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Report on the technical expert review of the first biennial transparency report of Estonia*

Addendum

Summary

This addendum to the report on the technical expert review of the first biennial transparency report of Estonia, 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. The review took place from 16 to 20 March 2026 in Tallinn.

* In the symbol for this document, 2024 refers to the year in which the biennial transparency report was submitted, not to the year of publication.

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Abbreviations and acronyms

2006 IPCC Guidelines	*2006 IPCC Guidelines for National Greenhouse Gas Inventories*
AD	activity data
BTR	biennial transparency report
CEF	carbon emission factor
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
COPERT	software tool for calculating road transport emissions
CRT	common reporting table
CSC	carbon stock change
CTF	common tabular format
EF	emission factor
ETF	enhanced transparency framework under the Paris Agreement
EU	European Union
GHG	greenhouse gas
HFC	hydrofluorocarbon
IE	included elsewhere
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_2O	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
PaMs	policies and measures
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
SF_6	sulfur hexafluoride
SOC	soil organic carbon
TERT	technical expert review team
Wetlands Supplement	*2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*

Areas of improvement[1] 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 MPGs[2] of the information submitted by Estonia 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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
2.G.1	Specified in paragraph 19(c) of the MPGs Archiving	Estonia reported in NID section 1.2.3 (pp.25–26) that it has a national archiving system in place that covers AD, EFs and all documentation related to data generation, aggregation and QA/QC. The Party described the required improvements to its GHG inventory in NID section 10.4 (pp.368–369) and NID section 1.5 (p.32) refers to an improvement phase that draws on the implemented QA/QC procedures and their results. Estonia reported that it holds an annual GHG inventory team meeting to discuss necessary improvements or changes to the inventory process (NID annex IV, table 1). However, the TERT noted that the NID does not provide information on the archiving of planned inventory improvements, as required by the MPGs. During the review, Estonia explained that it documents planned inventory improvements annually as part of its QA/QC plan. It outlines the full list of planned improvements in a dedicated annex to its NID, which covers both improvements intended for the current submission and those scheduled for future cycles. The Party systematically archives on a central server all inventory documentation, including the list of planned improvements and supporting materials. The TERT recommends that the Party provide information on the archiving of its planned inventory improvements.
2.G.2	Specified in paragraphs 29 and 44 of the MPGs Uncertainty analysis	Estonia reported some information on the uncertainty analysis of individual source and sink categories in NID annex II and provided a summary of the uncertainty of inventory totals for the latest reporting year and the starting inventory year and the trend (NID section 1.6). The Party indicated that it uses the default uncertainty values for AD and EFs for the starting inventory year and latest reporting year unless additional information is available. However, the TERT noted that the NID does not include information on the uncertainty assessment of emission and removal estimates for all source and sink categories for the starting year of the inventory time series, nor does it provide the trend uncertainty at the category level, as required by the MPGs. During the review, Estonia provided information on the uncertainty analysis conducted for the starting inventory year, as well as for the trend uncertainty of emission and removal estimates for all source and sink categories, including the work file used to perform the estimations.

[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.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		The TERT recommends that the Party provide information on the uncertainty of the emission and removal estimates for all source and sink categories for the starting year of the inventory time series and on the trend uncertainty of emission and removal estimates for all source and sink categories.
2.G.3	Specified in paragraphs 41–42 of the MPGs Key category analysis	Estonia reported in NID table 1.2 the results of the key category analysis for the starting year and the latest reporting year, both including and excluding LULUCF. The Party indicated that it conducted the key category analysis using both tier 1 and tier 2 approaches. However, the Party did not report information on the level of disaggregation applied in the key category analysis and did not provide the individual and cumulative percentage contributions from key categories, for both level and trend, as required by the MPGs. During the review, Estonia provided information on the individual and cumulative percentage contributions from key categories for both level in the starting inventory year and the latest reporting year (including and excluding LULUCF) and trend. The TERT recommends that the Party provide information on the level of disaggregation used for the key category analysis and report the individual and cumulative percentage contributions from key categories, for both level and trend.
2.G.4	Specified in paragraph 52 of the MPGs Other	Estonia reported in the NID (section 4.5.1, pp.138–142) and CRT 2(I).A-H indirect CO_2 emissions resulting from the atmospheric oxidation of NMVOCs due to the use of solvents and other products and road paving with asphalt. In CRT summary 2, the Party provided information on total national emissions with and without indirect CO_2. However, the TERT noted that the values reported for total national emissions with and without indirect CO_2 in CRT summary 2 are identical. In addition, in CRT summary 1 and CRT summary 2, the Party reported indirect CO_2 emissions as "IE", accompanied by an explanation in CRT 9 indicating that indirect CO_2 emissions resulting from the oxidation of NMVOCs due to solvent use and road paving with asphalt are included under CO_2 emissions for subcategories 2.D.3.a solvent use and 2.D.3.b road paving with asphalt. During the review, Estonia explained that indirect CO_2 emissions from NMVOCs are reported under category 2.D.3 other as part of direct CO_2 emissions, as the reporting system does not allow indirect CO_2 emissions to be reported separately for this category. The TERT recommends that the Party present the total national emissions with and without indirect CO_2.

Table 3
Areas of improvement of the reporting on greenhouse gas emissions and removals – energy sector

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
3.E.1	Specified in paragraphs 21 and 23 of the MPGs 1.A.1.a Public electricity and heat production – peat – CO_2	Estonia identified subcategory 1.A.1.a public electricity and heat production – peat as a key category in NID table 1.2. However, the Party reported a default CEF for peat from the 2006 IPCC Guidelines in NID table 3.6. During the review, Estonia confirmed that the CEF for peat reported in NID table 3.6 is the default value from the 2006 IPCC Guidelines (vol. 2, chap. 2, table 2.2). The Party explained that it does not apply a country-specific CEF for peat because sufficient national measurement data are not available to derive a robust, representative country-specific factor. Furthermore, peat use has been very low in recent years, meaning that adopting a country-specific CEF would have a limited effect on the overall inventory results compared with implementing other methodological priorities. The TERT recommends that the Party use an appropriate method from the 2006 IPCC Guidelines for key categories or document in the NID the reasons for not following the relevant decision tree from the 2006 IPCC Guidelines.
3.E.2	Specified in paragraphs 31 and 47 of the MPGs	Estonia reported in NID table 3.9 the GHG emissions for category 1.A.2 manufacturing industries and construction by relevant subcategory for 1990, 2005 and 2019–2022. In the table, the Party entered 0.00 for subcategory 1.A.2.a iron and steel for 1990 and for subcategory 1.A.2.b non-ferrous metals for 1990 and

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
	1.A.2 Manufacturing industries and construction – CO_2, CH_4 and N_2O	2022. However, the Party reported "NO" for these subcategories and years in CRT 1.A(a)s2. During the review, Estonia indicated that "NO" is correct for subcategories 1.A.2.a and 1.A.2.b for 1990, as no fuel was used under these subcategories in 1990. For subcategory 1.A.2.b for 2022, the underlying AD in the 2022 Joint Questionnaire data set were reported as zero after the very small amount of fuel reported was rounded down (only 1 of the 10 companies surveyed by Estonia's national statistics agency, Statistics Estonia, reported fuel consumption and this amount was rounded to zero). The Party therefore reported subcategory 1.A.2.b as "NO" for 2022 in CRT 1.A(a)s2. Estonia shared that, in the revised NID table 3.9 in the 2025 inventory submission, it replaced 0.00 with "NO" so that the use of notation keys for reporting subcategories 1.A.2.a and 1.A.2.b is fully consistent between CRT 1.A(a)s2 and the NID. For 2022, the TERT recommends that the Party obtain actual unrounded fuel consumption data for category 1.A.2 and estimate and report GHG emissions for this category. If this is not possible, the TERT recommends that the Party report emissions as "NE" and justify their insignificance. For 1990, the TERT recommends that the Party report "NO" when no activity is reported in NID table 3.9 and explain the reasons for using this notation key.
3.E.3	Specified in paragraphs 31, 32 and 47 of the MPGs 1.A.2.b Non-ferrous metals – CO_2, CH_4 and N_2O	Estonia reported in the NID (section 3.2.5, p.65) that the non-ferrous metals subsector is small and consists of only two or three companies. For 2022, emissions for subcategory 1.A.2.b non-ferrous metals were reported as 0 kt CO_2 eq in the NID, as Statistics Estonia did not report any fuel consumption for this subsector for 2022. The Party reported emissions from non-ferrous metals for the entire time series with the exception of 2022. During the review, Estonia confirmed that the 0 kt CO_2 eq reported for 2022 for subcategory 1.A.2.b does not imply that non-ferrous metal production did not take place in 2022. The zero value is a consequence of the fuel consumption data received for this small subsector from Statistics Estonia, which was rounded down to zero in the official statistics. The value of 0 kt CO_2 eq reported in the NID reflects the rounding down of very small fuel quantities, rather than providing confirmation that no production activities took place. The TERT recommends that the Party obtain actual unrounded fuel consumption data and estimate and report GHG emissions for subcategory 1.A.2.b. If this is not possible, the TERT recommends that the Party report emissions as "NE" and justify their insignificance.
3.E.4	Specified in paragraph 40 of the MPGs 1.A.3.b Road transportation – liquid fuels – CO_2, CH_4 and N_2O	Estonia reported in NID tables 3.20 and 3.21 the number of vehicles and the road traffic mileage in the country in 1990, 2005 and 2019–2022. Using those tables, the TERT calculated the number of kilometres travelled per vehicle per year for the different vehicle categories. The results show that the average distance travelled per vehicle decreased during the time series. For example, for passenger cars the distance travelled per vehicle per year was 23,772 km in 1990, 16,400 km in 2005 and 12,442 km in 2025. Estonia explained this trend in its NID (p.87) for 1991–1992, but not for the entire time series. The effect of the coronavirus disease 2019 pandemic, for example, for all vehicle categories is less significant than the decrease in distance travelled per vehicle per year between 2005 and 2022. During the review, Estonia explained that the kilometres-per-vehicle indicator calculated from NID tables 3.20 and 3.21 is a derived value (road traffic mileage divided by the number of registered vehicles) and therefore it decreases when the number of vehicles increases faster than the total mileage. The NID explains the structural break in the time series in 1991–1992 and notes an increase in passenger car ownership since 2010 due to rising economic wealth. Estonia also explained that it estimates emissions using COPERT, with the exception of CO_2 emissions. Estonia does not use the kilometres-per-vehicle indicator as a direct input in COPERT. COPERT uses vehicle stock and total distance travelled together with speed and other parameters to calculate emissions and the corresponding fuel consumption. In Estonia's GHG inventory, the CO_2 emissions are estimated mainly from total fuel consumption by road transport (energy balance data from Statistics Estonia). The Party uses COPERT to distribute fuel use across vehicle categories, as the official fuel consumption data are not available by vehicle category. It also

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		uses COPERT to estimate CH_4 and N_2O emissions using more detailed information on vehicle type, technology and operating conditions. COPERT allows the Party to use statistical fuel consumption data to verify the energy balance to keep the modelled fuel consumption data consistent with official fuel statistics. The TERT recommends that the Party enhance the description of the methodology used to estimate emissions from road transportation, including a description of how it estimates and uses the total mileage in emission calculations for CO_2, CH_4 and N_2O.
3.E.5	Specified in paragraph 47 of the MPGs 1.A.3.b.v Other (road transportation) – CO_2, N_2O and CH_4	Estonia reported in its NID (p.88) that it obtains data on the number of off-road vehicles from different sources. It obtains the data for 2010–2022 from the Estonian Transport Administration, which provides the number of vehicles by vehicle category, brand, model, type, year of first registration, engine type, engine capacity, engine power and mass. To provide the number of vehicles by emission technology for the entire time series (1990–2022), Estonia had to establish the timeline for 1990–2009. The Party obtained the total number of off-road vehicles for 1990–2009 from Statistics Estonia. It performed a linear interpolation between 1990 and 2009 on the basis of the trend in distribution of emission technology for 2010–2022. In NID figure 3.26, which presents the number of vehicles by vehicle type, the number of tractors drops between 2001 and 2002, 2006 and 2007, and 2020 and 2021. However, the Party did not explain these changes in trend. During the review, Estonia explained that figure 3.26 presents the number of active tractors and that the steep decreases in tractor numbers shown in figure 3.26 (in 2001–2002, 2006–2007 and 2020–2021) mainly reflect changes in the underlying statistical and registration data and broader economic conditions affecting tractor registration and retirement behaviour, rather than sudden real changes in the tractor fleet. Estonia provided explanations to the TERT for the inter-annual variations in the number of registered off-road vehicles and the way in which it estimates emissions for its fleet. It primarily estimates emissions from fuel use and mainly uses the data on the number of tractors to describe the fleet and to support the allocation of AD by vehicle type and emission technology. Therefore, the observed changes in tractor numbers mainly affect the implied fleet structure, while the emission trend is chiefly determined by the underlying fuel consumption data. The TERT recommends that the Party clarify the underlying trends in AD, particularly by explaining the reasons for the variation in the number of different types of off-road vehicle and the impact on the relevant emission trends.
3.E.6	Specified in paragraph 40 of the MPGs 1.A.3.c Railways – CO_2, CH_4 and N_2O	Estonia reported emissions for subcategory 1.A.3.c railways for 1990–2022 in NID figure 3.22. The Party reported that railways are used mainly for transporting goods. Inter-annual variations in emissions of around 40 per cent are reported for 2009–2010 and 2010–2011 without any explanation. During the review, Estonia confirmed that its railways are mainly used for transporting goods. To support the decreasing emission trend shown in NID figure 3.22, Estonia provided the rail freight activity indicators (transported goods and freight turnover) for 1991–2022 from Statistics Estonia. These indicators show a clear decline in rail freight activity after 2011. The volume of transported goods decreased from 48,262.4 kt in 2011 to 17,707.7 kt in 2022. Freight turnover decreased from 6,260,586.8 ktkm in 2011 to 1,286,762.8 ktkm in 2022. This is consistent with the reduction in emissions in this period. However, the inter-annual variation in emissions in 2009–2010 is not fully explained by the available rail freight activity indicators and the Party indicated that it will review this in cooperation with Statistics Estonia. The TERT recommends that the Party provide information related to the freight turnover to explain inter-annual variations in emissions and the reduction in emissions from railway transport.

Table 4
Areas of improvement of the reporting on greenhouse gas emissions and removals – industrial processes and product use sector

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
4.I.1	Specified in paragraph 46 of the MPGs 2. General (IPPU) – CO_2 and HFCs	Estonia reported category-specific QA/QC procedures for category 2.A.1 cement production in its NID (section 4.2.4, p.127) and identified this category as a key category under the tier 1 approach, based on both the level assessment for 1990 and the trend assessment (NID table 1.2). The Party indicated that the EFs used for estimating emissions from cement production are provided by the cement plant (NID section 4.2.2, p.123); however, the TERT noted that the NID does not include information on category-specific QC procedures for these EFs, as required by paragraph 35 of the MPGs and in line with the 2006 IPCC Guidelines (vol. 1, chap. 6.7.1.2). Similarly, while Estonia reported in its NID (section 4.6.4, p.172) broad information on category-specific QA/QC procedures for category 2.F product uses as substitutes for ozone-depleting substances (CRT 2.F), including for the key source category (subcategory 2.F.1.a commercial refrigeration, which is identified as a key category in NID table 1.2), the NID does not provide information on category-specific QC procedures, such as QC checks for EFs, AD and calculations, as required by paragraph 35 of the MPGs and in line with the 2006 IPCC Guidelines (vol. 1, chap. 6.7). During the review, the Party clarified that the cement plant provided AD, EFs and cement kiln dust correction factors calculated in line with the EU regulation on the monitoring and reporting of GHG emissions (regulation 2018/2066) and verified by the EU directive establishing a scheme for GHG emission allowance trading within the Community (directive 2003/87/EC). Emissions were computed using the Cement CO_2 and Energy Protocol software from the World Business Council for Sustainable Development, which includes built-in validation for QC. The installation follows a documented QC procedure, which includes sampling, calibration, data flow checks, plausibility tests and internal verification. An accredited independent verifier confirms the monitoring methodology and data annually, ensuring that EF parameters are based on site-specific measurements. The Party also clarified that, as of the 2026 inventory submission, for each sector, including for subcategory 2.F.1.a, there is an Excel-based QC checklist covering all transparency, accuracy, completeness, comparability and consistency principles and checks for EFs, AD and calculations. Extracts from these sectoral QC checklists are now being included in the NID to strengthen transparency and document the QC procedures applied during inventory compilation. The TERT recommends that the Party report category-specific QC procedures for EFs for cement production and category-specific QC procedures, such as QC checks for EFs, AD and calculations, for commercial refrigeration, as required by paragraph 35 of the MPGs and in line with the 2006 IPCC Guidelines.
4.I.2	Specified in paragraph 39 of the MPGs 2.F.4 Aerosols – HFCs	Estonia reported in its NID (section 4.6.2, p.172) that it used a country-specific EF to estimate HFC emissions from the use of metered-dose inhalers. The Party also reported that the domestic manufacturer provided the data on the manufacture, domestic use and export of metered-dose inhalers for natural drug products, including the manufacturing-related emission rate (EF_{manu} = 3 per cent in 2022) for HFC-134a and HFC-227a. The Party further reported in the NID (section 4.6.2, p.166) that the State Agency of Medicines provided data on the HFC content of metered-dose inhalers (used for asthma and chronic obstructive pulmonary disease) and other pharmaceutical products, while the respective companies provided information on the HFC content per device. However, the Party did not provide documentation on the development of this country-specific manufacturing-related EF in accordance with the 2006 IPCC Guidelines (vol. 3, chap. 7.3.2.2), nor did it report the descriptions, references and sources of information used to derive the EF and AD, as required by the MPGs. During the review, the Party explained that the State Agency of Medicines supplies annual data on metered-dose inhaler sales. These data sets are processed in dedicated calculation files, where information from both sources is integrated to derive AD and emissions for the sector.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		The TERT recommends that the Party provide information on the development of this country-specific EF and the descriptions and references used to derive the EF for category 2.F.4 aerosols.
4.I.3	Specified in paragraph 40 of the MPGs 2.G.1 Electrical equipment – SF_6	Estonia reported in its NID (section 4.7.2, p.176) that it applies the tier 3 approach to calculate SF_6 emissions for category 2.G.1 electrical equipment, as described in the 2006 IPCC Guidelines (, vol. 3, chap. 8, pp.8.6–8.22). The Party also reported information on EFs for the manufacture, operation and disposal of electrical equipment (NID section 4.7.2, p.178), as well as information on emissions related to the manufacture, stock and disposal of electrical equipment (NID section 4.7.1, p.175). However, the Party did not report information on AD, with the exception of a general description of data providers and the types of data supplied (i.e. data on total SF_6 consumption and annual refilling). The information provided does not reflect the level of disaggregation required for the tier 3 approach, which, for example, requires information to be reported on the amount of SF_6 used to fill equipment, the nameplate capacity of new equipment, emissions from closed-pressure equipment and quantities of SF_6 sent for destruction. The reporting is also not in line with the MPGs. During the review, the Party provided additional information on the estimation of SF_6 emissions from electrical equipment, clarifying that it collects AD from SF_6 equipment operators annually through questionnaires covering all relevant life-cycle stages. Operators report information on equipment capacity, the amount of SF_6 in new pre-filled equipment and in existing equipment, annual leakages or fillings, and disposal quantities. The Party also shared its 2022 calculation file, which demonstrates how all these elements are incorporated into the total emission estimates. The TERT recommends that the Party provide disaggregated information on the AD used for estimating SF_6 emissions from electrical equipment as required for the tier 3 approach.
4.I.4	Specified in paragraph 39 of the MPGs 2.G.2 SF_6 and PFCs from other product use – SF_6	Estonia reported in its NID (section 4.7.2, p.178) that the country-specific EF used to estimate SF_6 emissions from radiotherapy is 4.9 per cent. The Party also reported that two hospitals in Estonia use SF_6-insulated radiotherapy equipment for oncology purposes and that one of these hospitals operates four devices of the same size. However, the Party did not report information on the assumptions, references and sources of information used to derive the EF applied for estimating SF_6 emissions from radiotherapy, as required by the MPGs. During the review, the Party clarified that it receives annual data from the two national hospitals that operate the accelerators used in radiotherapy, including their reported SF_6 emission rates of 5 and 10 per cent in 2022, which are applied directly in the emission calculations. The country-specific EF varies over the time series on the basis of operator data, but the combined EF was not updated for recent inventory reports and will be corrected in future inventory submissions to ensure consistency between the NID and the CRTs. The correct weighted average EF was 9.47 per cent for 2022, as shown in the supporting files, which also include the AD and SF_6 emission calculations used for the 2024 NID. The TERT recommends that the Party provide information on the assumptions, references and sources of information used to derive the EF applied for estimating SF_6 emissions from radiotherapy.
4.I.5	Specified in paragraph 27 of the MPGs 2.G.3 N_2O from product uses – N_2O	Estonia reported in its NID (section 4.7.2, p.178) that it estimated N_2O emissions from product uses (for subcategory 2.G.3.a medical applications) for 1990–1991 by applying surrogate data splicing techniques. However, the Party did not provide information on the statistical data source that best explains the time variations of the subcategory, as described in the 2006 IPCC Guidelines (vol. 1, chap. 5.3.3.2). Such information is necessary to ensure consistency with the splicing techniques described in the 2006 IPCC Guidelines and is required by the MPGs. During the review, the Party explained that it obtains annual N_2O sales data from the two suppliers operating in the national market, which have been reporting data since 1992 and 2000 respectively. As no data were available for 1990–1991, the Party applied a surrogate data splicing technique, introduced in the 2013 inventory submission, which uses indirect CO_2 emissions from solvents and other product uses as the most suitable surrogate parameter. This surrogate data set reflects

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		population-related chemical use and provides a consistent basis for estimating N_2O consumption in the early years. Furthermore, the Party shared with the TERT the Excel file detailing how the splicing technique was applied. The TERT encourages the Party to provide information on the surrogate data splicing technique applied, including the statistical data source that best explains the time variations of the subcategory.

Table 5
Areas of improvement of the reporting on greenhouse gas emissions and removals – agriculture sector

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
5.A.1	Specified in paragraph 39 of the MPGs 3. General (agriculture) – CH_4 and N_2O	The Party reported in its NID (section 5.1, p.183) that it calculated enteric CH_4 emissions for 16 livestock subcategories. However, the TERT struggled to reconcile the livestock subcategories stated in NID tables 5.5, 5.7, 5.10, 5.11, 5.13 and 5.14 (which contain information and parameters for 18 livestock categories) with the stated number of 16 livestock subcategories. During the review, the Party clarified that it calculates emissions from manure management for a total of 18 livestock subcategories, but only calculates emissions from enteric fermentation for 16 livestock subcategories, as there is no methodology in the 2006 IPCC Guidelines for calculating enteric fermentation emissions from poultry and rabbits. The TERT recommends that the Party provide a full list of the livestock subcategories used to calculate agricultural emissions and clarify which of those subcategories are used to calculate emissions from enteric fermentation and which are used to calculate emissions from manure management.
5.A.2	Specified in paragraph 24 of the MPGs 3.A Enteric fermentation – CH_4	The Party reported in its NID (sections 5.2.6 and 5.3.6) its intended improvements for the category 3.A enteric fermentation and category 3.B.1 manure management components of the agriculture inventory. However, the TERT noted that, while the Party indicated in its NID that it is aiming to develop country-specific EFs, it provided few additional details on these intended improvements (e.g. when the necessary research is expected to be completed or who is conducting the research), making it difficult for the TERT to assess whether the Party's reporting is consistent with the MPGs. During the review, the Party provided additional information on the planned improvements, including information on the research, such as the measurement equipment being used, the location of the studies and the expected completion date. The TERT encourages the Party to provide additional information on the planned research into developing country-specific methods and EFs, such as details on who is conducting the research, when it is expected to be completed, the specific aims of the research, and the measurement equipment and techniques being used.
5.A.3	Specified in paragraph 39 of the MPGs 3.A.1 Cattle – CH_4	The Party provided data on milk yield and the fat content of milk by county (subnational areas within Estonia) in tables A.V.3_II. 2 and A.V.3_II. 4 in the annex to the NID. NID section 5.2.2 implies that the Party calculates energy requirements and CH_4 emissions from dairy cattle using aggregated national data split by the categories set out in NID table 5.11 (rather than calculating enteric CH_4 emissions from dairy cattle for each county individually). However, the TERT was unable to fully confirm from the information reported in the NID whether the emission calculations were performed using aggregated national data. During the review, the Party clarified that it uses aggregated national data on milk yield and fat content to calculate CH_4 emissions from dairy cattle and that the county data are provided for transparency purposes. The TERT recommends that the Party clarify that it uses aggregated national milk data to calculate CH_4 emissions from dairy cattle.
5.A.4	Specified in paragraph 39 of the MPGs 3.A.1 Cattle – CH_4	The Party reported in CRT 3.A the weight of other mature cattle as 550 kg. In table A.V.3_III. 2 in the annex to the NID, the Party reported the weight of mature male cattle as 600 kg and the weight of mature female cattle as 500 kg, which is based on the default recommended values in the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* and the 2006 IPCC Guidelines for Eastern

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		Europe (as described in the annex). However, the Party did not provide in the NID the method for calculating the weight reported in CRT 3.A, nor did it provide the rationale for using 550 kg as the weight of other mature cattle. During the review, Estonia clarified that the weight reported in CRT 3.A for other mature cattle is the average weight of the two weight categories reported in the annex to the NID (500 kg + 600 kg/2 = 550 kg). However, the Party stated that it did not use the figure of 550 kg for the emission calculations. Instead, it calculated the emissions from mature male and mature female cattle separately using the respective weights of 600 and 500 kg. The Party also stated that it collects and reports data on the population sizes of mature male and mature female cattle and it does not assume their population sizes to be equal. The TERT recommends that the Party provide information on data sources, justify the assumptions used to determine the weights of other mature cattle and explain how it uses these weights to calculate emissions from other mature cattle.
5.A.5	Specified in paragraph 39 of the MPGs 3.B.5 Indirect N_2O emissions – N_2O	The Party reported in its NID (section 5.3.2, p.223) the leak-tightness of both solid and liquid manure storage facilities (that is, how well sealed these facilities are against leakage). Estonia reported that, while no leakage was detected from liquid manure storage facilities, this was only determined by visual inspection and it was therefore possible that there were more leaking manure storage systems than indicated in the NID. During the review, the Party clarified that most liquid manure storage facilities were constructed relatively recently and are therefore less likely to have leak-tightness issues. The Party noted that large farms are legally required to regularly monitor groundwater to check for leakage and to install and check monitoring wells. The TERT recommends that the Party provide further information to justify the assumption that there is no leakage from liquid manure storage facilities, use guidance from the 2006 IPCC Guidelines (vol. 4, chap. 10, p.10.61 and table 10.23) to determine an appropriate value for nitrogen leakage from liquid manure storage facilities, or undertake additional research into the potential amount of nitrogen leakage from liquid manure storage facilities.

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 paragraphs 20 and 39 of the MPGs Land representation – areas	The Party reported in NID table 6.5 the areas of the major land-use classes for selected years and reported in the CRTs the areas of land converted to forest land, cropland, grassland, settlements and other land from all land-use subcategories. However, the TERT was unable to assess whether the Party had implemented the 20-year conversion rule correctly because the Party did not present information on land-use changes from 1970 to 1990. During the review, the Party explained that it developed a new system to improve the land-use change matrix system, which uses an iterative proportional fitting procedure. To reduce the impact of random changes in plots in the national forest inventory, the new system, which will be implemented for the 2026 inventory submission, presents land use and land-use change data as 10-year averages, including data for 1970–1990. The TERT recommends that the Party report a complete time series of land-use transitions for 1970 onward and provide a clear methodological description of the new system and approach used for compiling the land-use change matrix, including the implementation of the 20-year conversion rule.
6.L.2	Specified in paragraph 21 of the MPGs 4.A Forest land – CO_2 – organic soils	The Party reported in NID table 1.2 that category 4.A.1 organic soils in forest land remaining forest land is a key category. Estonia also reported in its NID (p.278) that it estimates emissions from organic soils in forest land remaining forest land using the default EF for temperate climate zones of 0.68 t carbon ha^{-1} $year^{-1}$ provided in the 2006 IPCC Guidelines (vol. 4, chap. 4). However, the TERT noted

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		that the EF for temperate climate zones provided in the Wetlands Supplement is 2.6193 t carbon ha^{-1} $year^{-1}$. During the review, the Party explained that the EF provided in the Wetlands Supplement for temperate climate zones is likely an overestimation, as Estonia is situated in the hemiboreal zone. The Party stated that research projects are under way to develop country-specific EFs. The TERT recommends that Estonia make every effort to use a higher-tier method in line with the 2006 IPCC Guidelines for estimating emissions for the key category organic soils in forest land remaining forest land and report on the progress of the research projects to develop country-specific EFs (e.g. by providing information on the preliminary results and their uncertainties and on the experimental design, including the number of sites included).
6.L.3	Specified in paragraphs 21 and 23 of the MPGs 4.A.1 Forest land remaining forest land – CO_2 – mineral soils	The Party reported in NID table 1.2 that category 4.A.1 mineral soils in forest land remaining forest land is a key category according to the key category analysis for level and trend. Estonia also reported in its NID (p.277) that, as a temporary solution, it estimates CSCs in mineral soils in forest land remaining forest land using a long-term (1990–2021) average EF of 0.193 t carbon ha^{-1} $year^{-1}$ derived from Sweden. During the review, the Party explained that it has initiated a research project to develop and validate a tier 3 method for estimating CSCs in mineral soils in forest land and that the national soil map was updated after the submission of the BTR1. The TERT recommends that the Party make every effort to implement a higher-tier method that is based on national data and the revised soil map, and report on the progress of these efforts.
6.L.4	Specified in paragraph 40 of the MPGs 4.A.2 Land converted to forest land – CO_2 – mineral soils	The Party reported in its NID (p.277) that it estimates CSCs for category 4.A.2 mineral soils in land converted to forest land on the basis of the country-specific EFs presented in NID table 6.10. These country-specific EFs are based on national data and scientific studies, as referenced in the NID. However, the Party did not transparently report and document the data used to derive its country-specific EFs, as it did not provide the SOC stocks per land-use class or the assumptions behind the area weighting per soil type. During the review, Estonia explained that it calculated CSC factors as the difference between the initial and final land-use SOC stocks divided by 20 years and provided the TERT with background calculations. The TERT recommends that the Party transparently document its methodology for estimating CSCs in mineral soils in land converted to forest land, including additional details on the weighted distribution of soil types in different categories of land converted to forest land-use classes, the reference SOC stocks and an example calculation.
6.L.5	Specified in paragraphs 20 and 47 of the MPGs 4.A.2.3 Wetlands converted to forest land – CO_2	The Party reported in CRT 4.A emissions for category 4.A.2.3 mineral soils in wetlands converted to forest land as "NA", with a comment that the 2006 IPCC Guidelines do not provide a default methodology for this conversion. During the review, the Party explained that "NA" was used owing to a lack of data, but that it will report an emission estimate in the 2026 inventory submission, calculated using country-specific assumptions for SOC stocks in mineral soils in wetlands. The TERT recommends that the Party calculate estimates of CSCs in mineral soils in wetlands converted to forest land following the 2006 IPCC Guidelines (vol. 4, chap. 4.3.3.1), report estimates in the relevant CRT and transparently document the method and underlying assumptions used.
6.L.6	Specified in paragraph 40 of the MPGs 4.B.1 Cropland remaining cropland – CO_2 – mineral soils	The Party reported in its NID (p.286) that it estimates CSCs for category 4.B.1 mineral soils in cropland remaining cropland using a tier 2 method and the default equation provided in the 2006 IPCC Guidelines (vol. 4, equation 2.25). The Party provided information on areas with different land-use and input regimes in NID figure 6.19 and presented stock change factors and a single mean reference SOC stock in NID table 6.17. However, the TERT could not evaluate if the Party applied the method correctly owing to a lack of information on how it derived the reference SOC stock.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		During the review, the Party explained that, for the inventory submission under review, the reference SOC stock was derived from the measured area-weighted mean SOC stock of Estonian arable soils by applying the default stock change factors from the 2006 IPCC Guidelines. Estonia clarified that, since the 2025 inventory submission, the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* has been applied for estimating CSCs in mineral soils in cropland remaining cropland, including in the context of deriving a reference SOC stock value. The TERT recommends that the Party improve the transparency of its reporting by providing background data and additional information on the reference SOC stock and stock change factors used to estimate CSCs in mineral soils in cropland remaining cropland.
6.L.7	Specified in paragraphs 20, 31 and 40 of the MPGs 4.C.1 Grassland remaining grassland – CO_2 – mineral soils	In CRT 4.C, the Party reported category 4.C.1 mineral soils in grassland remaining grassland as "NA" and further reported in its NID (p.296) that mineral soil carbon stocks are in equilibrium in grassland remaining grassland. In addition, Estonia classifies grassland as rangeland and pasture land with perennial grasses proper for mowing and pasture, or "natural grasslands" in its NID (p.264). However, this is not in accordance with the MPGs, as equation 2.25 in the 2006 IPCC Guidelines (vol. 4, chap. 2) provides a methodology for estimating CSCs in mineral soils. During the review, Estonia shared that it implemented the default IPCC methodology for estimating CSCs in mineral soils in grassland remaining grassland for the 2025 NID, resulting in steady-state conditions and therefore reported as "NO". The Party clarified that, in the national context, the grassland category includes only areas with naturally occurring grass cover and which are not cultivated or ploughed. These areas may be subject to traditional management practices, such as mowing or grazing, and were assessed using the IPCC stock change factors for nominally managed (non-degraded) grassland, which represents sustainably managed grassland without significant management improvements. The TERT noted that the relationship between the national classification of grassland and the IPCC grassland categories and management types is not sufficiently described in the NID. The TERT recommends that the Party estimate and report CSCs in mineral soils in grassland remaining grassland in accordance with the 2006 IPCC Guidelines, including transparently describing the details of the methodology used, including stock change factors and reference SOC stocks, as well as the areas under the different grassland management types and how these relate to the grassland categories classified by the Party.
6.L.8	Specified in paragraph 20 of the MPGs 4(II) Emissions/removals from drainage and rewetting and other management of organic/mineral soils – CH_4	In CRT 4(II), the Party reported CH_4 emissions from cropland and grassland as "NE", despite reporting areas for both land remaining and land converted categories. Furthermore, the TERT noted that, in accordance with the MPGs, Parties are encouraged to use the Wetlands Supplement, which provides default tier 1 EFs, for estimating CH_4 emissions from drained organic soils in cropland and grassland. During the review, the Party explained that it has initiated several ongoing research projects to develop country-specific EFs for CH_4 emissions. The TERT encourages Estonia to use methodological guidance from the Wetlands Supplement to estimate and report CH_4 emissions from the drainage and rewetting and other management of organic and mineral soils in cropland and grassland.

Table 7
Areas of improvement of the reporting on greenhouse gas emissions and removals – waste sector

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
7.W.1	Specified in paragraphs 31, 32 and 47 of the MPGs 5.B.2 Anaerobic digestion at biogas facilities – CH_4	Estonia reported in its NID (section 1.7.2, p.33) that it considers emissions for category 5.B.2 anaerobic digestion at biogas facilities to be insignificant. However, in CRT 9, the Party reported these emissions as "NE" without explaining why they were not estimated in terms of their significance to the overall level of and trend in national GHG emissions.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		During the review, Estonia clarified that, since the 2025 inventory submission, it has explained the use of notation keys for each row in which emissions are reported in the corresponding CRTs. The justifications are also provided in CRT 9 for that submission. The Party indicated that it is estimating and reporting emissions from anaerobic digestion for the 2026 inventory submission onward, as emissions for this category exceeded the 0.05 per cent of national total GHG emissions significance threshold in 2024. The TERT recommends that the Party transparently document the justification for reporting "NE" and ensure consistency of reporting between the NID and the CRTs.
7.W.2	Specified in paragraphs 31, 39 and 40 of the MPGs 5.C.1 Waste incineration – CO_2	Estonia reported emissions from clinical waste incineration and hazardous waste incineration in its NID (section 7.4.1, pp.343–347) and presented the corresponding EFs separately. However, the TERT noted that, in CRT 5.C, clinical waste incineration is reported as "NO" for several years and hazardous waste incineration is not reported as a separate category. During the review, Estonia clarified that the types and amounts of waste allocated to each activity are based on national waste statistics from the Estonian Environment Agency. The years for which the Party reported emissions from clinical waste incineration as "NO" in CRT 5.C reflect the period in which the national waste statistics do not show any incineration of clinical waste without energy recovery. Where the Party did report clinical waste incineration (for 1990–2006), it included the information in both the inventory calculations and the NID. The Party explained that it does not report hazardous waste incineration as a separate category in the CRTs because the calculation files distribute hazardous waste among other waste types according to the nature of the waste (e.g. wood-based hazardous waste is reported under wood waste and clinical waste with hazardous substances is reported under clinical waste). Estonia indicated that it last reported waste incineration without energy recovery for 2022 and that the 2024 inventory submission is the last submission in which emissions from open burning of waste and waste incineration are being reported, as these emissions have been below 0.05 per cent of the national total GHG emissions for several years. The NID still reports the EFs for these categories because AD were available historically. The TERT recommends that the Party use notation keys consistently between the CRTs and the NID, in particular by clearly reporting "NO" in the NID for the years in which no activity occurs, and that it clarify how hazardous waste is allocated among other waste categories in the calculations and what kind of treatment was applied to the clinical waste in the years in which incineration of clinical waste without energy recovery did not take place.

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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
NA	NA	No areas of improvement identified

Table 9
Areas of improvement of the description of the nationally determined contribution under Article 4 of the Paris Agreement, including updates

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
11.1	Specified in paragraph 82(e) of the MPGs	Estonia reported information on mitigation PaMs, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, in CTF table 5. However, the TERT observed that Estonia did not report information on the status of the measure relating to soil and water protection. During the review, Estonia explained that this was an omission and that the status of the measure relating to soil and water protection should be indicated as "implemented". The TERT recommends that the Party provide, to the extent possible, information on the status of the PaMs reported in CTF table 5.
11.2	Specified in paragraph 83(a) of the MPGs	The TERT observed that Estonia did not provide information on costs for any of the PaMs reported. During the review, Estonia explained that it prioritized addressing mandatory reporting provisions under the MPGs, noting that collecting information on costs is a resource-intensive activity. The TERT encourages the Party to consider reporting information on costs for its PaMs to help to identify their significance, especially if estimates of achieved emission reductions are not available.
11.3	Specified in paragraph 85 of the MPGs	Estonia did not report estimates of the achieved GHG emission reductions for any of the PaMs reported in CTF table 5. In the BTR1, the Party provided information on why it reported estimates of achieved GHG emission reductions for PaMs in the IPPU, LULUCF and waste sectors as "NE", including missing base parameters and a lack of quantification of the effect of the individual PaMs. Information provided for the energy, transport and agriculture sectors indicates that it may have been possible for the Party to report estimates of achieved GHG emission reductions for PaMs in these sectors. In addition, Estonia did not report the expected GHG emission reductions for 2030 for the measure relating to the building of Rail Baltic in CTF table 5 or clarify the reasons for not reporting this information. During the review, Estonia indicated that it did not estimate the achieved GHG emission reductions for PaMs in the energy, transport and agriculture sectors owing to issues including data not being available and difficulties in arriving at reliable estimates and determining the direct impact on emissions of each policy or measure. Estonia also indicated that it estimated achieved GHG emission reductions for the first time in 2025, but only did so for the following three PaMs: the reconstruction of apartment buildings, the reconstruction of central government buildings and the reconstruction of local government buildings. In addition, Estonia explained that the fact that it did not report the expected GHG emission reductions for 2030 for the building of Rail Baltic measure was an omission in reporting. The expected GHG emission reductions for this measure should have been reported as "NE" as construction work is ongoing and not expected to be complete before 2030. The TERT recommends that the Party provide, to the extent possible, estimates of achieved and expected GHG emission reductions for each policy or measure reported in CTF table 5. If the Party deems that it is not possible to report this information, the TERT recommends that the Party explain the reasons for this in the BTR.

Table 12
Areas of improvement of the summary of greenhouse gas emissions and removals

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
12.1	Specified in paragraph 91 of the MPGs	Estonia did not provide a summary of its GHG emissions and removals in CTF table 6. During the review, Estonia indicated that, when submitting its BTR1, it experienced a technical issue with the ETF progress reporting tool. The Party did not seek assistance from the secretariat when it encountered this issue. Estonia therefore submitted an incomplete CTF table 6 and included an accompanying email explaining that it experienced a technical issue with the ETF progress reporting tool when submitting the BTR1. The TERT recommends that the Party provide a summary of its GHG emissions and removals in CTF table 6 for the reporting years corresponding to the Party's most recent NIR.

Table 13
Areas of improvement of the projections of greenhouse gas emissions and removals

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
13.1	Specified in paragraph 95 of the MPGs	The Party provided information on projections of GHG emissions and removals for future years under the 'with measures' and 'without measures' scenarios in CTF tables 7 and 9. However, Estonia did not report GHG emissions for the most recent year in its NIR in either CTF table 7 or 9. During the review, Estonia explained that it experienced technical constraints in linking the CTF NDC tables with the relevant GHG inventory tables in the ETF progress reporting tool. The Party did not seek assistance from the secretariat when it encountered this issue. Estonia indicated that it will include the estimated GHG emissions for the most recent year in its future NIRs. The TERT recommends that the Party report GHG emissions for the most recent year in its NIR in the relevant CTF tables.

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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
15.1	Specified in paragraph 119(a) of the MPGs	Estonia provided general information on the institutional arrangements for identifying, tracking and reporting climate finance in its BTR1 (p.157), including information on the roles of the Ministry of Climate and the Ministry of Foreign Affairs. Estonia also provided general information on national circumstances and institutional arrangements relevant to reporting on the provision and mobilization of support. However, it did not provide a detailed description of the specific systems and processes used to identify, track and report on support provided through public interventions, including the national systems or databases used to compile the information reported in the CTF tables. During the review, the Party explained that it tracks international support through the Estonian Development Cooperation Database, which is administered by the Ministry of Foreign Affairs. The database compiles information on international

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		assistance provided by ministries and government institutions and enables the Party to identify and filter climate-related bilateral and multilateral projects. The Party clarified that the Estonian Development Cooperation Database includes information on project disbursements, recipient countries, sectors and project status, and that national institutions report information annually to the Ministry of Foreign Affairs. The Party also explained that climate finance is largely funded from revenues generated under the European Union Emissions Trading System and that information on bilateral finance is collected from project applicants through the Estonian Environmental Investment Centre, which manages open calls and project payments. The TERT encourages the Party to provide, where relevant, a description of the systems and processes used to identify, track and report on support provided through public interventions.

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

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
NA	NA	No areas of improvement identified

Table 17
Areas of improvement of the information on financial support provided under Article 9 of the Paris Agreement – bilateral, regional and other channels

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
17.1	Specified in paragraph 123(d) and (j) of the MPGs	Estonia reported in its BTR1 (p.157 and tables 5.1–5.2) information on public finance provided through bilateral, regional and other channels for 2021–2022. In addition, the Party indicated that this information refers to disbursed climate-specific finance. However, the TERT noted that the values for the climate-specific finance reported in the BTR1 do not match the values reported in CTF support table III.1. Moreover, in CTF table III.1, the Party reported information on financial support provided through bilateral and regional channels for 2021–2022. The Party also reported in CTF table III.1 information on the sectors for which this support is being provided, but subsector information is missing for some entries. During the review, Estonia clarified that the information reported in the BTR1 refers to climate-specific finance committed and not disbursed. The Party also clarified that the preparation of the BTR1 relied largely on short project descriptions available for activities classified as bilateral finance, and that some of these descriptions were too general to allow the specific subsectors to be identified. The Party explained that discussions are ongoing on updating the application forms used in open calls so that applicants are required to provide subsector information at the application stage. The TERT encourages the Party to report consistently in the BTR and the CTF tables on whether the financial support provided is disbursed or committed. The TERT also encourages the Party to provide relevant information, in tabular format, on bilateral and regional financial support provided, specifying the subsector, as available.
17.2	Specified in paragraph 125(b) of the MPGs	Estonia reported in CTF table III.3 information on the grant-equivalent value of financial support mobilized through public interventions under Article 9 of the Paris Agreement for 2021–2022. However, the TERT noted that the grant-equivalent values of the financial support mobilized are not consistent with the face value provided for each recipient. During the review, the Party clarified that the grant-equivalent values were mistakenly calculated on the basis of the amount of resources used to mobilize the support instead of the amount mobilized.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		The TERT encourages the Party to provide the grant-equivalent values of financial support mobilized through public interventions on the basis of the face value of the amount mobilized.

Table 18
Areas of improvement of the information on financial support provided under Article 9 of the Paris Agreement – multilateral channels

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
18.1	Specified in paragraph 124(g) of the MPGs	Estonia reported in its BTR1 (p.157 and tables 5.1–5.2) information on public finance provided through multilateral channels for 2021–2022. In addition, the Party indicated that this information refers to disbursed climate-specific finance. However, the TERT noted that the values for the climate-specific finance reported in the BTR1 do not match the values reported in CTF support table III.2. During the review, Estonia clarified that the information reported in the BTR1 refers to climate-specific finance committed and not disbursed. The TERT encourages the Party to report consistently in the BTR and the CTF tables on whether the financial support provided is disbursed or committed.

Table 19
Areas of improvement of the information on technology development and transfer provided under Article 10 of the Paris Agreement

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
19.1	Specified in paragraph 127(c), (f) and (h) of the MPGs	In CTF table III.4, the Party reported information on activities related to support for technology development and transfer. However, it did not include some of the required information for all the activities included in the table, specifically: (a) Description and objectives of the reported activities; (b) The type of technology; (c) Whether the activities were undertaken by the public and/or private sector. During the review, the Party clarified that the missing information relates to the objective of the activity reported as "Developing countries/Open call for projects to support developing countries through climate cooperation", which was reported as a single entry but includes several different projects. The Party indicated that it will report these projects in more detail in future BTRs. The Party also indicated that, for some projects, the information available in the national database is limited to short project descriptions, which does not allow the exact type of technology to be specified in all cases. The Party further indicated that planned enhancements to the national reporting framework will enable the types of technology supported to be classified and reported in more detail in future BTRs. The TERT encourages the Party to provide information in CTF table III.4 on measures or activities related to support for technology development and transfer implemented or planned since its previous BTR, including, to the extent possible and as relevant: (a) Description and objectives of the reported activities; (b) The type of technology; (c) Whether the activities were undertaken by the public and/or private sector.

Table 20
Areas of improvement of the information on capacity-building support provided under Article 11 of the Paris Agreement

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
20.1	Specified in paragraph 128(a), (c), (d) and (e) of the MPGs	Estonia reported in its BTR1 (section 5.4, pp.167–168) general information on capacity-building support provided under Article 11 of the Paris Agreement. However, Estonia did not provide detailed information on:

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		(a) Strategies employed to provide capacity-building support, including case studies; (b) Policies that promote capacity-building support; (c) Involvement of stakeholders; (d) How support for capacity-building actions in developing country Parties that was provided promotes the sharing of lessons learned and best practices. During the review, Estonia explained that the regulation governing the implementation of open calls for support with climate cooperation projects in developing countries promotes the provision of support for capacity-building actions in developing country Parties, including the sharing of lessons learned and best practices. The regulation states that, within the framework of the open call for proposals, support is provided for bringing to developing countries solutions, knowledge, services and products developed in Estonia, or developed abroad and further enhanced with added value in Estonia, which aim to mitigate climate change and/or support adaptation to the impacts of climate change in developing countries. The knowledge and solution components are relevant to capacity-building efforts. The main stakeholders are private companies and organizations applying for national support through open calls. The regulation governing the implementation of open calls does not include specific instructions on the kind of climate-related activities, knowledge or technology the applicants are required to implement in the developing country Parties. The TERT encourages the Party to provide information, in textual format, on capacity-building support provided under Article 11 of the Paris Agreement, including, to the extent possible, qualitative and/or quantitative information on: (a) Strategies employed to provide capacity-building support, including case studies; (b) Policies that promote capacity-building support; (c) Involvement of stakeholders; (d) How support for capacity-building actions in developing country Parties that was provided promotes the sharing of lessons learned and best practices.
20.2	Specified in paragraph 129(c) of the MPGs	Estonia reported in CTF table III.5 information on activities related to capacity-building support. However, the TERT noted that CTF table III.5 does not include a description and objectives for all the activities reported; specifically, the Party did not provide this information for the project "Developing countries/Open call for projects to support developing countries through climate cooperation" for 2021–2022. During the review, the Party clarified that the project "Developing countries/Open call for projects to support developing countries through climate cooperation" includes four different projects, with different descriptions and objectives: (a) A project for Grenada with the aim of installing measuring devices in the rivers of the archipelago that transmit measurement data in real time; (b) A project for Myanmar with the aim of introducing to the local market two affordable and sustainable solar-powered solutions developed in Estonia; (c) A project for Georgia with the aim of building capacity to mitigate the impact of climate change through forest fire prevention; (d) A project for Algeria, Kenya and South Africa with the aim of developing software for mapping and redirecting textile waste. The TERT encourages the Party to report information on the description and objectives for all the activities related to its provision of capacity-building support or explain why it did not report this information.

Annex

Documents and information used during the review

A. Reference documents

BTR1 of Estonia. Available at https://unfccc.int/first-biennial-transparency-reports.

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

BTR1 of the EU. Available at https://unfccc.int/first-biennial-transparency-reports.

BTR1 CTF tables of the EU. Available at https://unfccc.int/first-biennial-transparency-reports.

CRTs of Estonia. Available at https://unfccc.int/first-biennial-transparency-reports.

CRTs of the EU. 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. 1997. *Revised* 1996 *IPCC Guidelines for National Greenhouse Gas Inventories*. JL Houghton, LG Meira Filho, B Lim, et al. (eds). Paris: IPCC/Organisation for Economic Co-operation and Development/International Energy Agency. Available at https://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html.

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.

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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/184700.

NDC of the EU. Available at https://unfccc.int/NDCREG.

NID of Estonia. Available at https://unfccc.int/first-biennial-transparency-reports.

NID of the EU. Available at https://unfccc.int/first-biennial-transparency-reports.

Report on the technical expert review of the BTR1 of the EU. FCCC/ETF/TERR.1/2024/EU and Add.1. Available at https://unfccc.int/first-biennial-transparency-reports.

B. Additional information provided by the Party

Responses to questions during the review were received from Cris-Tiina Pärn (Estonian Environmental Research Centre), including additional material. The following references were provided by Estonia and may not conform to UNFCCC editorial style as some have been reproduced as received:

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