



United Nations

FCCC/ETF/TERR.1/2024/SVK/Add.1



Framework Convention on
Climate Change

Distr.: General
17 September 2025

English only

Report on the technical expert review of the first biennial transparency report of Slovakia

Addendum

Summary

This addendum to the report on the technical expert review of the first biennial transparency report of Slovakia, conducted by a technical expert review team in accordance with the modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement, contains the results of the review of the consistency of the information submitted by the Party with those modalities, procedures and guidelines, and presents capacity-building needs identified by the Party and by the technical expert review team in consultation with the Party during the review. The review took place from 17 to 21 March 2025 in Bratislava.



Abbreviations and acronyms

2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
2019 Refinement to the 2006 IPCC Guidelines	<i>2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
AD	activity data
BTR	biennial transparency report
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
CRT	common reporting table
CTF	common tabular format
DAC	Development Assistance Committee
EEA	European Environment Agency
EF	emission factor
EMEP	Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe
ETF	enhanced transparency framework under the Paris Agreement
GHG	greenhouse gas
HWP	harvested wood products
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
N ₂ O	nitrous oxide
NA	not applicable
NDC	nationally determined contribution
NE	not estimated
NID	national inventory document
NIR	national inventory report
NMVOC	non-methane volatile organic compound
NO	not occurring
OECD	Organisation for Economic Co-operation and Development
PaMs	policies and measures
QA/QC	quality assurance/quality control
SOC	soil organic carbon
TERT	technical expert review team
TIMES	The Integrated Market Allocation–Energy Flow Optimization Model System
UA	unavailable at the time of reporting
WAM	‘with additional measures’
WM	‘with measures’
Y _m	methane conversion rate

Areas of improvement¹ identified during the technical expert review of the Party's first biennial transparency report

Tables 1–20 present the results of the review of the consistency with the MPGs² of the information submitted by Slovakia in its BTR1. All recommendations and encouragements contained in the tables are for the next BTR or NIR, unless otherwise specified.

A. General reporting provisions

Table 1

Areas of improvement relating to general reporting provisions

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
NA	NA	No areas of improvement identified

B. Greenhouse gas emissions and removals

Table 2

Areas of improvement relating to general findings on greenhouse gas emissions and removals

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
2.G.1	Specified in paragraphs 29 and 44 of the MPGs Uncertainty analysis	<p>Slovakia reported information on the total uncertainty and trend uncertainty. However, the Party did not report information on the uncertainty of the AD and EFs and the combined uncertainty for 1990 in accordance with paragraphs 29 and 44 of the MPGs.</p> <p>During the review, Slovakia explained that it is planning to conduct an updated uncertainty analysis, which will incorporate the methodologies and updated guidance from the 2019 Refinement to the 2006 IPCC Guidelines. This updated analysis will be carried out once the necessary expert capacity has been secured and a dedicated budget allocated for that purpose.</p> <p>The TERT recommends that the Party estimate and report the uncertainty of the emission and removal estimates for all source and sink categories and the trend uncertainty for the starting year and the latest reporting year of the inventory time series.</p>
2.G.2	Specified in paragraph 44 of the MPGs Uncertainty analysis	<p>The Party conducted the uncertainty analysis using the Monte Carlo approach. The TERT noted a lack of clear information on the definition of the probability density functions for each input, including the type of distribution, the values associated with the corresponding distribution, and the related information source for the IPPU, agriculture and LULUCF sectors.</p> <p>During the review, the Party explained that normal and uniform distributions were used, as well as default values from the 2006 IPCC Guidelines and expert judgment where specific data were lacking.</p> <p>The TERT recommends that the Party provide detailed information on the probability density functions for each input included in the Monte Carlo analysis in future submissions and on planned improvements to the uncertainty analysis for the IPPU, agriculture and LULUCF sectors.</p>
2.G.3	Specified in paragraph 2 of decision 5/CMA.3	<p>Slovakia prepared its NID using the previous NIR template for reporting under the Kyoto Protocol and not the suggested outline contained in annex V to decision 5/CMA.3.</p> <p>During the review, Slovakia explained that it will prepare its next submission using the suggested template.</p> <p>The TERT encourages the Party to follow the suggested outline contained in annex V to decision 5/CMA.3 for preparing its NID.</p>

¹ As referred to in paras. 7, 8, 146(d) and 162(d) of the MPGs, contained in the annex to decision 18/CMA.1.

² Decision 18/CMA.1, annex.

Table 3

Areas of improvement of the reporting on greenhouse gas emissions and removals – energy sector

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
3.E.1	Specified in paragraphs 21 and 23 of the MPGs 1.A.4.b Residential – solid fuels – CH ₄	<p>The Party estimated CH₄ emissions from solid fuels for category 1.A.4 other sectors using a tier 1 method, despite the fact that this category is assessed as being a key category. Subcategory 1.A.4.b residential is the major contributor to the total emissions from other sectors.</p> <p>During the review, the Party explained that it has undertaken several activities with the aim of moving to a tier 2 method for estimating solid fuel emissions from households under subcategory 1.A.4.b, including conducting three large-scale surveys to gather information on how solid fuels are burned in households in cooperation with the Statistical Office of the Slovak Republic. The results of these activities have enabled the Party to create an approximate representation of the main types of heating devices used in households and to collect data on the consumption of individual fuels at the district level. The Party explained that the main obstacle to transitioning to a higher-tier method is the lack of suitable data on EFs for non-CO₂ gases.</p> <p>The TERT encourages the Party to apply a tier 2 method and to consider additional elements, including the type of heating system, efficiency, air quality and combustion conditions. In addition, the TERT recommends that the Party clearly document why the methodology selected is not in line with the corresponding decision tree of the 2006 IPCC Guidelines referred to in paragraph 20 of the MPGs, while continuing to advance towards using a tier 2 method, and include information on its progress in this regard in its next NID.</p>
3.E.2	Specified in paragraphs 31, 47 and 48 of the MPGs 1.A.4.c.iii Fishing – liquid fuels – CO ₂ , CH ₄ and N ₂ O	<p>The Party reported emissions for subcategory 1.A.4.c.iii fishing as “NO” in CRT 1.A(a)s4. However, according to the Food and Agriculture Organization of the United Nations, Slovakia has a long tradition of freshwater fishing concentrated in its many fast-flowing rivers situated in mountainous regions as well as in lakes and reservoirs. Slovakia’s total production from fisheries in 2021 was 4,119 t, of which 1,815 t was from inland capture fisheries and 2,304 t from aquaculture (https://www.fao.org/fishery/fr/facp/svk?lang=en).</p> <p>During the review, the Party explained that it checked the available data in the National Emission Information System, which is a database of all stationary emissions sources, and the disaggregated data provided by the Statistical Office of the Slovak Republic to identify whether there are any companies with economic activity related to fishing, but no record of such activity was found in either database. The Party also explained that there is no law that allows or licenses commercial fishing in Slovakia, thus no fishing vessels are registered in the country.</p> <p>The TERT recommends that the Party confirm whether economic activity related to fishing occurs in the country and, if it does occur, either report the emissions or use an appropriate notation key for this subcategory.</p>

Table 4

Areas of improvement of the reporting on greenhouse gas emissions and removals – industrial processes and product use sector

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
4.I.1	Specified in paragraph 39 of the MPGs 2.A.3 Glass production – CO ₂	<p>The Party explained in its NID (section 4.7.4) that a tier 3 approach was used to estimate CO₂ emissions from glass production (category 2.A.3) for 2004–2022. However, Slovakia did not report complete information on the methods used, or the descriptions, assumptions, references and sources of information used for the EFs applied to estimate CO₂ emissions from glass production for 1990–2003 and on how time-series consistency was ensured.</p> <p>During the review, Slovakia explained that the emission values for 1990–2003 were obtained by extrapolation using EFs based on the average emissions of the plants and the type of glass produced for 2004–2008 and provided the TERT with the file containing the AD and EF values used for this period.</p> <p>The TERT recommends that the Party enhance the description of the methodologies used across the time series, including the assumptions, references</p>

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
		and sources of information used to ensure the time-series consistency of the estimates for 1990–2003.
4.I.2	Specified in paragraph 35 of the MPGs 2.C Metal industry – CO ₂ and CH ₄	<p>Slovakia reported emissions from metal industry by subcategory and by gas (CO₂ and CH₄) in both its NID and CRTs. However, the TERT identified differences in the reported data. In particular, there was a significant difference between the total GHG emissions from metal industry reported in NID table 4.27 (p.173) and those reported in CRT 2(I) for the entire time series (1990–2022). Additionally, in the NID (section 4.1, p.132), Slovakia stated that there was a decrease in total net GHG emissions from the IPPU sector by approximately 12 per cent between 2021 and 2022, whereas the calculations of the TERT, based on CRT 2(I), indicate a decrease of 18 per cent. The TERT detected several similar inconsistencies in the NID.</p> <p>During the review, Slovakia explained that this error probably occurred during the conversion of the original NID file to a PDF format and indicated that the data in the CRT file are correct. The Party further explained that this error appeared in the final PDF version of the NID, where the estimates for 2000 onward were shifted by nine years. The Party also explained that no inconsistencies were found during the QA/QC procedures conducted for the original file and that the correct file was made available to and assessed by the TERT.</p> <p>The TERT recommends that Slovakia correct the information reported in the NID and enhance its QC procedures to include the final PDF version of the NID to ensure that the emissions data presented in the NID are consistent with the data reported in CRTs 2(I) and 2(I).A–H.</p>

Table 5

Areas of improvement of the reporting on greenhouse gas emissions and removals – agriculture sector

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
5.A.1	Specified in paragraph 39 of the MPGs 3.A.1 Cattle – non-dairy – CH ₄	<p>The Party reported in its NID (tables 5.36–5.37 and 5.6) the Y_m parameter for calves of 3.2 per cent, stating (on p.275) that it is in line with the default values provided in the 2019 Refinement to the 2006 IPCC Guidelines. However, this value is not derived from table 10.12 of the 2019 Refinement to the 2006 IPCC Guidelines (vol. 4), which provides methane conversion factors for cattle, and the origin of the 3.2 per cent value is therefore unclear.</p> <p>During the review, the Party explained that the value was obtained through a weighting of different Y_m values from the 2006 IPCC Guidelines based on changes in the diet of non-dairy cattle during growth.</p> <p>The TERT recommends that the Party clarify the basis of the Y_m parameter for calves in the NID, including the data sources or assumptions used.</p>
5.A.2	Specified in paragraph 28 of the MPGs 3.A.1 Cattle – non-dairy – CH ₄	<p>The Party reported a change in the milk yield for non-dairy cattle from 6.46 kg/day (1990–2020) to 4.63 kg/day (2021–2022) (CRT 3.A). It is unclear from the information reported in the NID whether this reflects an actual change in milk production or a change in the methodology.</p> <p>During the review, the Party explained that the milk production parameter is taken directly from the Statistical Office of the Slovak Republic, and the reason for the change is therefore unknown.</p> <p>The TERT recommends that the Party investigate the reason for the change in the milk yield between 1990–2020 and 2021–2022 and either clearly document the reason or make the necessary recalculations to ensure time-series consistency in accordance with the 2006 IPCC Guidelines.</p>
5.A.3	Specified in paragraphs 21, 23 and 24 of the MPGs 3.D.1.d Crop residues – N ₂ O	<p>The Party used default EFs but reported in NID table 5.3 that a tier 2 approach was used for estimating emissions from crop residues, which is a subcategory under key category 3.D.1 direct N₂O emissions from managed soils.</p> <p>During the review, the Party explained that it reported the use of a tier 2 method owing to the use of country-specific AD. Nevertheless, the TERT notes that, according to figure 11.2 of the 2019 Refinement to the 2006 IPCC Guidelines (vol. 4), which the Party referenced in the NID as the methodological source used for the estimates, the use of a tier 2 approach requires not only the availability of</p>

ID#	Reporting requirement	Description of area of improvement with recommendation or encouragement
		country-specific AD but also rigorously documented country-specific EFs for EF ₁ (EF for nitrogen additions from synthetic fertilizers, organic amendments and crop residues).
		The TERT recommends that the Party correct the reference to the method used or use a tier 2 approach with country-specific EFs.
5.A.4	Specified in paragraphs 21, 23 and 24 of the MPGs	The Party reported urea application as a key category by level assessment without LULUCF for 2022 (NID table A1.2) and explained that the emissions were estimated using a tier 1 method.
	3.H Urea application – CO ₂	During the review, the Party explained that transitioning to the use of a higher-tier method is not currently possible owing to the lack of country-specific data for applying a tier 2 approach and lack of models for a tier 3 approach.
		The TERT recommends that the Party clearly document the reasons for using a tier 1 method for estimating emissions for this category. In addition, the TERT encourages the Party to apply a tier 2 method for the category, for example by considering information from Parties with similar national conditions.

Table 6

Areas of improvement of the reporting on greenhouse gas emissions and removals – land use, land-use change and forestry sector

ID#	Reporting requirement	Description of area of improvement with recommendation or encouragement
6.L.1	Specified in paragraph 39 of the MPGs	The Party reported emissions from the litter and SOC pools as “NO” in CRT 4.A, in line with the tier 1 method. The justification provided in the Party’s NID (p.346) is that there are no changes in forest management that would affect the litter input to soil. However, the TERT noted that according to the NID (section 6.6.1 and figures 6.9–6.10), the harvest volume and annual increment change over the time series.
	4.A.1 Forest land remaining forest land – CO ₂	During the review, the Party explained that it does not have any evidence to support the assumption that the harvest volume affects the litter input, and that under current forestry practices in Slovakia, no SOC is expected. In addition, the Party explained that the tier 1 assumption of no changes in the litter pool was applied on the basis of a study on changes in litter conducted between 1993 and 2006 referenced in the NID.
		The TERT recommends that the Party further justify the applicability of tier 1 method or include estimates for the litter and SOC pools if the use of tier 1 assumptions cannot be justified. The TERT further notes that the notation key “NA” should be used in the CRTs in line with the tier 1 assumption provided in the 2006 IPCC Guidelines for carbon stocks in equilibrium in the LULUCF sector.
6.L.2	Specified in paragraph 32 of the MPGs	In CRT 4.B, the Party reported areas of organic soils in cropland as “NO” for perennial cropland and for conversions under category 4.B.1 cropland remaining cropland. The areas of organic soils in annual cropland were reported as “NE”, but the net carbon stock change in organic soils was reported as “NO”, with no justification provided to clarify the insignificance of the emissions source in the current submission.
	4.B Cropland – CO ₂	During the review, the Party explained that the justification for reporting areas of organic soils in cropland as “NE” was described in its 2023 NIR. Emissions of organic soils amounted to 8.25 Gg CO ₂ eq, which is below the significance threshold of 36.731 Gg CO ₂ eq for 2020 in the 2022 submission.
		The TERT recommends that the Party report the net carbon stock changes in organic soils in cropland as “NE” and include the relevant justification and likely level of emissions for the pool based on approximated AD and IPCC default EFs.
6.L.3	Specified in paragraph 47 of the MPGs	Slovakia reported AD for 1990–2022 in CRT 4.Gs2 by splitting the aggregated data for Slovakia and the Czech Republic for 1991–1993 between the two countries to derive the country-specific share. Those data were also used to split the AD for 1960–1989. Slovakia did not report AD for the subcategory other under HWP in CRT 4.Gs2, including for 1960–1989, and did not explain why this information was not reported.
	4.G.3 HWP – CO ₂	

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
		<p>During the review, the Party explained that the subcategory other under HWP should be reported as “NO”. However, owing to the functionalities of the reporting software, the Party was not able to use the notation keys. The Party stated that it will apply the appropriate notation key for the AD for HWP in the next submission. Further, the Party explained that the AD for 1960–1989 were reported in previous submissions using the predecessor to the ETF GHG inventory reporting tool.</p> <p>The TERT recommends that the Party report the AD from 1960 to the latest reported year in CRT 4.Gs2 and include relevant values or use notation keys for the subcategory other under HWP in CRT 4.Gs2.</p>
6.L.4	<p>Specified in paragraphs 29 and 44 of the MPGs</p> <p>4. General (LULUCF) – CO₂</p>	<p>In NID table A3.1 (annex 3), the Party reported that the uncertainty for category 4.A.1 forest land remaining forest land is 20 per cent, without specifying any of the pools. The Party further reported in NID table 6.7 the uncertainties of the AD and EFs for the LULUCF categories. The uncertainty of the AD for category 4.A.1 forest land remaining forest land – living biomass was reported as 3 per cent. However, no information was provided for the other pools in the category to explain the uncertainty value of 20 per cent reported at the category level.</p> <p>During the review, the Party explained that the uncertainty values reported in NID table 6.7 were calculated using the approach 1 methodology and relate to data from land-use matrix tables and that the EF uncertainties reported in NID table A3.1 are aggregated uncertainties. The Party indicated that it will ensure the consistency of the information in NID table 6.7 and annex 3 to the NID in the next submission.</p> <p>The TERT recommends that the Party include sufficient data on the uncertainty of the values for the AD and EFs at a disaggregated level for all pools under category 4.1 forest land in its NID.</p>
6.L.5	<p>Specified in paragraph 51 of the MPGs</p> <p>4(IV) Biomass burning – NMVOCs</p>	<p>The Party reported non-CO₂ emissions in CRT 4. However, the TERT noted that the Party did not clearly report the methodology used for estimating NMVOC emissions from biomass burning for forest land remaining forest land and land converted to forest land.</p> <p>During the review, the Party provided additional information clarifying that the NMVOC emissions were estimated using a tier 2 method and EFs from the <i>EMEP/EEA air pollutant emission inventory guidebook 2003</i> for temperate forest, as well as AD on wood burned and area burned by wildfires.</p> <p>The TERT encourages the Party to clarify in NID section 6.6.2 the methodology used for estimating NMVOC emissions.</p>

Table 7

Areas of improvement of the reporting on greenhouse gas emissions and removals – waste sector

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
7.W.1	<p>Specified in paragraph 22 of the MPGs</p> <p>5.A Solid waste disposal on land – CH₄</p>	<p>Slovakia reported in the NID that it used a tier 2 method for calculating emissions from solid waste disposal on land. However, default values for waste composition and degradable organic carbon from the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines were applied, even though this is considered a key category.</p> <p>During the review, the Party explained that improvements in the data on the composition of municipal solid waste and the calculation of degradable organic carbon would be introduced in the next submission.</p> <p>The TERT recommends that the Party use country-specific data for waste composition that better reflect the actual conditions in Slovakia, rather than relying solely on default values from the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines.</p>
7.W.2	<p>Specified in paragraph 26 of the MPGs</p> <p>5.A Solid waste disposal on land – CH₄</p>	<p>The Party reported CH₄ recovery in NID table 7.14 (p.419) and CRT 5.A, indicating in the NID that the recovery is allocated to the energy sector (category 1.A.1.a). However, a 93 per cent increase from 2021 to 2022 was observed, but no explanation was provided in the NID for such a large change.</p> <p>During the review, Slovakia explained that the data used were officially published data from the Regulatory Office for Network Industries and that the total amount of</p>

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
		electricity generated from landfill gas was 18,707 MWh in 2022, without further explaining the increase between 2021 and 2022. The TERT recommends that Slovakia provide a clear explanation for the significant increase in CH ₄ recovery between 2021 and 2022, including details of the underlying factors contributing to this change. This could include improvements in the efficiency of landfill gas capture, the expansion of CH ₄ recovery infrastructure, regulatory changes or other relevant developments.
7.W.3	Specified in paragraph 23 of the MPGs 5.C.1 Waste incineration – CO ₂	Slovakia reported in its NID that emissions from waste incineration for energy use were included in the energy sector under category 1.A.1.a.iv other. However, the TERT noted that the Party reported emissions for category 1.A.1.a.iv as “NO”. During the review, the Party clarified that this was a reporting error and demonstrated that waste incineration with energy recovery was in fact properly classified under category 1.A.1.a public electricity and heat production in the energy sector in the CRTs. The TERT recommends that the Party revise the NID to accurately reflect the allocation of emissions from incinerated waste with energy recovery under the energy sector.

C. Information necessary to track progress in implementing and achieving the nationally determined contribution under Article 4 of the Paris Agreement

Table 8

Areas of improvement of the reporting on national circumstances and institutional arrangements

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
8.1	Specified in paragraph 59(c) and (f) of the MPGs	Slovakia did not report in its BTR1 on the following national circumstances relevant to progress made in implementing and achieving its NDC: geographical profile and sector details. During the review, Slovakia provided information on its geographical profile and sector details to the TERT. The TERT recommends that the Party describe its national circumstances relevant to progress made in implementing and achieving its NDC under Article 4 of the Paris Agreement, including information on the geographical profile and sectors of the national economy.

Table 9

Areas of improvement of the description of the nationally determined contribution under Article 4 of the Paris Agreement, including updates

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
NA	NA	No areas of improvement identified

Table 10

Areas of improvement of the reporting of the information necessary to track progress in implementing and achieving the nationally determined contribution under Article 4 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
NA	NA	No areas of improvement identified

Table 11

Areas of improvement of the reporting on mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving the nationally determined contribution under Article 4 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
11.1	Specified in paragraph 80 of the MPGs	<p>In its BTR1, Slovakia did not report consistent information on actions and PaMs that support the implementation and achievement of its NDC in narrative and tabular format, or identify those that have the most significant impact on GHG emissions or removals. In particular, some measures reported in narrative format and described as having a significant effect on emissions or removals were not included in CTF table 5.</p> <p>During the review, Slovakia explained that not all PaMs were included in CTF table 5 owing to an oversight and that it will include these PaMs in future submissions. The Party also explained that some measures reported in narrative format but not included in CTF table 5 were excluded due to their synergistic effects with other measures, making it difficult to quantify their individual impact.</p> <p>The TERT recommends that the Party provide consistent and transparent information in narrative and tabular format on actions and PaMs that support the implementation and achievement of its NDC, and identify those that the Party considers as having the most significant impact on GHG emissions or removals and those with an impact on key categories in the national GHG inventory.</p>
11.2	Specified in paragraph 83 of the MPGs	<p>Slovakia did not report information on the costs, non-GHG mitigation benefits and how its mitigation actions interact with each other for all reported mitigation actions.</p> <p>During the review, Slovakia acknowledged the importance of reporting information on the costs, non-GHG mitigation benefits and interactions of mitigation actions. The Party explained that gathering detailed information on the costs, non-GHG mitigation benefits and complex interactions between various PaMs can be challenging owing to the extensive data collection, complex modelling and resource-intensive analysis that may be required, in addition to the significant expertise and capacity needed. While efforts are being made to enhance capacity in this area, limitations exist. The Party explained that it will work to address these challenges by enhancing data-collection and monitoring systems and further developing methodological approaches for assessing the non-GHG mitigation benefits and interactions between PaMs.</p> <p>The TERT encourages Slovakia to report information on the costs, non-GHG mitigation benefits and how its mitigation actions interact with each other for all mitigation actions, if appropriate, and, if the Party is unable to provide this information for all mitigation measures, to explain why this information has not been provided.</p>
11.3	Specified in paragraph 85 of the MPGs	<p>Slovakia did not report in CTF table 5 on expected and achieved GHG emission reductions for all its actions and PaMs, leaving the related cells blank, and no notation keys were used to help explain why this information was not provided.</p> <p>During the review, Slovakia explained that the estimates of emission reductions were not provided for 2025 for many measures as 2025 was in advance of the year of implementation of the respective measure. The Party also explained that it attempted to report notation keys; however, this was not possible with the earlier version of the ETF GHG inventory reporting tool used to prepare the CTF tables. Slovakia also explained that the aggregated total mitigation potential of its actions and PaMs on GHG emissions is provided in the BTR1, and that it is not possible to report the individual effect of some actions and PaMs.</p> <p>The TERT recommends that the Party provide, to the extent possible, estimates of expected and achieved GHG emission reductions for all its PaMs, and provide explanations where this is not possible. The TERT notes that PaMs that interact with each other could potentially be estimated collectively in groups. Additionally, the TERT notes that the transparency of the Party's reporting could be enhanced by using notation keys in CTF table 5 for the actions and PaMs without estimation values, accompanied by an explanation of why these estimates have not been reported.</p>

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
11.4	Specified in paragraph 88 of the MPGs	<p>Slovakia did not identify its actions and PaMs that influence GHG emissions from international transport.</p> <p>During the review, the Party explained that it adheres to international frameworks governing GHG emissions from international transport, and that international maritime transport in Slovakia is limited to the Danube River, where Slovak legislation provides an exemption from biofuel blending requirements. As international transport emissions are managed through the established international mechanisms, Slovakia did not separately identify additional national actions and PaMs that influence these emissions.</p> <p>The TERT encourages the Party to identify its actions and PaMs that influence GHG emissions from international transport, clearly identifying how it has implemented measures related to international transport emissions through various international mechanisms, or describing why there are no measures to identify.</p>
11.5	Specified in paragraph 90 of the MPGs	<p>Slovakia did not provide detailed information on the assessment of the economic and social impacts of response measures.</p> <p>During the review, Slovakia explained that it recognizes the importance of assessing the economic and social impacts of response measures, and that economic impacts were mentioned in its NID. The Party further explained that it has taken note of the observations of the TERT and is committed to enhancing its reporting in this area in future BTRs.</p> <p>The TERT encourages the Party to provide detailed information, to the extent possible, on the assessment of the economic and social impacts of response measures.</p>

Table 12

Areas of improvement of the summary of greenhouse gas emissions and removals

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
NA	NA	No areas of improvement identified

Table 13

Areas of improvement of the projections of greenhouse gas emissions and removals

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
13.1	Specified in paragraph 94 of the MPGs	<p>The TERT noted that in accordance with paragraph 94 of the MPGs, the Party may report WAM projections, encompassing implemented, adopted and planned PaMs. However, it is not clear from Slovakia's BTR1 which additional PaMs were included in the WAM scenario reported by the Party and if their status was planned.</p> <p>During the review, Slovakia clarified the key changes and differences in the WM and WAM scenarios, explaining that they are due to technological measures used as input to model both scenarios. In addition, the Party presented information on the PaMs and assumptions that were included in the WAM scenario (e.g. installed solar capacity) but were not reported in the BTR1.</p> <p>The TERT encourages the Party to identify the implemented, adopted and planned PaMs used for the WM and WAM projection scenarios and to clearly distinguish and identify any assumptions that differ between the two scenarios.</p>
13.2	Specified in paragraph 96(d) of the MPGs	<p>Slovakia reported a sensitivity analysis for the projections in the LULUCF sector, but not for the projections in the energy, transport and IPPU sectors, which have a much higher contribution to total GHG emissions.</p> <p>During the review, Slovakia clarified that owing to a lack of capacity, a sensitivity analysis was not performed using the TIMES model for the emission projections for the energy and IPPU sectors, and that this analysis will be reported in future submissions.</p> <p>The TERT encourages the Party to conduct a more robust sensitivity analysis, particularly on the most influential input variables (e.g. price of natural gas), and report the results, together with a brief explanation of the methodologies and parameters used.</p>

Table 14

Areas of improvement of other information relevant to tracking progress in implementing and achieving the nationally determined contribution under Article 4 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
NA	NA	No areas of improvement identified

D. Financial, technology development and transfer, and capacity-building support provided under Articles 9–11 of the Paris Agreement

Table 15

Areas of improvement of the reporting on national circumstances and institutional arrangements

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
15.1	Specified in paragraph 119(a–b) of the MPGs	<p>Slovakia did not report information on:</p> <p>(a) The policy markers used to track the support provided to developing countries. However, it reported that all bilateral and multilateral climate finance provided in 2021 and 2022 was channelled through official development assistance in accordance with the OECD DAC methodology;</p> <p>(b) The challenges and limitations in reporting on the provision and mobilization of support. For example, Slovakia reported information on the types of technology, the status of measures or activities and the distinction between public and private sector activities as “UA” (paras. 127(f–h) and 129(e) of the MPGs). However, in the BTR1 the Party did not explain the challenges and limitations encountered in reporting this information.</p> <p>During the review, Slovakia explained that:</p> <p>(a) The OECD DAC Rio markers were used to shortlist bilateral cooperation projects for analysis. Owing to the relatively small number of projects, each was manually reviewed and then either a 100 or 0 per cent coefficient to bilateral activities was applied on the basis of this manual review;</p> <p>(b) It lacks the required information for 2021 and 2022 since these data are not currently collected. The Party highlighted some plans to overcome this challenge, such as the development of a new data-collection methodology that includes the required data.</p> <p>The TERT recommends that Slovakia:</p> <p>(a) Provide transparent information on the systems and processes used to track the support provided to developing countries through public interventions;</p> <p>(b) Improve the completeness of its reporting by including a description of its challenges and limitations in reporting on the support provided.</p>

Table 16

Areas of improvement of the reporting on underlying assumptions, definitions and methodologies relating to financial, technology development and transfer, and capacity-building support provided under Articles 9–11 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
16.1	Specified in paragraph 121(m), (n), (p), (r) and (t) of the MPGs	<p>Slovakia reported that:</p> <p>(a) It used the OECD DAC system to report its bilateral and multilateral climate finance provided to developing countries. However, Slovakia did not provide the required information on its efforts to avoid double counting of this support, as mandated by the MPGs;</p> <p>(b) For the countries it supports, country strategy papers are developed in consultation with each of them. These papers specify the goals, priorities and modalities of bilateral development cooperation. However, Slovakia did not transparently report on how it ensures that its support effectively addresses the needs and priorities of developing countries, as required by the MPGs.</p> <p>The Party did not report:</p>

-
- (a) The definition of public and private finance, particularly where entities or funds are mixed;
 - (b) An indication of what new and additional financial resources have been provided, and how it was determined that such resources are new and additional;
 - (c) Information on reporting on multilateral finance, including: (1) whether and how multilateral finance has been reported as climate-specific, and how the climate-specific share was calculated, including its adherence to existing international standards; (2) whether multilateral finance has been reported as core/general, with the understanding that the actual climate finance amount it would transfer into depends on the programming choices of the multilateral institutions; and (3) whether and how multilateral finance has been attributed to the reporting Party.

During the review, Slovakia explained that:

- (a) It relies on the OECD DAC system to avoid double counting of the support provided;
- (b) Its Medium-Term Strategy for Development Cooperation of the Slovak Republic for 2019–2023, which was extended to 2024, contains a sectoral focus on Slovakia's official development assistance and is prepared in cooperation with its embassies. These embassies are in direct contact with the authorities of partner countries to ensure that the support addresses the needs and priorities of developing countries. Furthermore, Slovakia's embassies in partner countries are involved in selecting project proposals to be supported. For Slovakia's partner countries, such as Georgia, Kenya and the Republic of Moldova, country strategy papers are created, which reflect in greater detail the needs and priorities of the countries;
- (c) Public finance is provided by the Government of Slovakia from the budget for official development assistance, while private finance is defined in projects on private sector engagement;
- (d) The financial resources disbursed in 2021 and 2022, as reported in the BTR1, are considered new and additional to the financial disbursements reported in the Party's biennial reports and national communications before 2021;
- (e) The reported multilateral finance is based on the Party's inflow contributions to the respective multilateral institutions.

The TERT recommends that Slovakia provide:

- (a) Detailed information on its methods for avoiding double counting of financial flows to developing countries;
 - (b) Detailed information on how it ensures that its support effectively addresses the needs and priorities of developing countries;
 - (c) Information on the definition of public and private finance;
 - (d) An indication of what new and additional financial resources have been provided, and how it has been determined that such resources are new and additional;
 - (e) Information on reporting on multilateral finance, including: (1) whether and how multilateral finance has been reported as climate-specific, and how the climate-specific share was calculated, including its adherence to existing international standards; (2) whether multilateral finance has been reported as core/general, understanding that the actual climate finance amount it would transfer into depends on the programming choices of the multilateral institutions; and (3) whether and how multilateral finance has been attributed to the reporting Party.
-

Table 17

Areas of improvement of the information on financial support provided under Article 9 of the Paris Agreement – bilateral, regional and other channels

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
17.1	Specified in paragraph 123(j) of the MPGs	<p>Slovakia did not report information on the subsectors to which financial support was provided in either CTF table III.1 or in the BTR1, where the relevant cells were left blank with no accompanying explanation.</p> <p>During the review, Slovakia explained that it used the OECD classification for categorizing the subsectors to which financial support was provided.</p> <p>The TERT recommends that Slovakia provide complete information on the subsectors to which financial support was provided, to the extent that such information is available.</p>

Table 18

Areas of improvement of the information on financial support provided under Article 9 of the Paris Agreement – multilateral channels

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
18.1	Specified in paragraph 124(c) and (m) of the MPGs	<p>The TERT noted that Slovakia left several blank cells in CTF table III.2 for 2021 and 2022 under the columns on core/general financing (grant equivalent), with no accompanying clarification as to why the Party did not report this information. In addition, Slovakia did not report information on subsectors in either CTF table III.2 or in the BTR1, where the relevant cells were left blank with no accompanying explanation.</p> <p>During the review, Slovakia explained that, according to its understanding of the OECD methodology, only climate-specific finance is defined by grant equivalents. For contributions to core/general financing, there is no specified amount of climate-related finance for each recipient organization to use for climate-specific projects or activities. Therefore, grant equivalents cannot be indicated. Consequently, Slovakia requested guidance on the appropriate notation key to be used or confirmation on whether the grant equivalent should be equal to the contribution. The Party also explained that it used the OECD classification for categorizing the subsectors to which financial support was provided.</p> <p>The TERT recommends that Slovakia provide complete information on (1) grant equivalents corresponding to multilateral financial flows reported as core/general financing, or repeat the face value since the finance is already being provided as a grant; and (2) the subsectors to which support was provided, as applicable.</p>

Table 19

Areas of improvement of the information on technology development and transfer provided under Article 10 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
19.1	Specified in paragraph 126(a–f) of the MPGs	<p>Slovakia did not report in its BTR1 information on support provided for technology development and transfer and did not include a dedicated section on technology development and transfer in its BTR1 in line with the suggested BTR outline contained in annex V to decision 5/CMA.3. In particular, the Party did not report on:</p> <ul style="list-style-type: none"> (a) Strategies employed, including case studies; (b) Support provided at different stages of the technology cycle; (c) Support for the development and enhancement of endogenous capacities and technologies; (d) Efforts to encourage private sector activities related to technology development and transfer and how such efforts support developing country Parties; (e) Efforts to accelerate, encourage and enable innovation, including research, development and deployment efforts, and collaborative approaches to research and development;

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
		<p>(f) Knowledge generated for technology development and transfer provided under Article 10 of the Paris Agreement.</p> <p>During the review, Slovakia explained that in 2021–2022 it supported projects combining capacity-building with technology transfer, rather than stand-alone technology projects. Slovakia’s development cooperation, implemented through SlovakAid, encompasses various project areas, including innovation and technology, education, capacity-building, technology transfer, private sector engagement and the SlovakAid deployment programme for volunteers and experts.</p> <p>The TERT recommends that Slovakia provide, to the extent possible, complete information, in textual format, on support for technology development and transfer provided under Article 10 of the Paris Agreement, including:</p> <p>(a) Strategies employed, including case studies;</p> <p>(b) Support provided at different stages of the technology cycle;</p> <p>(c) Support for the development and enhancement of endogenous capacities and technologies;</p> <p>(d) Efforts to encourage private sector activities related to technology development and transfer and how such efforts support developing country Parties;</p> <p>(e) Efforts to accelerate, encourage and enable innovation, including research, development and deployment efforts, and collaborative approaches to research and development;</p> <p>(f) Knowledge generated for technology development and transfer provided under Article 10 of the Paris Agreement.</p>
19.2	Specified in paragraph 127(f–h) of the MPGs	<p>Slovakia primarily used the notation key “UA” to report information on the type of technology, the status of measures or activities, and whether the activities were undertaken by the public and/or private sector.</p> <p>During the review, Slovakia explained that it lacks the required information for 2021 and 2022 since these data are not currently collected. However, the Party mentioned that the Ministry of Foreign and European Affairs, the Slovak Agency for International Development Cooperation and other relevant ministries and organizations will be consulted to explore the development of a new data-collection methodology that includes the required data. Furthermore, Slovakia highlighted the possibility of including clauses requiring the provision of these data in calls for applications, contract requirements and reporting obligations for supported projects.</p> <p>The TERT recommends that Slovakia improve the transparency of its reporting by providing information on the type of technology, the status of measures or activities (planned, ongoing, completed), and whether the activities were undertaken by the public and/or private sector.</p>

Table 20

Areas of improvement of the information on capacity-building support provided under Article 11 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
20.1	Specified in paragraph 128(b) and (d) of the MPGs	<p>Slovakia did not provide in its BTR1 transparent information on how the support it provides responds to the existing and emerging capacity-building needs, priorities and gaps of the developing countries it supports. Furthermore, Slovakia did not report information on the involvement of stakeholders in providing capacity-building support.</p> <p>During the review, Slovakia explained that for each partner country it supports, country strategy papers are developed to reflect all the needs (including capacity-building), priorities and gaps of the recipient developing countries. The papers are prepared in an inclusive manner, involving Slovakia’s embassies, which are in direct contact with the respective ministries and relevant stakeholders in partner countries.</p> <p>The TERT recommends that Slovakia provide, to the extent possible, transparent information on how the support it provides responds to the existing and emerging capacity-building needs, priorities and gaps identified by the developing countries it supports, including information on stakeholder involvement.</p>

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with recommendation or encouragement</i>
20.2	Specified in paragraph 129(e) of the MPGs	<p>Slovakia reported information on the status of measures or activities related to the capacity-building support provided as “UA”.</p> <p>During the review, Slovakia explained that its data-collection methodology for 2021 and 2022 did not include data on the status of these measures or activities. However, the Party mentioned that a new data-collection methodology will be developed in collaboration with the Ministry of Foreign and European Affairs, the Slovak Agency for International Development Cooperation and other relevant ministries and organizations that provide support to developing countries.</p> <p>The TERT recommends that Slovakia improve the transparency of its reporting by providing information on the status of measures or activities (planned, ongoing, completed) related to the capacity-building support provided.</p>

Annex

Documents and information used during the review

A. Reference documents

BTR1 of the European Union. Available at <https://unfccc.int/first-biennial-transparency-reports>.

BTR1 CTF tables of the European Union. Available at <https://unfccc.int/first-biennial-transparency-reports>.

BTR1 of Slovakia. Available at <https://unfccc.int/first-biennial-transparency-reports>.

BTR1 CTF tables of Slovakia. Available at <https://unfccc.int/first-biennial-transparency-reports>.

Commission Implementing Decision (EU) 2020/2126 of 16 December 2020 on setting out the annual emission allocations of the Member States for the period from 2021 to 2030 pursuant to Regulation (EU) 2018/842 of the European Parliament and of the Council. 2020. *Official Journal of the European Union*. Available at eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020D2126.

CRTs of Slovakia. Available at <https://unfccc.int/first-biennial-transparency-reports>.

“Guidance for operationalizing the modalities, procedures and guidelines for the enhanced transparency framework referred to in Article 13 of the Paris Agreement”. Decision 5/CMA.3. FCCC/PA/CMA/2021/10/Add.2. Available at <https://unfccc.int/documents/460951>.

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

IPCC. 2019. *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*, E Buendia, K Tanabe, et al. (eds.). Geneva: IPCC. Available at <https://www.ipcc-nggip.iges.or.jp/public/2019rf/>.

“Modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement”. Annex to decision 18/CMA.1. FCCC/PA/CMA/2018/3/Add.2. Available at <https://unfccc.int/documents/193408>.

NID of Slovakia. Available at <https://unfccc.int/first-biennial-transparency-reports>.

“Reviews on a voluntary basis of the information reported pursuant to decision 18/CMA.1, annex, chapter IV, and respective training courses needed.” Decision 9/CMA.4. FCCC/PA/CMA/2022/10/Add.2. Available at <https://unfccc.int/documents/626570>.

B. Additional information provided by the Party

Responses to questions during the review were received from Miroslava Dančová (Ministry of Environment), including additional material.

European Environment Agency. 2023. *EMEP/EEA air pollutant emission inventory guidebook 2023*. Available at <https://www.eea.europa.eu/en/analysis/publications/emep-eea-guidebook-2023>.
