), GDP (increase of 34.6 per cent in 2030 compared with 2020), international oil price (increase of 112.1 per cent in 2030 compared with 2020), international coal price (increase of 61.1 per cent in 2030 compared with 2020), international gas price (increase of 71.4 per cent in 2030 compared with 2020),

¹⁰ SYBIL is a COPERT-compatible data set that provides historical and projected data on vehicle fleet, emissions and energy consumption for 1990–2050.

number of households (increase of 6.0 per cent in 2030 compared with 2020), number of passenger-kilometres (all modes) (increase of 28.5 per cent in 2030 compared with 2020), freight transport tonnes-kilometres (all modes) (increase of 6.3 per cent in 2030 compared with 2020), livestock (decrease of 3.4 per cent in 2030 compared with 2020), nitrogen input from application of synthetic fertilizers (increase of 5.8 per cent in 2030 compared with 2020) and municipal solid waste generation (increase of 8.1 per cent in 2030 compared with 2020). The assumptions were updated on the basis of the most recent economic developments known at the time of the preparation of the projections.

(c) Results of projections

68. The projected emission levels under different scenarios and information on the quantified economy-wide emission reduction target are presented in table 7 and figure Figure 1.

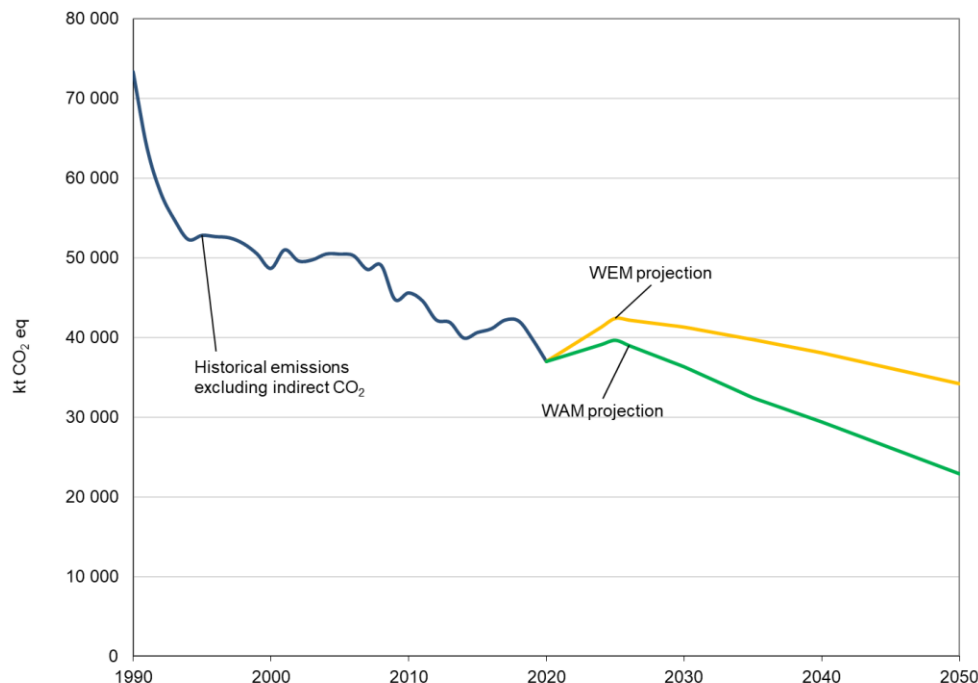
Table 7
Summary of greenhouse gas emission projections for Slovakia

	GHG emissions (kt CO ₂ eq/year)	Change in relation to 1990 level (%)	Change in relation to 2020 level (%)
Inventory data 1990	73 374.79	NA	NA
Inventory data 2020	37 002.72	–49.6	NA
WEM projections for 2030	41 289.59	–43.7	11.6
WAM projections for 2030	36 327.05	–50.5	–1.8
WEM projections for 2035	39 726.65	–45.9	7.4
WAM projections for 2035	32 437.11	–55.8	–12.3

Source: Slovakia's NC8 and BR5 CTF table 6.

Note: The projections are of GHG emissions excluding LULUCF and excluding indirect CO₂.

Figure 1
Greenhouse gas emission projections reported by Slovakia



Source: Slovakia's BR5 and BR5 CTF tables 1 and 6 (total GHG emissions excluding LULUCF).

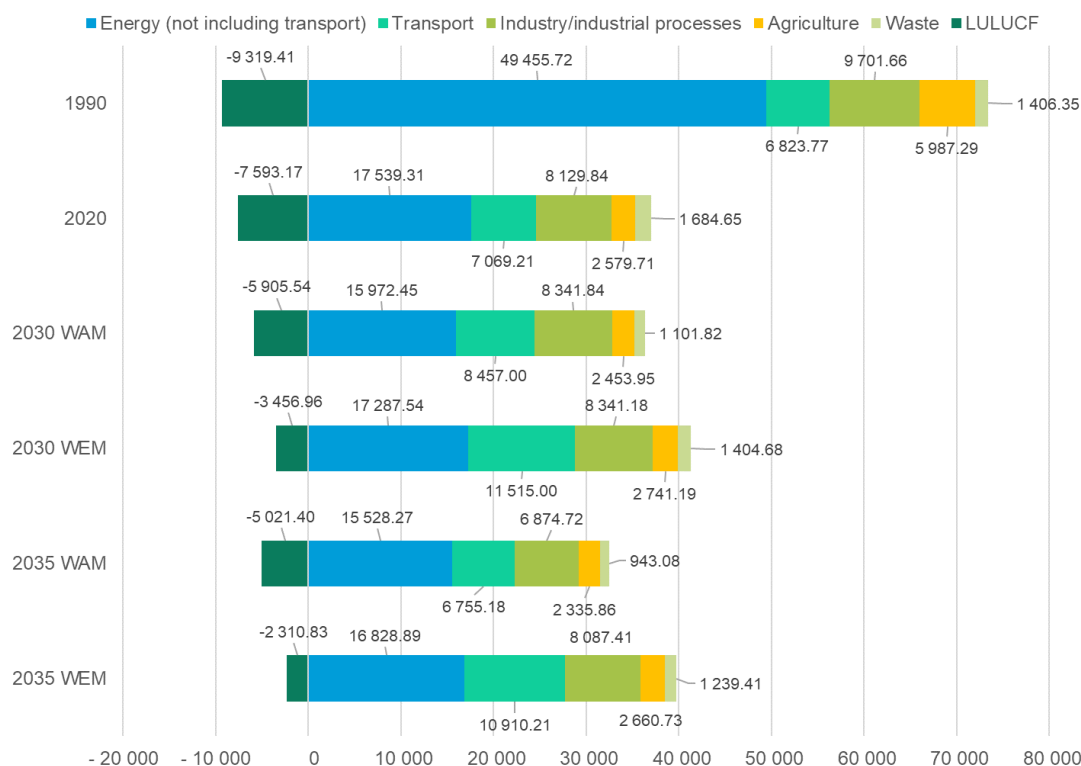
69. Slovakia's total GHG emissions excluding LULUCF are projected under the WEM scenario to decrease by 43.7 and 45.9 per cent respectively below the 1990 level in 2030 and 2035. The emissions are expected to increase during 2020–2025 and decrease thereafter. When including LULUCF, total GHG emissions are projected under the WEM scenario to

decrease by 40.9 and 41.6 per cent respectively below the 1990 level in 2030 and 2035. Under the WAM scenario, emissions in 2030 and 2035 are projected to be lower than those in 1990 by 50.5 and 55.8 per cent respectively (excluding LULUCF).

70. Slovakia presented the WEM and WAM scenarios by sector for 2030 and 2035, as summarized in figure Figure 2 and table 8.

Figure 2

Greenhouse gas emission projections for Slovakia presented by sector

 (kt CO₂ eq)


Sources: Slovakia's NC8 and BR5 CTF table 6.

Table 8

Summary of greenhouse gas emission projections for Slovakia presented by sector

Sector	GHG emissions and removals (kt CO ₂ eq)					Change (%)			
	1990	2030		2035		1990–2030		1990–2035	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
Energy (not including transport)	49 455.72	17 287.54	15 972.45	16 828.89	15 528.27	-65.0	-67.7	-66.0	-68.6
Transport	6 823.77	11 515.00	8 457.00	10 910.21	6 755.18	68.7	23.9	59.9	-1.0
Industry/industrial processes	9 701.66	8 341.18	8 341.84	8 087.41	6 874.72	-14.0	-14.0	-16.6	-29.1
Agriculture	5 987.29	2 741.19	2 453.95	2 660.73	2 335.86	-54.2	-59.0	-55.6	-61.0
LULUCF	-9 319.41	-3 456.96	-5 905.54	-2 310.83	-5 021.40	62.9	36.6	75.2	46.1
Waste	1 406.35	1 404.68	1 101.82	1 239.41	943.08	-0.1	-21.7	-11.9	-32.9
Other	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total GHG emissions excluding LULUCF	73 374.80	41 289.59	36 327.05	39 726.65	32 437.11	-43.7	-50.5	-45.9	-55.8

Sources: Slovakia's NC8 and BR5 CTF table 6 and information received from the Party during the review.

71. According to the projections reported for 2030 under the WEM scenario, the most significant absolute emission reductions are expected to occur in the energy sector, amounting to projected reductions of 65.0 per cent between 1990 and 2030. The pattern of projected emissions reported for 2035 under the same scenario slightly changes; that is, it accelerates owing to the decarbonization of energy generation, which will be achieved by implementing current policies for renewable energy generation and use, further implementing the EU ETS, decommissioning fossil fuel power units as part of the Recovery and Resilience Plan, switching the fuel for district heating solid fuel plants to biomass and gas, phasing out solid fuel district heating plants from 2025 and improving energy efficiency (through the EU directives on energy performance of buildings and energy efficiency). Under the WEM scenario, significant decreases in emissions are projected for the agriculture sector (54.2 per cent), to be achieved mainly through manure management (reducing ammonia and N₂O emissions by storing manure more efficiently), and the IPPU sector (14.0 per cent), to be achieved by implementing policies for decarbonizing IPPU subsectors (especially the EU ETS, but also the EU regulation on fluorinated gases).

72. GHG emissions from transport are expected to increase in both scenarios until 2030 and to start decreasing by 2035. The main reason for this trend is increasing demand for road transportation, especially in the light-duty vehicle segment. However, transport sector emissions are expected to decrease by 2035 compared with the 2030 level, owing mainly to the promotion of electromobility. Emissions from waste are projected to decrease because of improved services, especially better waste management and diversification of the technologies used for the treatment and elimination of waste; the decrease in emissions from landfills; and the increase in the share of the population connected to water treatment plants. LULUCF removals are expected to decrease, indicating that the PaMs promoted both under the WEM scenario (afforestation of non-agricultural land, establishment of fast-growing tree species on agricultural land, grassing of agricultural land, measures to reduce forest fires, etc.) and under the WAM scenario (prevention of deforestation, sustainable forest management, modification of tree species composition, etc.) may need strengthening.

73. Under the WAM scenario, GHG emissions from the energy sector (and transport) are expected to decrease more quickly than under the WEM scenario owing to higher RES targets, increased energy efficiency requirements, earlier decommissioning of solid fuel utility power plants, further development of nuclear energy, introduction and promotion of fuel cell electric vehicles and electromobility, introduction of taxes for users of internal combustion engines and a modal shift in passenger and freight transportation.

74. Slovakia presented the WEM and WAM scenarios by gas for 2030 and, during the review, provided the same scenarios by gas for 2035, as summarized in table 9. Emissions of SF₆ increase compared with the base-year level under both scenarios; however, the increase is not significant in terms of absolute emissions in CO₂ eq. Other gases, such as CO₂, CH₄ and N₂O, are expected to show significant decreases under both scenarios by 2030 and 2035.

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

Gas	GHG emissions and removals (kt CO ₂ eq)					Change (%)			
	1990	2030		2035		1990–2030		1990–2035	
		WEM	WAM	WEM	WAM	WEM	WAM	WEM	WAM
CO ₂ ^a	61 470.19	35 824.00	31 505.89	34 308.49	27 800.71	–41.7	–48.7	–44.2	–54.8
CH ₄	7 300.92	2 800.07	2 459.37	2 772.77	2 372.57	–61.6	–66.3	–62.0	–67.5
N ₂ O	4 288.77	2 126.51	1 825.67	2 388.27	2 027.73	–50.4	–57.4	–44.3	–52.7
HFCs	NO	522.21	519.74	242.00	221.63	NA	NA	NA	NA
PFCs	314.86	5.80	5.80	5.38	5.38	–98.2	–98.2	–98.3	–98.3
SF ₆	0.06	11.00	10.58	9.73	9.09	18 233.3	17 533.3	16 122.4	15 055.7
NF ₃	NO	NO	NO	NO	NO	NO	NO	NO	NO
Total GHG emissions without LULUCF	73 374.80	41 289.59	36 327.05	39 726.66	32 437.11	–43.7	–50.5	–45.9	–55.8

Sources: Slovakia’s NC8 and BR5 CTF table 6. Projections for 2035 were provided by Slovakia during the review.

^a Slovakia did not include indirect CO₂ emissions in its projections.

75. Slovakia presented a comparison in graphical format between the emission projections in its BR5 and those in the BR4, highlighting small differences between the two sets of data, and explaining that those differences are due to the effects of the pandemic in 2020 and to the current geopolitical situation (resulting in changes in energy consumption and the types of fuel used). Overall, Slovakia’s current emission projections are consistent with previous iterations.

(d) Assessment of adherence to the reporting guidelines

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

2. Assessment of the total effect of policies and measures

(a) Technical assessment of the reported information

77. In its NC8 Slovakia did not present the estimated and expected total effect of implemented and adopted PaMs or an estimate of the total effect of its planned PaMs in either of its reported scenarios. Regarding adopted and implemented PaMs, during the review Slovakia explained that the total emission reduction from measures included in the WEM scenario could not be presented because there is no WOM scenario to use as the baseline for comparison (the WOM scenario, not being mandatory, was not prepared). Furthermore, implemented and adopted PaMs have always been included in WEM scenario modelling, even though the quantified effects of many individual measures are missing. However, the Party clarified that the total effects of planned PaMs can be determined by the projections reported.

78. Slovakia did not report the total estimated effect of its implemented and adopted PaMs. According to the information reported in its NC8, planned PaMs in the transport, energy and agriculture sectors will deliver the largest emission reductions. Table 10 provides an overview of the total effect of PaMs, as calculated by the ERT.

Table 10
Projected effects of Slovakia’s planned, implemented and adopted policies and measures in 2030 and 2035
 (kt CO₂ eq)

Sector	2030		2035	
	Effect of implemented and adopted measures	Effect of planned measures	Effect of implemented and adopted measures	Effect of planned measures
Energy (not including transport)	NE	1 315.09	NE	1 300.62
Transport	NE	3 058.00	NE	4 155.03
Industry/industrial processes	NE	-0.66	NE	1 212.69
Agriculture	NE	287.24	NE	324.87
Land-use change and forestry	NE	2 448.58	NE	271.57
Waste management	NE	302.86	NE	296.33
Total	NE	7 411.11	NE	10 000.11

Source: Slovakia’s NC8 CTF table 6.

Note: The total effect of planned PaMs is defined as the difference between the WEM and the WAM scenarios.

(b) Assessment of adherence to the reporting guidelines

79. The ERT assessed the information reported in the NC8 of Slovakia and identified issues relating to completeness and transparency, and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.3.

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

(a) Technical assessment of the reported information

80. In the NC8 Slovakia provided information on how its use of the mechanisms under Articles 6, 12 and 17 of the Kyoto Protocol is supplemental to domestic action, although it did not elaborate on supplementarity as such. The ERT noted that Slovakia did not use market-based mechanisms to meet its Kyoto Protocol target.

81. Under EU ETS legislation, all establishments included in the EU ETS could use CERs and ERUs during the third trading period up to a certain level. This option was removed in 2021 and CERs and ERUs can no longer be used under the EU ETS. In its NC8 the Party explained that, although as an EU member State it could make use of CERs and ERUs, it did not use this option in 2013–2020 as it always had a surplus of AEAAs. No budget specification has ever been approved by Slovakia for flexibility mechanisms under the Kyoto Protocol.

(b) Assessment of adherence to the reporting guidelines

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

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

83. Slovakia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, Slovakia provided information in its NC8 and BR5 on its provision of support to developing country Parties. The ERT commends Slovakia for reporting this information and suggests that it continue to do so in future NCs.

84. Slovakia assists developing country Parties in addressing major challenges, including conflict (through conflict mitigation and post-conflict stabilization), in line with the Sustainable Development Goals through ODA. In 2019 the Party contributed EUR 1.81 million to the Green Climate Fund and EUR 100,000 to the Intergovernmental Panel on Climate Change. In 2020, in view of the pandemic, the development cooperation provided by Slovakia in terms of financial and material support was tailored to the humanitarian needs of partner countries. The total amount channelled to developing countries in 2020 under ODA was approximately EUR 3.78 million. Slovakia joined Team Europe, a series of initiatives launched by the EU and its member States, under which it committed about EUR 11 million until the end of 2020. The aims of the Team Europe initiatives are to help developing countries cope with the health crisis arising from the pandemic and the resulting humanitarian needs; strengthen health, water and sanitation systems; and mitigate the social and economic impacts of the pandemic. In 2019–2020 the Party supported 22 capacity-building and technology transfer projects with an amount of approximately EUR 1 million. The Party reported that there is no information available on the financial support provided to developing countries by the private sector in Slovakia.

H. Vulnerability assessment, climate change impacts and adaptation measures

1. Technical assessment of the reported information

85. In its NC8 Slovakia provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b), of the Convention with regard to adaptation. Slovakia provided a description of climate change vulnerability and impacts on agriculture, forestry, biodiversity, public

health, water management, tourism and transport and highlighted the adaptation response actions taken and planned at different levels of government. One of the most vulnerable sectors is agriculture owing to the changes in agroclimatic conditions, which affect all subsectors of agriculture. The adaptation measures in this sector concern changing the varieties of cultivated crops and species of livestock, making native crop and animal species more resilient, improving soil conservation and improving land management practices. The Party reported that it has updated the climate model data from 1991–2020 since reporting in the NC7, and with current projections the annual average air temperature will increase by 0.7–0.9 °C by 2030, 2.0–3.0 °C by 2050 and 3.5–6.0 °C by 2100.

86. In its NC8 Slovakia mentioned projected climate change impacts, vulnerability and adaptation measures in the energy sector; however, it did not provide any details. During the review, Slovakia clarified that the energy sector is expected to be affected by key climate risks such as temperature change, windy conditions, precipitation, heatwaves, cold spells, storms, drought, floods, snow and ice, and landslides. In addition, decreasing temperatures in winter and increasing temperatures in summer will affect heating and cooling demand and have an impact on district heating systems and electricity load. The production of renewable power plants will be affected by changes in climatic parameters and in the demand for some key resources, such as water. Improving the safety of power plants was reported as an adaptation measure.

87. The impacts identified today are expected to persist in the future. In the energy sector, potential environmental and operational risks arise from the nature of individual plants, facilities and processes, where the manifestations and consequences of climate change may pose a threat to business continuity (and hence the continuity of production or energy supply), to the occurrence of major industrial accidents, or to human health and safety. In existing plants, adaptation measures are mainly applied in the context of the expansion of production capacity and the introduction of major technological changes. Adaptation of the energy system is seen as the process of adapting all its components to actual or expected climate change and its consequences.

88. Slovakia has addressed adaptation matters through the adoption of the first version of the Adaptation Strategy on Adverse Impacts of Climate Change, which provides a framework for adaptation processes in the country. The Strategy was initially adopted in 2014 and an updated version was approved on 17 October 2018 by government resolution 478/2018. The Adaptation Plan for the implementation of the Adaptation Strategy was adopted on 31 August 2021 by government resolution 476/2021. Slovakia reported on research programmes and projects related to climate change in fields such as forestry, hydrology, water management, agriculture and RES, which provide further direction to government agencies on enhancing preparedness for climate change. Examples of such programmes and projects include sustainable management of upland wetlands and floodplains to maintain flow and protect water quality, preservation and restoration of forests to stabilize slopes and regulate watercourses, establishment of diversified agroforestry systems to cope with the increased risks arising from changing climatic conditions, and conservation of agrobiodiversity to ensure specific gene pools for crop and livestock adaptation to climate change. These projects involve sustainably managing, protecting and restoring ecosystems so that they can provide services that help people to adapt to the adverse impacts of climate change. Table 11 summarizes the information on vulnerability and adaptation to climate change presented in the NC8 of Slovakia.

Table 11

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

<i>Vulnerable area</i>	<i>Examples/comments/adaptation measures reported</i>
Agriculture	<p>Vulnerability: increased aridity of maize-growing areas; increased water, wind and soil erosion, as well as deterioration of soil structure; poorer water availability in the soil profile and intensified salinization and sodification processes; and occurrence and spread of pests and diseases of agricultural plants, trees and animals.</p> <p>Adaptation: adaptation of agrotechnical measures to changed agroclimatic conditions; revitalization of old and construction of new irrigation systems; implementation of agrotechnical measures to promote soil conservation, cultivation technologies for soils</p>

Vulnerable area	Examples/comments/adaptation measures reported
Biodiversity	<p>threatened by erosion, use of a higher proportion of organic matter in the soil and improvement of soil retention capacity; implementation of good land-use practices, mosaic landscaping and soil segmentation, promotion of maintenance of windbreaks, grass strips, terraces and perennial meadows; promotion of organic farming; and introduction of adaptation measures in agriculture to minimize temperature stress in animals.</p> <p>Vulnerability: invasions of certain insects as agricultural pests; increases in occurrence of vector-borne diseases threatening to human health; and biodiversity decline, particularly in vulnerable ecosystems such as pine forests in the mountains, swamp ecosystems in the foothills and mountains, and aquatic systems.</p> <p>Adaptation: introduction of phytopathological measures in legislation and practice; conservation of the country's original species spectrum; protection of critically endangered species and communities; prevention of the drying up of wetlands and aquatic habitats; development of infrastructure and capacity in institutional nature conservation; and application of ecosystem-based adaptation measures.</p>
Forests	<p>Vulnerability: increased frequency and severity of droughts and heatwaves, with impacts on forest health, productivity and susceptibility to secondary biotic damage, particularly threatening at low and medium altitudes; occurrence of new pests and diseases, including spruce bark beetle; continued decline of secondary stands of Norway spruce; increased severity of storms impacting mountain forests; and increased risk of forest fires.</p> <p>Adaptation: changing tree species composition, increasing the proportion of drought-tolerant species, reducing species requiring large amounts of water, increasing stand diversity, reducing the proportion of host trees within an increasing range of climate-sensitive pests, and considering assisted migration in favour of southern species and origins with phenotypic stability; developing adaptive forestry interventions to promote species and structural diversity of stands, natural regeneration in combination with artificial regeneration, and long regeneration phases in smaller areas; shortening the rotation period of tree species with high susceptibility to insects and diseases in order to accelerate the transition to a more appropriate species composition; implementing forest monitoring aimed at early identification of adverse trends in forest development; optimizing the forest road network; improving accessibility to areas requiring remediation measures; and stimulation of small-scale farming.</p>
Human health	<p>Vulnerability: extension of the pollen season and its distribution to new geomorphological areas; extreme air temperatures, with impacts on cyanobacteria in bathing waters; deterioration of health conditions of people with cardiovascular and respiratory diseases, and increased incidence of asthma, premature death and dehydration due to extreme weather (heatwaves, cold spells and flooding); increased exposure to ultraviolet radiation, with negative effects for the skin; spread of vectors (mosquitoes, ticks) and transmission of infectious diseases to new geographical areas; effects of heat on population mortality and morbidity; flood-related mortality and morbidity; potential future spread of important disease species; and increased risks to food safety at all stages, from production to consumption.</p> <p>Adaptation: pollen season monitoring, and dissemination of information to the public; bathing water monitoring and quality assessment, and dissemination of information to the public; outreach and dissemination of information in relation to heatwaves, cold spells and flooding; collection of data on the prevalence of infectious diseases transmitted by vectors (mosquitoes, ticks) and education and dissemination of information on their prevention; reducing health impacts of heat through protection and education, such as changes to future housing standards and infrastructure and improved warning systems about the health effects of heat; programmes for disease surveillance and vaccination; and national food safety monitoring and control.</p>
Water resources	<p>Vulnerability: reduced water resources for water supply and power generation; decline in water sources in the south and east of Slovakia; decline in electricity generation at large hydraulic power plants; increased incidence of droughts and floods; and changes in the hydrological cycle.</p> <p>Adaptation: protection of water resources; increased redistribution of run-off between northern and southern areas; identification of prospective and additional water sources and their exploitation; efficient water management across the country; and reassessment of large and small flood control reservoirs.</p>

89. Slovakia provided a detailed description of international adaptation activities covering the areas of education, good governance and building of a civil society; the activities of civil experts in international crisis management; and the support of market development of environmental small and medium-sized enterprises. Slovakia also provided information on bilateral cooperation with developing countries on adaptation, such as projects in 2020 on water and sanitation (in Bosnia and Herzegovina, Georgia, Iraq, Montenegro, Republic of Moldova and Ukraine) and projects on agriculture (e.g. Georgia and Kenya).

2. Assessment of adherence to the reporting guidelines

90. The ERT assessed the information reported in the NC8 of Slovakia and identified issues relating to transparency, and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.4.

I. Research and systematic observation

1. Technical assessment of the reported information

91. In its NC8 Slovakia 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 and GCOS.

92. Slovakia 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. Studies, research projects and strategies supporting innovation in mitigation and adaptation include those on paleoclimatology, global and regional climate models, and climate change impacts and response options. As one of examples of its research projects, Slovakia reported on a project conducted by the Slovak University of Technology in Bratislava under which a methodology for detecting changes in the internal structure of measured and derived hydrometeorological time series was developed. This methodology, along with a rainfall run-off model, was used to provide insight into ongoing changes in run-off regimes in selected river basins.

93. In terms of activities related to systematic observation, Slovakia reported on national plans, programmes and support for ground- and space-based climate observing systems, including satellite and non-satellite climate observation. Slovakia also reported on progress related to the operation of a consistent and comprehensive observation system. The country’s meteorological and climatological station network has undergone extensive automation since the NC7, which required a new methodology for data quality control. Slovakia has access to satellite imagery in real time. The Slovak Hydrometeorological Institute has selected optimal software for satellite data processing and preparation of image products, including visualization of satellite images, and has made software maintenance enhancements. The Slovak Hydrometeorological Institute makes available data collected through monitoring subsystems for decision-making, management, research and development, and it disseminates information to the public.

94. The NC8 reflects actions taken to support capacity-building and the establishment and maintenance of observation systems and related data and monitoring systems in developing countries. Slovakia provided funding for scientists from developing countries working on global climate change research. Activities related to providing support to developing countries are carried out by the Slovak Agency for International Development Cooperation, which supports a wide variety of projects, including those related to research and support for systematic observation. For example, a project was implemented in Georgia to support the use of remote sensing methods for water management and the evaluation of extreme hydrometeorological events. One new activity since the NC7, which relates to capacity-building, is the offering of scholarships to students from developing countries, with priority given to students of the environmental sciences.

2. Assessment of adherence to the reporting guidelines

95. The ERT assessed the information reported in the NC8 of Slovakia and identified issues relating to completeness, and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.5.

J. Education, training and public awareness

1. Technical assessment of the reported information

96. In its NC8 Slovakia provided information on its actions relating to education, training and public awareness at the domestic and international level. The Party provided information on the general policy on education, training and public awareness; primary, secondary and higher education; public information campaigns; training programmes; education materials; resource or information centres; the involvement of the public and non-governmental organizations; and its participation in international activities. Information campaigns, communication, education and involvement of the public are implemented in the form of conferences, lectures, seminars, meetings and articles in professional journals. These activities are a continuation of activities reported by the Party in the NC7.

97. The Ministry of Environment organizes events and is involved in initiatives focused on climate change education. Together with the Slovak Environment Agency, it has set up a portal for environmental education, learning and edification, EWOBBOX, which serves the general public, pupils from kindergarten to university, non-governmental organizations, and educators and other professionals. The Ministry supports environmental education projects through the Environmental Fund. The National Institute for Education, an organization funded by the State budget and managed by the Ministry of Education, Science, Research and Sport, has introduced a national environmental action programme on environmental education and learning in primary, secondary and grammar schools.

98. Both the Slovak Government and non-governmental organizations conduct activities and events aimed at raising awareness of climate change. They also offer practical training (such as educational activities with interactive elements, for example the “Living energy in schools” programme, which provides educational materials and interactive games on how to save energy in schools), competitions (e.g. the ProEnviro competition for the best school environmental projects), festivals (e.g. the Junior Festival, which is part of an international film festival on sustainable development targeted to school students), exhibitions (e.g. the thematic exhibitions held every week at the Ministry of Environment) and open days on internationally recognized days (e.g. World Meteorological Day, World Water Day and World Environment Day). Conferences for professionals, seminars for target groups and accredited continuing education events for teachers are also organized.

2. Assessment of adherence to the reporting guidelines

99. The ERT assessed the information reported in the NC8 of Slovakia and identified issues relating to completeness, and thus adherence to the UNFCCC reporting guidelines on NCs. The findings are described in table I.6.

III. Conclusions and recommendations

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

101. The information provided in the NC8 includes most of the elements of the supplementary information under Article 7, paragraph 2, of the Kyoto Protocol. Slovakia reported on the national system, the national registry, supplementarity relating to the mechanisms pursuant to Articles 6, 12 and 17 of the Kyoto Protocol, PaMs in accordance with Article 2 of the Kyoto Protocol, domestic and regional programmes and/or legislative arrangements and enforcement and administrative procedures, information under Article 10

of the Kyoto Protocol, and financial resources provided to developing country Parties. Supplementary information under Article 7, paragraph 1, of the Kyoto Protocol on the minimization of adverse impacts in accordance with Article 3, paragraph 14, of the Kyoto Protocol was provided by Slovakia in its 2022 annual submission.

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

103. In its NC8 Slovakia reported on its key national circumstances related to GHG emissions and removals, including information on its emissions per capita and per GDP, which have decreased considerably since 1990. In addition, the Party provided information on its climate profile and the main structural changes of its emission sectors.

104. Slovakia's total GHG emissions excluding LULUCF covered by its quantified economy-wide emission reduction target in 2020 were estimated to be 49.6 per cent below its 1990 level. Emissions peaked in 1990 and gradually decreased thereafter. The changes in total emissions were driven mainly by factors such as industrial and technological restructuring connected with fuel switching from coal and oil to natural gas and economic restructuring towards less energy-intensive production (mostly in recent years). Temporary changes in production intensity (driven by global and EU markets) influenced GHG emissions in certain years (i.e. 2020), without changing the long-term trend.

105. As reported in the BR5, under the Convention Slovakia committed to contributing to the achievement of the joint EU quantified economy-wide target of a 20 per cent reduction in emissions below the 1990 level by 2020. The target covers all sectors and CO₂, CH₄, N₂O, HFCs, PFCs and SF₆, expressed using GWP values from the AR4. Emissions and removals from the LULUCF sector are not included. Under the ESD Slovakia has a target of limiting its emission growth to 13 per cent above the 2005 level by 2020.

106. The EU has a joint 2030 emission reduction target of at least 55 per cent below the 1990 level. This will be primarily implemented through the EU ETS and ESR, which have targets to reduce emissions by 2030 by 62 and 40 per cent respectively compared with the 2005 level. Slovakia has an ESR target of 12 per cent emission reduction compared with the 2005 level. Under the Strategy of the Environmental Policy of Slovakia until 2030 the Party approved a voluntary increase of its emission reduction commitment to 20 per cent by 2030 compared with the 2005 level. In addition, the Party has a 2050 climate-neutrality vision reflected in its Low-Carbon Development Strategy.

107. The ERT noted that the total GHG emissions of the EU excluding LULUCF do not exceed the emission level corresponding to the target in 2020, and thus that the EU has achieved its joint target. The ERT therefore concluded that Slovakia has met its 2020 commitment under the Convention through its contribution to achieving the joint target of the EU. See the report on the review of the BR5 of the EU for further details. The ERT noted that the Party met its 2020 ESD target because its ESD emissions in 2020 do not exceed its AEA for 2020.

108. The GHG emission projections provided by Slovakia in its NC8 and BR5 correspond to the WEM and WAM scenarios. Under the WEM scenario, emissions in 2030 are projected to be 43.7 per cent below the 1990 level and 15.2 per cent below the 2020 level. Under the WAM scenario, emissions in 2030 are projected to be 50.5 per cent below the 1990 level and 25.4 per cent below the 2020 level. Slovakia reported some information on the methodologies, key drivers and assumptions underlying these projections and provided more details during the review.

109. Slovakia's main policy framework relating to energy and climate change is the Integrated National Energy and Climate Plan for 2021 to 2023. Slovakia described the mitigation actions that it has implemented to help it to achieve its 2020 and longer-term targets. Among these, the EU ETS is one of the most effective cross-sectoral policies.

National PaMs include the National Renewable Energy Action Plan, the aim of which is to increase the share of electricity generation from RES in the energy system and increase biomass consumption for electricity and heat production, and the Act on the Promotion of the Use of Energy from Renewable Energy Sources and High Efficiency Cogeneration, the aim of which is to increase the efficiency of vehicles, including electric vehicles, and low-carbon fuels. Key sectoral measures include the decree of the Ministry of Environment aimed at improving animal waste management systems; the Act on Waste, aimed at enhancing recycling and reducing deposits to landfills; and using best available techniques for servicing electrical equipment, aimed at reducing SF₆ emissions.

110. Slovakia is not an Annex II Party and is therefore not obliged to adopt measures and fulfil obligations defined in Article 4, paragraphs 3–5, of the Convention. However, it provided information in its BR5 and NC8 on its provision of support to developing country Parties. In 2019–2020, financial and material support was provided through ODA and the Team Europe joint initiatives of the EU and its member States. The Party also supported 22 capacity-building and technology transfer projects in developing countries, mostly in Africa, Asia and Eastern Europe.

111. In its NC8 Slovakia provided information on the expected impacts of climate change in the country; the adaptation policies covering regional, sectoral and cross-sectoral vulnerabilities and considerations; and an outline of the action taken to implement Article 4, paragraph 1(b), of the Convention with regard to adaptation. Agriculture, biodiversity, forests, human health and water resources are among the most vulnerable sectors in the country. Slovakia addresses adaptation matters through the Adaptation Strategy on Adverse Impacts of Climate Change, which was updated in 2018, and the corresponding Adaptation Plan, which was adopted in 2021. Slovakia carries out research programmes and projects related to climate change in fields such as forestry, hydrology, water management, agriculture and RES, which provide further direction to government agencies on enhancing the country's preparedness for climate change.

112. In its NC8 Slovakia provided information on its activities relating to research and systematic observation, including contributions to the World Climate Programme, the International Geosphere–Biosphere Programme and GCOS. These activities support ground- and space-based climate observing systems, including satellite and non-satellite climate observation. Activities related to providing support to developing countries are carried out by the Slovak Agency for International Development Cooperation, which supports a wide variety of projects in developing countries, including projects with research elements.

113. In its NC8 Slovakia provided information on its actions relating to education, training and public awareness covering primary, secondary and higher education; public information campaigns; training programmes; educational materials; resource or information centres; the involvement of the public and non-governmental organizations; and public participation in international activities. Information campaigns, communication and educational activities are implemented in the form of conferences, lectures, seminars, meetings and articles in professional journals. Government and non-government organizations conduct activities and events aimed at raising awareness of climate change, including practical training (such as educational activities with interactive elements), festivals and competitions. Accredited continuing education events for teachers are also organized.

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

- (a) To improve the completeness of its reporting by:
 - (i) Providing information on projections for 15 years after the last reporting year on a gas-by-gas basis (see issue 3 in table I.3);
 - (ii) Providing information on the total effect of implemented and adopted PaMs (see issue 6 in table I.3);
- (b) To improve the transparency of its reporting by:

- (i) Providing detailed information on PaMs using table 1 of the UNFCCC reporting guidelines on NCs (see issue 3 in table I.2);
- (ii) Providing quantitative estimates of the impacts of individual PaMs or collections of PaMs (see issue 5 in table I.2);
- (iii) Providing consistent information on the actions taken to implement Article 4, paragraph 1(b) and (e), of the Convention (see issue 1 in table I.4);
- (c) To improve the timeliness of its reporting by submitting its next NC on time (see para. 6 above).

115. In the course of the review of Slovakia’s NC8, the ERT noted the following findings relating to adherence to the reporting guidelines for supplementary information:

- (a) Issues with the completeness of its reporting relating to information provided on national legislative arrangements and administrative procedures in relation to Article 3, paragraph 3, and Article 3, paragraph 4, of the Kyoto Protocol (see issue 2 in table I.7);
- (b) Issues with the transparency of its reporting relating to information provided on specific national priority actions implemented in accordance with Article 2, paragraph 1, of the Kyoto Protocol (see issue 1 in table I.7).

116. In the course of the review of Slovakia’s BR5, the ERT noted the following findings relating to adherence to the UNFCCC reporting guidelines on BRs:

- (a) Issues with the completeness of its reporting relating to:
 - (i) Information provided on GHG emissions for the base year and reporting years in CTF table 4 (see issue 1 in table II.2);
 - (ii) Information provided on projections for 15 years after the last reporting year on a gas-by-gas basis (see issue 3 in table II.3);
- (b) Issues with the transparency of its reporting relating to:
 - (i) Information provided on the GHGs affected by PaMs (see issue 1 in table II.1);
 - (ii) Quantitative estimates of the impacts of individual PaMs (see issue 3 in table II.1);
 - (iii) Inclusion of LULUCF in the target for the base year in CTF table 4(a)I (see issue 2 in table II.2);
 - (iv) Contribution of market-based mechanisms to meeting the target for reporting years in CTF tables 4 and 4(b) (see issue 3 in table II.2);
- (c) Issues with the timeliness of its reporting (see para. 8 above).

Annex I

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

Tables I.1–I.7 summarize the ERT assessment of adherence to the UNFCCC reporting guidelines on NCs for Slovakia’s NC8.

Table I.1

Findings on national circumstances relevant to greenhouse gas emissions and removals from the review of the eighth national communication of Slovakia

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 3 Issue type: transparency Assessment: encouragement	<p>Slovakia reported disaggregated indicators to support understanding of emission trends in its NC8. However, the information was not always sufficient to explain the trends. For example, the Party reported the values of energy intensity indicator to support understanding of the energy emission trend; however, the connection between the national circumstances applicable to the energy sector and the emission trends was not explained by this indicator. In particular, the ERT noted a sharp decline in energy intensity between 2001 and 2006 that did not introduce an equivalent decrease in energy emissions, but no explanation was given as to why this decline was not reflected in the emission trend. In addition, the Party reported its GDP by economic activity, but not by industry subsector, which would explain the emission trends in the IPPU sector.</p> <p>During the review, Slovakia explained that, although the Party’s GDP (which is used as the denominator in the energy intensity formula) increased by more than 34 per cent during 2000–2006, energy consumption did not increase, mainly because of energy savings in the household sector as well as structural changes in the industry sector and a transition towards less energy-consuming industries. As a result, the GHG emissions were not affected accordingly. Slovakia indicated that a comprehensive explanation of the factors affecting IPPU emission trends are provided in the NIR, including the elements mentioned above.</p> <p>The ERT encourages Slovakia to improve the transparency of its reporting when providing relevant indicators by describing, for example, how the changes in the trend of indicators that are reported to explain the national circumstances, such as energy intensity, are reflected in the GHG emissions or removals and by including, as necessary, references to relevant publicly available documents.</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 and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.2

Findings on policies and measures from the review of the eighth national communication of Slovakia

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 11 Issue type: transparency Assessment: encouragement	<p>In its NC8 Slovakia reported the status of PaMs with several different expressions, including “in force since XXXX”, “estimated after 20XX”, “planned for 20XX”, “strategic” and “in preparation (20XX)”. Definitions of “implemented, adopted and planned PaMs” set out in the UNFCCC reporting guidelines on NCs were not used in the NC8.</p> <p>During the review, Slovakia indicated that it will use the recommended wording in the next NC. The ERT noted that the correct terminology, consistent with the definitions from the UNFCCC reporting guidelines on NCs, was used in the BR5, which is an annex to the NC8.</p> <p>The ERT encourages Slovakia to improve the transparency of its reporting in its next NC by following the definitions of “implemented, adopted and planned PaMs” set out in the UNFCCC reporting guidelines on NCs, or explain the country-specific definitions applied.</p>

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
2	<p>Reporting requirement specified in paragraph 12</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>Slovakia did not report information on its actions to identify and review its own policies and practices that encourage activities that lead to greater levels of anthropogenic GHG emissions than would otherwise occur.</p> <p>During the review, Slovakia explained that it has not identified such policies and practices.</p> <p>The ERT encourages Slovakia to improve the completeness of its reporting in its next NC by providing information on the policies or practices that encourage activities that lead to greater levels of anthropogenic GHG emissions than would otherwise occur.</p>
3	<p>Reporting requirement specified in paragraph 14</p> <p>Issue type: transparency</p> <p>Assessment: recommendation</p>	<p>Slovakia did not include table 1 from the UNFCCC reporting guidelines on NCs in its NC8.</p> <p>During the review, Slovakia clarified that table 1 in the NC8 is the equivalent of table A1.6 in the BR5. The estimates of mitigation impacts required by table 1 are not provided in table A1.6 because the effects of individual PaMs cannot be explicitly determined. The ERT, however, noted that there are differences in the description of PaMs in the NC8 and table A1.6 in the BR5; for example, CO₂ is the only gas reported under “Blending biomethane into compressed natural gas and liquefied natural gas” in the NC8 while CO₂, CH₄ and N₂O are reported in the BR5.</p> <p>The ERT reiterates the recommendation from the previous review report for Slovakia to improve the transparency of its reporting by including table 1 in the PaMs section in its next NC or by including the references regarding table 1 in the textual part of the PaMs section in order to ensure consistent presentation of PaMs between the textual part of the NC and the relevant tables.</p>
4	<p>Reporting requirement specified in paragraph 18</p> <p>Issue type: transparency</p> <p>Assessment: encouragement</p>	<p>Slovakia provided in its NC8 a description of how the progress of PaMs to mitigate GHG emissions is monitored and evaluated over time. However, progress on the National System for Policies and Measures and Projections mentioned by Slovakia during the previous review was not included in the NC8.</p> <p>During the review, Slovakia indicated that it has started the legislative process for a new act on climate change, which will have mechanisms for establishing national legal arrangements for reporting on PaMs and projections. The act will contain a new description of the national system for climate change, including GHG inventory preparation, preparation of projections, evaluation of PaMs and international reporting.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the transparency of the description of how the progress of PaMs to mitigate GHG emissions is monitored and evaluated over time by including, for example, the progress of the legislative process for the new climate change act.</p>
5	<p>Reporting requirement specified in paragraph 20</p> <p>Issue type: transparency</p> <p>Assessment: recommendation</p>	<p>In its NC7 Slovakia reported the impacts for some of its PaMs, for example improving the energy efficiency of several sectors. However, in the NC8 (chap. 5) the impacts were not quantitatively estimated or reported for any individual PaMs.</p> <p>During the review, Slovakia clarified that the estimated effect of planned sectoral PaMs is provided in chapter 6 (on emission projections) in its NC8 where it can be evaluated as the difference between the WAM and WEM scenarios; however, the effect of the implemented PaMs cannot be quantified owing to the absence of a WOM scenario. It also indicated that the effect of individual PaMs cannot be explicitly determined because of the lack of relevant indicators or parameters, and any expert estimate would therefore have a high level of uncertainty.</p> <p>The ERT recommends that Slovakia improve the transparency of its reporting by including, as appropriate, quantitative estimates of the impacts of individual PaMs or collections of PaMs in the PaMs section in its next NC or by explaining why it is not possible to estimate the impacts.</p>
6	<p>Reporting requirement specified in paragraph 21</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>Slovakia did not provide a description of interactions between PaMs. At the start of the PaMs chapter in the NC8, the Party mentioned that the interactions are reported in chapter 5.11, but this chapter is missing from the NC. Moreover, information on the costs of PaMs and non-GHG mitigation benefits was not provided.</p> <p>During the review, Slovakia provided a document describing the indirect benefits of selected PaMs and how the cross-cutting measures achieve various benefits. In addition,</p>

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
		<p>Slovakia clarified that it does not have and cannot provide an economic analysis of and information on the costs of individual PaMs.</p> <p>The ERT encourages Slovakia to improve the completeness of its reporting by including in the next NC information on interactions between PaMs and on non-GHG mitigation benefits. In addition, the ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by including in the next NC the costs of PaMs, or by providing an explanation of why such information could not be provided.</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 and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.3

Findings on projections including aggregate effects of policies and measures reported in the eighth national communication of Slovakia

No.	Reporting requirement, issue type and assessment	Description of the finding with recommendation or encouragement
1	<p>Reporting requirement specified in paragraph 25</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party did not report a WOM scenario in its NC8.</p> <p>During the review, Slovakia clarified that a WOM scenario was not prepared as it is not a mandatory requirement.</p> <p>The ERT encourages Slovakia to improve the completeness of its reporting by providing a WOM scenario in its next NC or the reason that doing so is not possible.</p>
2	<p>Reporting requirement specified in paragraph 27</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party did not report in its NC8 a sensitivity analysis for any of the projections.</p> <p>During the review, Slovakia explained that a sensitivity analysis is highly dependent on input data and expert capacity. The Party mentioned that it is developing and implementing new models, leading to the need for a new approach to the sensitivity analysis. For this reason, a sensitivity analysis was not reported in the NC8.</p> <p>The ERT encourages Slovakia to improve the completeness of its reporting by providing a sensitivity analysis for its projections in its next NC.</p>
3	<p>Reporting requirement specified in paragraph 32</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>The Party did not report projections on a gas-by-gas basis for 15 years after the last reporting year (i.e. for 2035) in its NC8.</p> <p>During the review, Slovakia provided projections of GHG emissions by gas for 2035.</p> <p>The ERT recommends that Slovakia improve the completeness of its reporting by providing in its next NC projections for 15 years after the last reporting year on a gas-by-gas basis for CO₂, CH₄, N₂O, PFCs, HFCs, SF₆ and NF₃ (treating PFCs and HFCs collectively in each case).</p>
4	<p>Reporting requirement specified in paragraph 32</p> <p>Issue type: completeness</p> <p>Assessment: encouragement</p>	<p>The Party did not report projections of indirect GHG emissions in its NC8.</p> <p>During the review, Slovakia explained that projections of indirect emissions are provided in line with the reporting requirements of the Convention on Long-range Transboundary Air Pollution every two years by 15 March. The latest report was submitted in 2021. The Party provided a link to the web page containing information on the projections.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing in its next NC projections of indirect GHGs such as carbon monoxide, nitrogen oxides, sulfur oxides and non-methane volatile organic compounds, covering all sectors. The ERT notes that Slovakia could also include a link to the reports where further information on such projections can be found.</p>
5	<p>Reporting requirement specified in paragraph 35</p> <p>Issue type:</p>	<p>The Party reported unadjusted inventory data in its NC8; however, the aggregated graphs in Slovakia's NC8 do not cover 1990–1999.</p>

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
	completeness transparency Assessment: encouragement	During the review, Slovakia provided additional historical information in graphical and tabular format for the time series 1990–2020 and projections for each five-year period up until 2040. The ERT encourages Slovakia to improve the completeness of its reporting by providing unadjusted inventory data and WEM and WAM projections for all sectors from 1990 in the graphs in the next NC.
6	Reporting requirement specified in paragraphs 36 Issue type: completeness Assessment: recommendation	The Party did not report in its NC8 an estimate of the total effect of its implemented and adopted PaMs. During the review, Slovakia explained that the lack of a WOM scenario, inclusion of the PaMs in the projections of the WEM scenario and the inability to estimate the effects of many individual PaMs prevent it from providing an estimate for the overall savings of measures in the WEM scenario. The ERT reiterates the recommendation from the previous review report for Slovakia to improve the completeness of its reporting by including in its next NC the total effect of implemented and adopted PaMs, estimated and presented as per the requirements set out in paragraphs 36–37 of the UNFCCC reporting guidelines on NCs.
7	Reporting requirement specified in paragraph 40 Issue type: completeness Assessment: encouragement	The Party did not report in its NC8 on all elements required to describe the models used for preparing projections, such as type and characteristics of the model, strengths and weaknesses of the model or approach used, and how the model or approach used accounts for any overlap or synergies that may exist between different PaMs. During the review, Slovakia provided detailed information (description, approach, sectors, SWOT analysis, overlap/synergies) for the models used (TIMES for energy and IPPU emission projections and COPERT for transport, agriculture, LULUCF and waste emission projections). The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing the required elements, such as type and characteristics of the model, strengths and weaknesses of the model or approach used, and how the model or approach used accounts for any overlap or synergies that may exist between different PaMs.
8	Reporting requirement specified in paragraph 42 Issue type: completeness Assessment: encouragement	Slovakia provided information on the differences between the projections reported in the NC8 and those reported in the previous NC; however, the Party did not report on the differences between the assumptions and methods applied for the projections in the NC8 compared with those applied for the previous NC. During the review, Slovakia explained that the key assumptions driving the differences are the pandemic and the increases in energy and fuel prices. The major influence on the emission projections was the assumption of the price of EU ETS allowances. The Party provided a detailed description of the models and methods used for calculating the projections reported in the NC8. The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing information on the differences between the assumptions and methods applied for the projections in the current NC and those reported in the previous NC.
9	Reporting requirement specified in paragraph 43 Issue type: completeness Assessment: encouragement	The Party did not report in its NC8 a sensitivity analysis for underlying assumptions. During the review, Slovakia explained that a sensitivity analysis is highly dependent on input data and expert capacity and that it is developing and implementing new models, leading to the need for a new approach to the sensitivity analysis. For this reason, a sensitivity analysis was not reported in the NC8. The ERT encourages Slovakia to improve the completeness and transparency of its reporting by providing a sensitivity analysis for underlying assumptions in its next NC.

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

Table I.4

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

<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 46 Issue type: transparency Assessment: recommendation	<p>In terms of Article 4, paragraph 1(b), of the Convention, Slovakia mentioned projected climate change impacts, vulnerability and adaptation measures in the energy sector in the executive summary of its NC8. The power industry is listed in summary table 7.6, and it can be concluded from table 6.47 that the energy sector is the key priority.</p> <p>However, detailed information on the climate change impacts on and adaptation of the energy sector is not provided in the NC8. In addition, with respect to Article 4, paragraph 1(e), Slovakia did not report in its NC8 if and how it had cooperated with other Parties in preparing for adaptation and developing action plans (such as NAPs) to implement Article 4, paragraph 1(e).</p> <p>During the review, Slovakia clarified that no other Parties (such as neighbouring countries) were involved in the development of its NAP. The NAP was developed in cooperation with more than 200 Slovak experts from various fields concerned with climate change adaptation issues. In addition, Slovakia provided information on key vulnerabilities and adaptation actions in the energy sector.</p> <p>The ERT reiterates the recommendation from the previous review report for Slovakia to improve the transparency of its reporting by providing an outline of the action taken to implement Article 4, paragraph 1(e), of the Convention with regard to adaptation, in particular how it cooperates with other Parties in preparing for adaptation to the impacts of climate change and developing and elaborating appropriate and integrated plans, or clarify that it has not cooperated with any other Party. In addition, the ERT recommends that the Party increase transparency with respect to Article 4, paragraph 1(b), by, for example, consistently reporting on action taken for adaptation of the sectors it identifies as key, such as the energy sector.</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 and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.5

Findings on research and systematic observation from the review of the eighth national communication of Slovakia

<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 62 Issue type: transparency Assessment: encouragement	<p>The Party reported information on GCOS in its NC8, but the information was not reported in the detail required by the guidance provided in the revised “UNFCCC reporting guidelines on global climate observing systems” (annex to decision 11/CP.13).</p> <p>During the review, Slovakia indicated that it intends to prepare reports for GCOS in accordance with the above-mentioned guidelines.</p> <p>The ERT encourages Slovakia to refer to the detailed guidance provided in the “UNFCCC reporting guidelines on global climate observing systems” (annex to decision 11/CP.13) when reporting information on global climatological classifications in its NC in order to increase transparency.</p>
2	Reporting requirement specified in paragraph 65 Issue type: completeness Assessment: encouragement	<p>Slovakia did not report information on barriers to free and open international exchange of data and information and action taken to overcome such barriers in its NC8.</p> <p>During the review, Slovakia provided information on one of the barriers to free exchange or access to data and information. In particular, most of the data and information are owned by the Slovak Hydrometeorological Institute, which is subsidized by the State and operates under the Ministry of Environment. Income (financial resources) for data and information is a necessary part of the Institute’s budget.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing information on barriers to free and open international exchange of data and information and report on action taken to overcome such barriers.</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 and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.6

Findings on education, training and public awareness from the review of the eighth national communication of Slovakia

<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 68 Issue type: completeness Assessment: encouragement	<p>The Party did not report information on the extent of public participation in the preparation or domestic review of the NC in its NC8.</p> <p>During the review, Slovakia clarified that civil society representatives did not contribute directly to the drafting or review of the NC8. However, the experts who drafted respective NC chapters had the opportunity to use their communication networks with partners. Moreover, the information and data presented in the NC8 are often extracted from official documents that have been prepared with the participation of civil society representatives in working groups and for which public consultations have been conducted.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by including the information on public participation in the preparation and domestic review of its NCs provided during the review in its next NC.</p>
2	Reporting requirement specified in paragraph 69 Issue type: completeness Assessment: encouragement	<p>The Party did not report in its NC8 on the involvement of the public and non-governmental organizations or on the monitoring, review and evaluation of the implementation of Article 6 of the Convention.</p> <p>During the review, Slovakia explained that the Ministry of Environment has developed a comprehensive system of environmental education and training using internationally available conceptual guidance. Individual organizations organize activities and events aimed at raising awareness of action on climate change and offer practical training such as educational activities with interactive elements, which include events on important environmental days, open days of organizations (such as the Slovak Environment Agency and Slovak Hydrometeorological Institute), educational events, discussions for schools, events for marginalized groups, exhibitions, excursions and film festivals. Conferences for professionals, seminars for various target groups, and accredited continuing education for teachers are also organized. Moreover, these organizations are engaged in publishing and promoting educational materials.</p> <p>The ERT encourages Slovakia to improve the completeness of its reporting by including information on the involvement of the public and non-governmental organizations and on the monitoring, review and evaluation of the implementation of Article 6 of the Convention 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 and transparent, and thus adheres to the UNFCCC reporting guidelines on NCs.

Table I.7

Findings on minimization of adverse impacts and supplementary information related to the Kyoto Protocol reported in the eighth national communication of Slovakia

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding</i>
1	Reporting requirement specified in paragraph 34 Issue type: transparency Assessment: recommendation	<p>The Party reported in its NC8 on PaMs implemented in order to promote sustainable development at the EU level, but provided limited information on specific national priority actions implemented. It reported that sustainable development is an overarching objective of the EU and that priority actions need to be specified to address mitigation PaMs implemented for promoting sustainable development. However, Slovakia did not report which actions it has specified as priority to meet this EU objective and how the implementation, monitoring and follow-up of such actions is achieved, for example through relevant governance mechanisms. There was no new information reported with respect to the relevant progress made in specifying such priority actions compared with the reporting in the previous NC.</p>

<i>No.</i>	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding</i>
2	<p>Reporting requirement specified in paragraph 38</p> <p>Issue type: completeness</p> <p>Assessment: recommendation</p>	<p>During the review, Slovakia mentioned specific national policy documents that promote sustainable development in the context provided by the relevant EU policy and the European Green Deal, such as the Integrated National Energy and Climate Plan for 2021 to 2023 and the Strategy of the Environmental Policy of Slovakia until 2030. The Party explained that the EU 2050 climate-neutrality objective, as reflected in the recently launched Fit for 55 package, is closely linked to sustainable development.</p> <p>The ERT recommends that Slovakia improve the transparency of its reporting by providing information on its national priority actions implemented in accordance with Article 2, paragraph 1, of the Kyoto Protocol, specifically those that are put in place to meet the EU sustainable development objective, and on how relevant established or new governance mechanisms in Slovakia are strengthened in order to perform the implementation, monitoring and follow-up of such actions.</p> <p>The ERT concludes that this potential problem of a mandatory nature does not influence the Party’s ability to fulfil its commitments for the second commitment period of the Kyoto Protocol.</p> <p>The Party did not report in its NC8 on its national legislative arrangements and administrative procedures seeking to ensure that the implementation of activities under Article 3, paragraph 3, and any elected activities under Article 3, paragraph 4, of the Kyoto Protocol also contributes to the conservation of biodiversity and the sustainable use of natural resources. The ERT noted that previous ERTs had raised this issue in the reviews of the NC6 and NC7.</p> <p>During the review, Slovakia explained that afforestation mainly occurs through the expansion of forests on unused agricultural land, while any deforestation of areas is subject to approval by the State Forestry Administration under specific conditions and must be justified (especially if the social and economic development aims cannot be achieved otherwise). With respect to Article 3, paragraph 4, of the Kyoto Protocol, the Party specifically referred to the forest management plans established for all forests in Slovakia, which are approved and implemented by the State Forestry Administration to ensure sustainable forest management. The plans include activities aimed at ensuring that forest logging does not exceed the forest’s natural increment and habitat restoration. The Party indicated that further policy tools are under development, namely the National Forestry Program for 2023–2030, and that more forest areas will be declared as protected.</p> <p>The ERT reiterates the recommendation from the previous review report for Slovakia to improve the completeness of its reporting by providing information on the legislative arrangements and administrative procedures in place for ensuring that the implementation of activities under Article 3, paragraphs 3–4, also contributes to biodiversity and sustainable use of natural resources; for example, by providing information similar to that provided during the review.</p> <p>The ERT concludes that this potential problem of a mandatory nature does not influence the Party’s ability to fulfil its commitments for the second commitment period of the Kyoto Protocol.</p>

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

Annex II

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

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

Table II.1

Findings on mitigation actions and their effects from the review of the fifth biennial report of Slovakia

No.	Reporting requirement and issue type	Description of the finding with recommendation or encouragement
1	Reporting requirement specified in paragraph 6 Issue type: transparency Assessment: recommendation	<p>Slovakia reported the EU ETS as two separate PaMs in its BR5 and CTF table 3. The EU ETS was reported as an energy sector measure, affecting CO₂ only, and also as an IPPU sector measure, affecting fluorinated gases only. The ERT noted that the IPPU measure does not include other GHGs in this sector that could be affected by the EU ETS (such as CO₂). Also, the description of the IPPU measure in CTF table 3 covers energy-related measures, such as energy efficiency and fuel switching, rather than measures related to IPPU.</p> <p>During the review, Slovakia explained that the EU ETS is a cross-sectoral measure described, with all the affected gases, in chapter 5.3 of the NC8, and that this information was not correctly transferred to the BR CTF tables.</p> <p>The ERT reiterates the recommendation from the previous review report for Slovakia to improve the transparency of the information reported on its PaMs by providing accurate and consistent data on the GHGs affected by its mitigation actions.</p>
2	Reporting requirement specified in paragraph 8 Issue type: transparency Assessment: encouragement	<p>The Party reported information in its BR5 on the economic consequences and the societal costs, but not the social consequences, of its response measures.</p> <p>During the review, Slovakia explained that social and economic impacts were part of the assessment of economic and social consequences of response measures reported in its BR4; however, owing to the current political climate and the effects of the conflict between the Russian Federation and Ukraine, new macroeconomic and social impact modelling will need to be conducted as part of the updating of the Integrated National Energy and Climate Plan and the development of the next Low-Carbon Development Strategy.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to provide existing information on social impacts, as provided in its Low-Carbon Development Strategy, explaining that these impacts may be affected by the political instability caused by current geopolitical events.</p>
3	Reporting requirement specified in CTF table 3 Issue type: transparency	<p>Slovakia did not report the quantified estimate of the impact of individual mitigation actions in 2020 for any action. The Party reported “NE” in CTF table 3 for implemented, adopted and planned PaMs; an explanation in the custom footnote was given for implemented measures only, and this explanation was not clear to the ERT. In addition, it was not clear to the ERT what reporting “NE” would mean for planned PaMs, which were not in place in 2020.</p>

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

No.	Reporting requirement and issue type	Description of the finding with recommendation or encouragement
	Assessment: recommendation	<p>During the review, Slovakia clarified that it could not report a quantified estimation of the impact of individual PaMs because of the lack of reliable indicators or parameters, and that “NE” was used regardless of the status of each policy or measure.</p> <p>The ERT recommends that Slovakia provide either quantitative estimates of the impacts of individual PaMs or a clear explanation (in the custom footnotes) as to why the individual impacts cannot be estimated. The ERT noted that “NA” could be used instead of “NE” for planned mitigation actions for 2020 to indicate that the impacts could not be estimated as the actions were not in place at that time.</p>
4	Reporting requirement specified in paragraph 24 Issue type: transparency Assessment: encouragement	<p>As reported in its BR5, Slovakia has not made changes to the domestic institutional, legal, administrative and procedural arrangements for domestic compliance, monitoring, reporting and archiving of information and evaluation of the progress towards its emission reduction obligations and targets since the latest NC and BR. However, neither the NC8 and BR5 nor previous reports include information on the domestic arrangements established for the process of self-assessing compliance with emission reduction commitments.</p> <p>During the review, Slovakia clarified that it does not have domestic arrangements established for the process of self-assessment of compliance and national rules for taking action against non-compliance with emission reduction targets. However, Slovakia has started the relevant legislative process.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the transparency of its reporting by including, to the extent possible, information on domestic arrangements for the process of self-assessing compliance and national rules for taking action against non-compliance in its next submission.</p>

Note: Item listed under reporting requirement refers to the relevant paragraph of the UNFCCC reporting guidelines on BRs or to the CTF table number from the “Common tabular format for ‘UNFCCC biennial reporting guidelines for developed country Parties’”. The reporting on the requirements not included in this table is considered to be complete and transparent, and thus adheres to the UNFCCC reporting guidelines on BRs.

Table II.2

Findings on estimates of emission reductions and removals and on the use of units from market-based mechanisms and land use, land-use change and forestry from the review of the fifth biennial report of Slovakia

No.	Reporting requirement and issue type	Description of the finding
1	Reporting requirement specified in paragraphs 9–10 Issue type: completeness Assessment: recommendation	<p>The Party reported in its BR5 information on its quantified economy-wide emission reduction target. The base year is 1990 and the target excludes LULUCF emissions. The ERT noted that CTF table 4 does not include information (Party’s total GHG emissions and LULUCF contribution) for the base year or for reporting years.</p> <p>During the review, Slovakia provided an updated version of CTF table 4, where GHG emissions excluding LULUCF are provided for the base year and reporting years and “NA” is reported for the LULUCF contribution with an appropriate footnote.</p> <p>The ERT recommends that the Party improve the completeness of its reporting in its next BR by providing estimates of total GHG emissions relevant to its target for the base year and for reporting years in CTF table 4 and using the appropriate notation keys for the LULUCF contribution.</p>
2	Reporting requirement specified in paragraph 9 Issue type: transparency Assessment: recommendation	<p>Slovakia reported LULUCF emissions in CTF table 4(a)I, yet the Party’s economy-wide emission reduction target for 2020 excludes LULUCF.</p> <p>During the review, the Party informed the ERT that information on LULUCF in CTF table 4(a)I was submitted as an information item.</p> <p>The ERT recommends that Slovakia improve the transparency of its reporting on the target, for example by using a footnote to CTF table 4(a)I to explain that the LULUCF contribution is provided for information only and is not included in the target.</p>
3	Reporting requirement specified in paragraph 10 Issue type: transparency	<p>The Party reported on the use of market-based mechanisms in its BR5. The Party explained that the flexible mechanisms are used only by operators in the EU ETS, noting that Slovakia is not planning to use international credits under the ESD for meeting its annual trajectory target. The ERT noted that in CTF tables 4 and 4(b) a mixture of notation keys, empty cells and zero numerical values were reported.</p>

<i>No.</i>	<i>Reporting requirement and issue type</i>	<i>Description of the finding</i>
	Assessment: recommendation	<p>During the review, the Party explained that no numerical values should be provided for the use of market-based mechanisms in either table, and provided updated versions of the tables.</p> <p>The ERT recommends that the Party improve the transparency of its reporting by providing clear information on the contribution of market-based mechanisms in the CTF tables through the use of numerical values, notation keys or appropriate footnotes, covering all relevant years from 2013. The ERT notes that “NA” could be used when the Party does not plan to use units from market-based mechanisms and the value “0” when the Party intends to use units from market-based mechanisms but does not use units in a given year.</p>

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

Table II.3

Findings on projections reported in the fifth biennial report of Slovakia

<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 25 Issue type: completeness Assessment: encouragement	<p>The Party did not report a WOM scenario in its BR5.</p> <p>During the review, Slovakia clarified that a WOM scenario was not prepared as it is not a mandatory requirement.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing a WOM scenario or the reason that doing so is not possible.</p>
2	Reporting requirement specified in paragraph 27 Issue type: completeness Assessment: encouragement	<p>The Party did not report in its BR5 a sensitivity analysis for any of the projections.</p> <p>During the review, Slovakia explained that a sensitivity analysis is highly dependent on input data and expert capacity and that it is developing and implementing new models, leading to the need for a new approach to the sensitivity analysis. For this reason, a sensitivity analysis was not reported in the BR5.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing a sensitivity analysis for its projections in its next BR.</p>
3	Reporting requirement specified in paragraph 32 Issue type: completeness Assessment: recommendation	<p>The Party did not report projections on a gas-by-gas basis for 15 years after the last reporting year (i.e. for 2035) in its BR5.</p> <p>During the review, Slovakia provided the GHG emissions by gas for 2035.</p> <p>The ERT recommends that Slovakia improve the completeness of its reporting by providing in its next BR projections for 15 years after the last reporting year on a gas-by-gas basis for CO₂, CH₄, N₂O, PFCs, HFCs, SF₆ and NF₃ (treating PFCs and HFCs collectively in each case).</p>
4	Reporting requirement specified in paragraph 32 Issue type: completeness Assessment: encouragement	<p>The Party did not report projections of indirect GHG emissions in its BR5.</p> <p>During the review, Slovakia explained that projections of indirect emissions are provided in line with the reporting requirements of the Convention on Long-range Transboundary Air Pollution every two years by 15 March. The latest report was submitted in 2021. The Party provided a link to the web page containing this information.</p> <p>The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing in its next BR projections of indirect GHGs such as carbon monoxide, nitrogen oxides, sulfur oxides and non-methane volatile organic compounds, covering all sectors. The ERT notes that Slovakia could also include a link to the reports where further information on such projections can be found.</p>
5	Reporting requirement specified in paragraph 35	<p>The Party reported unadjusted inventory data in its BR5; however, the graphs in Slovakia’s BR5 do not cover 1990–1999.</p>

No.	<i>Reporting requirement, issue type and assessment</i>	<i>Description of the finding with recommendation or encouragement</i>
	Issue type: completeness transparency Assessment: encouragement	During the review, Slovakia provided additional historical information in graphical and tabular format for the time series 1990–2020 and projections for each five-year period up until 2040. The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness of its reporting by providing unadjusted inventory data and WEM and WAM projections for all sectors from 1990 in the graphs in the next BR.
6	Reporting requirement specified in paragraph 40 Issue type: completeness Assessment: encouragement	The Party did not report in its BR5 on all elements required to describe the models used for preparing projections, such as type and characteristics of the model, strengths and weaknesses of the model or approach used, and how the model or approach used accounts for any overlap or synergies that may exist between different PaMs. During the review, Slovakia provided detailed information (description, approach, sectors, SWOT analysis, overlap/synergies) for the models used (TIMES for energy and IPPU emission projections and COPERT for transport, agriculture, LULUCF and waste emission projections). The ERT encourages Slovakia to improve the completeness of its reporting by providing the required elements such as type and characteristics of the model and strengths and weaknesses of the model or approach used, and reiterates the encouragement from the previous review report for the Party to provide details of how the model or approach used accounts for any overlap or synergies that may exist between different PaMs.
7	Reporting requirement specified in paragraph 42 Issue type: completeness Assessment: encouragement	Slovakia provided information on the differences between the projections reported in the BR5 and those reported in the previous BR; however, the Party did not report on the differences between the assumptions and methods applied for the projections in the BR5 compared with those applied for the BR4. During the review, Slovakia explained that the key assumptions driving the differences are the pandemic and the increases in energy and fuel prices. The major influence on the emission projections was the assumption of the price of EU ETS allowances. Slovakia provided detailed information on the models used for calculating the projections reported in the NC8. The ERT encourages Slovakia to improve the completeness of its reporting by providing information on the differences between the assumptions and methods applied for the projections since the previous report.
8	Reporting requirement specified in paragraph 43 Issue type: completeness Assessment: encouragement	The Party did not report in its BR5 a sensitivity analysis for underlying assumptions. During the review, Slovakia explained that a sensitivity analysis is highly dependent on input data and expert capacity and that it is developing and implementing new models, leading to the need for a new approach to the sensitivity analysis. For this reason, a sensitivity analysis was not reported in the BR5. The ERT reiterates the encouragement from the previous review report for Slovakia to improve the completeness and transparency of its reporting by providing a sensitivity analysis for underlying assumptions in its next BR.

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

Annex III

Documents and information used during the review

A. Reference documents

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

BR4 of Slovakia. Available at <https://unfccc.int/BR4>.

BR5 CTF tables of Slovakia. Available at <https://unfccc.int/BR5>.

BR5 of Slovakia. Available at <https://unfccc.int/BR5>.

BR5 of the EU. Available at <https://unfccc.int/BR5>.

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

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

European Green Deal. European Commission document COM(2019) 640 final. Available at https://ec.europa.eu/info/files/communication-european-green-deal_en.

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

“Guidelines for the 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>.

National energy and climate plans of Slovakia. Available at https://energy.ec.europa.eu/topics/energy-strategy/national-energy-and-climate-plans-necps_en.

NC7 of Slovakia. Available at <https://unfccc.int/NC7>.

NC8 of Slovakia. Available at <https://unfccc.int/NC8>.

NC8 of the EU. Available at <https://unfccc.int/NC8>.

Report on the individual review of the annual submission of Slovakia submitted in 2021. FCCC/ARR/2021/SVK. Available at <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/inventory-review-reports/inventory-review-reports-2021>.

Report on the technical review of the BR3 of Slovakia. FCCC/TRR.3/SVK. Available at <https://unfccc.int/documents/180578>.

Report on the technical review of the BR4 of Slovakia. FCCC/TRR.4/SVK. Available at <https://unfccc.int/documents/236153>.

Report on the technical review of the NC7 of Slovakia. FCCC/IDR.7/SVK. Available at <https://unfccc.int/documents/180577>.

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

B. Additional information provided by the Party

Responses to questions during the review were received from Miroslava Dankova (Ministry of Environment of Slovakia) and Janka Szemesova (Slovak Hydrometeorological Institute), including additional material. The following references were provided by Slovakia and may not conform to UNFCCC editorial style as some have been reproduced as received:

Low-Carbon Development Strategy of the Slovak Republic until 2030 with a View to 2050. Available at <https://unfccc.int/sites/default/files/resource/LTS%20SK%20eng.pdf>.

Decarbonization of the Slovak Economy by 2030. Available at https://www.minzp.sk/files/iep/decarbonization_of_the_slovak_economy_by_2030_study_062022.pdf.

Green report – Agriculture and Food sector. Available at <https://www.mpsr.sk/en/index.php?navID=16>.

Green report – Forestry. Available at <https://www.mpsr.sk/en/index.php?navID=17>.

Executive Summary of the Adaptation Strategy of the Slovak Republic to Climate Change.

Strategy of the Environmental Policy of the Slovak Republic until 2030. Available at https://www.minzp.sk/files/iep/greener_slovakia-strategy_of_the_environmental_policy_of_the_slovak_republic_until_2030.pdf.
