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

Addendum

Summary

This addendum to the report on the technical expert review of the first biennial transparency report of Belize, 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 4 to 8 May 2026 in Belmopan.

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

Abbreviations and acronyms

2006 IPCC Guidelines	*2006 IPCC Guidelines for National Greenhouse Gas Inventories*
AD	activity data
BOD	biochemical oxygen demand
BTR	biennial transparency report
C	carbon
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
CORINAIR	Core Inventory of Air emissions (project)
CRT	common reporting table
CTF	common tabular format
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
FAOSTAT	statistical database of the Food and Agriculture Organization of the United Nations
FOD	first-order decay
GHG	greenhouse gas
HFC	hydrofluorocarbon
IE	included elsewhere
IEF	implied emission factor
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
MRV	measurement, reporting and verification
N	nitrogen
N_2O	nitrous oxide
NA	not applicable
NDC	nationally determined contribution
NE	not estimated
Nex	nitrogen excretion
NID	national inventory document
NIR	national inventory report
NMVOC	non-methane volatile organic compound
NO	not occurring
PaMs	policies and measures
QA/QC	quality assurance/quality control
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
Revised 1996 IPCC Guidelines	*Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*
TERT	technical expert review team

I. Areas of improvement[1] identified during the technical expert review of the Party's first biennial transparency report

1. Tables 1–14 present the results of the review of the consistency with the MPGs[2] of the information submitted by Belize 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*
1.1	Specified in paragraphs 6, 48 and 57 of the MPGs	As reported in NID section 1.17, Belize applied flexibility provisions to the GHG inventory with regard to time-series completeness, uncertainty assessment and inclusion of gases. The TERT noted that while Belize reported a time frame for improvement in uncertainty assessment (NID table 10.2), self-determined estimated time frames for improvements related to the time series and to gases were not provided. During the review, the Party explained that achieving time-series completeness and including all gases in the inventory depends on approval of the climate change and carbon market initiatives bill, introduced in 2025, which has provisions for improved data collection that will help Belize in closing data gaps. However, the bill will not change the circumstances for data collection prior to 1994, for example. Achieving time-series completeness will require capacity to implement data splicing techniques. The TERT recommends that Belize provide self-determined estimated time frames for implementing improvements related to time-series completeness and inclusion of gases in its national GHG inventory, in case flexibility is applied.

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 paragraphs 25 and 41 of the MPGs Key category analysis	Belize reported in the NID (annex I) a key category analysis, including LULUCF, using level assessment for 2022 and trend assessment for 2012–2022, following approach 1. However, a key category analysis excluding LULUCF was not reported in the NID. During the review, the Party clarified that 2012 was used as the starting year for the key category analysis reported in the NID owing to energy sector AD availability, that is, 2012 was the first year for which accurate emission data were available for all sectors. Belize reported that it intends to conduct a key category analysis with and without LULUCF in the inventory submission. The TERT recommends that Belize conduct a key category analysis, including and excluding LULUCF, and describe in the NID the key categories identified, providing information on the approach used for their identification and the level of disaggregation applied.
2.G.2	Specified in paragraph 29 of the MPGs Uncertainty analysis	Belize reported in the NID (sections 1.14 and 1.17) its use of the flexibility provision regarding reporting an uncertainty analysis, stating that it conducted a qualitative assessment of the uncertainty and that this limitation will be addressed in subsequent NIRs. However, the TERT noted that a qualitative discussion of uncertainty for key categories was not provided in the NID.

[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*
		During the review, Belize clarified that a qualitative evaluation of uncertainty for key categories was not conducted and that, owing to a lack of reliable data, conducting a quantitative uncertainty analysis is challenging. The TERT recommends that Belize provide in the NID a qualitative discussion of uncertainty for key categories. The TERT encourages Belize to provide quantitative estimates of uncertainty for all sources and sinks covered in the national GHG inventory.
2.G.3	Specified in paragraph 31 of the MPGs Notation keys	The TERT noted that Belize did not apply the correct notation keys consistently and identified discrepancies in notation key use between the NID and the CRTs for all sectors. The key inconsistencies and discrepancies are as follows: (a) In the energy sector, (1) emissions were reported for category 1.A.3.c railways in the NID and the CRTs while "NO" should have been reported; (2) "NE" was reported in the CRTs instead of "NO" for 1.A.1 energy industries (for solid fuels, gaseous fuels, other fossil fuels, and peat) and, for all fuels, 1.A.2.a iron and steel, 1.A.2.b non-ferrous metals, 1.A.2.c chemicals and 1.A.2.f non-metallic minerals, as well as for solid, gaseous, and other fossil fuels, peat and biomass in 1.A.2.d pulp, paper and print, 1.A.2.e food processing, beverages and tobacco and 1.A.2.g other industries, and for 1.A.3.a domestic aviation (for biomass), 1.A.3.b road transportation (for liquefied petroleum gases, gaseous fuels and biomass) and 1.A.3.d domestic navigation (for residual fuel oil); and (3) some subcategories were inconsistently reported between the NID and the CRTs (1.A.2.d, 1.A.2.e, 1.A.2.g and 1.D.2 were reported as blank cells in NID table 3-1 and as "NE" in CRTs 1.A(a)s2 and 1.D); (b) In the IPPU sector, "NE" was reported instead of "NO" for categories 2.B chemical industry and 2.C metal industry in CRT 2(I).A-H; (c) In the agriculture sector, category 3.E prescribed burning of savannahs was correctly reported as "NO" in CRT 3.E but incorrectly reported as "NE" in NID tables 2.1 and 2.2; (d) In the LULUCF sector, category 4.D.1 wetlands remaining wetlands was reported as "NO" even though wetlands exist in the country, and unmanaged land was reported as "NA" in CRT 4.1 and no explanation for the use of this notation key was provided in the NID. (e) In the waste sector, "NA" was reported in NID tables 7.1 and 7.2 instead of "NE" for category 5.B.1 composting, and category 5.B.2 anaerobic digestion was correctly reported as "NO" in the NID but incorrectly reported as "NE" in CRT 5.B. During the review, Belize, acknowledging the inconsistencies in notation key use between the NID and the CRTs, informed the TERT about (1) its difficulties in managing the changes in notation keys introduced when exporting JavaScript Object Notation files from the IPCC inventory software and uploading them to the ETF GHG inventory reporting tool and (2) its high-priority need for capacity-building in the use of the IPCC inventory software and in understanding the interoperability of the software with the ETF reporting tools, including hands-on training in compiling, validating and exporting CRTs. The TERT recommends that Belize use the correct notation keys for all categories reported in its national GHG inventory and ensure use is consistent between the NID and the CRTs.
2.G.4	Specified in paragraphs 34–35 and 46 of the MPGs QA/QC and verification	Belize reported in NID section 1.13 its QA/QC plan and status of implementation thereof, indicating that it has been only partially implemented because the capacity of the national GHG inventory team, while continuing to increase over time, has not been sufficient to implement all planned QA/QC procedures. However, the TERT noted issues related to insufficient QA/QC in all sectors of the inventory. The TERT also noted that the resubmission of the NID in February 2026 related to an error identified in the waste sector, and the inconsistencies identified in the use of notation keys between the NID and the CRTs, referred to in ID# 2.G.3 above, highlight the need for Belize to strengthen its QA/QC procedures. During the review, the Party provided the TERT with a document containing the QA/QC plan prepared by a consultant and a spreadsheet containing the QA/QC procedures developed internally with regional technical assistance. Belize clarified

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		that, while internal checks were partially conducted, the procedures in the QA/QC plan were not fully implemented owing to time constraints and lack of training of the new sector leads of the inventory team. The Party acknowledged that a fully institutionalized and systematic QA/QC framework, particularly one that includes verification of use of notation keys, completeness of tables and alignment between narrative and tabular reporting, is not yet in place. The TERT recommends that Belize strengthen its QA/QC procedures and implement all procedures in its QA/QC plan fully and in a timely manner. The TERT encourages Belize to apply category-specific QC procedures for key categories and categories for which significant methodological changes and/or data revisions have occurred, in accordance with the 2006 IPCC Guidelines (vol. 1, chap. 6.7), and to conduct a basic expert peer review of its inventory, in accordance with the 2006 IPCC Guidelines (vol. 1, chap. 6.8).

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 36 of the MPGs Fuel combustion – reference approach – all fuels – CO_2	In NID section 3.4.2 the Party reported that international bunker fuels and solid biomass fuels from sugarcane were included in the estimation of CO_2 emissions from fuel combustion using the reference approach. The TERT noted that those fuels should not be included when estimating emissions using the reference approach. The TERT also noted that gaseous fuels were included in the reference approach, but not in the sectoral approach. During the review, the Party confirmed that, in the reference approach to estimating emissions from fuel combustion, it included CO_2 emissions from international bunker fuels and biomass fuels from sugarcane, as well as gaseous fuel (natural gas) emissions from flaring. The Party indicated that these fuels should not have been included in the reference approach. The TERT encourages Belize to exclude from the reference approach to estimating CO_2 emissions from fuel combustion the consumption of and emissions arising from international bunker fuels, biomass fuels and natural gas flaring.
3.E.2	Specified in paragraphs 36 and 57 of the MPGs Fuel combustion – reference approach – all fuels – CO_2	The TERT noted that while the Party provided a comparison between the reference and sectoral approaches for 2018, 2019, 2020, 2021 and 2022, it did not provide a comparison for 2017, the reference year for its NDC. During the review, the Party clarified that fuel combustion using the reference approach was estimated only for 2018, 2019, 2020, 2021 and 2022. The Party also noted that the AD for 2018 and 2019 from the energy balance were of a lower quality than the AD for 2020, 2021 and 2022 from the same source. For 2017, a comparison between the reference and sectoral approaches was not reported owing to the lack of data for that year in the energy balance. The TERT encourages Belize to report a comparison between the reference and sectoral approaches for the entire time series, prioritizing 2017, as this is the reference year for its NDC.
3.E.3	Specified in paragraph 47 of the MPGs 1.A.2 Manufacturing industries and construction – all fuels – CO_2, CH_4 and N_2O	The Party reported fuel consumption for 2022 for subcategories 1.A.2.e, 1.A.2.g.iv, 1.A.2.g.v and 1.A.2.g.viii in CRT 1.A(a)s2. However, the TERT noted that no corresponding IEFs or emissions were reported in CRT 1.A(a)s2 or in the NID. During the review, the Party clarified that for those four subcategories, an error occurred when entering EFs for CO_2, CH_4 and N_2O into the calculation spreadsheets. As a result, no EFs were included for the subcategories and consequently no emissions were estimated and reported. The Party indicated that it will avoid this type of error for the next submission and report EFs and emissions for the subcategories concerned. The TERT recommends that Belize estimate and report, in CRT 1.A(a)s2, EFs and emissions for CO_2, CH_4 and N_2O for subcategories 1.A.2.e, 1.A.2.g.iv, 1.A.2.g.v and 1.A.2.g.viii under category 1.A.2 manufacturing industries and construction, for which only fuel consumption data are currently reported.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
3.E.4	Specified in paragraphs 21, 23 and 40 of the MPGs 1.A.3.b Road transportation – liquid fuels – CO_2, CH_4 and N_2O	The Party reported CO_2 emissions from road transportation as a key category in the NID (p.17) and presented emissions for this category in NID table 3.4. The Party reported in the NID (p.60) that the tier 1 approach was used for the category (1.A.3.b) because country-specific EFs and country-specific methodological approaches have not been developed for estimating the emissions. The TERT noted that this methodological tier level is not in line with the 2006 IPCC Guidelines for key categories. The TERT also noted that while emissions were reported for subcategory 1.A.3.b.i cars, "NE" was reported for the subcategories 1.A.3.b.ii light-duty trucks, 1.A.3.b.iii heavy-duty trucks and buses and 1.A.3.b.iv motorcycles. It was not clear to the TERT why emissions for the latter subcategories were not reported and whether emissions reported for subcategory 1.A.3.b.i include aggregate emissions for all subcategories under category 1.A.3.b road transportation. During the review, the Party clarified that a tier 2 method was not used to estimate emissions from road transportation owing to limited availability of detailed AD such as vehicle fleet composition and fuel efficiency, as well as lack of resources, and that the AD and emissions for category 1.A.3.b were not disaggregated and were instead reported in aggregate under subcategory 1.A.3.b.i cars. The Party indicated that improvements will be made for road transportation reporting by conducting a comprehensive transport sector survey to quantify gasoline and diesel fuel consumption by the different types of vehicles referred to under the other subcategories. The Party also referred to NID table 10.2 where such improvements are listed as a high priority. The TERT recommends that Belize (1) clearly document in the NID the methodology used for estimating emissions from road transportation and the reasons for it not being in line with the corresponding decision tree of the 2006 IPCC Guidelines (vol. 2, chap. 3) and (2) report disaggregated emissions for each subcategory under category 1.A.3.b road transportation (1.A.3.b.i cars, 1.A.3.b.ii light-duty trucks, 1.A.3.b.iii heavy-duty trucks and buses, and 1.A.3.b.iv motorcycles) or, if this is not possible and all emissions are reported under 1.A.3.b.i cars, report the emissions for the other subcategories as "IE". The TERT encourages Belize to make every effort to use a higher-tier method for estimating emissions for the key category 1.A.3. b road transportation, in line with the 2006 IPCC Guidelines (vol. 2, chap. 3), or if it is not possible to use a higher-tier method, provide information on how it is addressing or intends to address the issue.

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 paragraphs 21 and 47 of the MPGs 2.A.2 Lime production – CO_2	Belize reported CO_2 emissions from the production of high-calcium lime for use in the shrimp, citrus and coconut industries and in wastewater treatment for 2003, 2006, 2009, 2012, 2015 and 2017–2022 in the NID (pp.87–91) and CRT 2(I).A-H. The TERT identified the following inconsistencies in the time series for high-calcium lime production: (a) For 2003, 2006 and 2009, Belize reported rounded values for AD for lime production (5,000, 6,000 and 3,000 t respectively). For subsequent years, values were more precise, reported to two decimal places, suggesting the possible use of different data sources; (b) According to the NID (p.87), there were eight producers of lime in the country up until 2019; however, the Party noted that a survey conducted by the National Climate Change Office in 2024 collected data for 2018–2022 from only five producers. The Party did not provide the actual production values for these five producers in the NID; rather, in NID table 4.5 it provided annual average production for 2018–2022 for each producer. The TERT noted that in NID table 4.7 a decline in lime production can be observed between 2019 (540.75 t) and 2020 (283.00 t), after which production is constant, but from the information presented in the NID, it was not clear to the TERT if this significant decline (47.7 per cent)

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		reflects an actual reduction in lime production or is a result of the use of five-year annual averages for company-level production. During the review, the Party explained that the completeness of the time series is compromised by the absence of both a mandatory national reporting requirement for lime production and a centralized official industry database. This necessitates reliance on voluntary reporting, which has resulted in intermittent data gaps and the use of different data sources. Prior to 2012, data were provided by consultants who gathered those data by conducting surveys and personally communicating with producers; in subsequent years, data were obtained through personal communication with producers, with five-year averages having been used since 2019. The Party explained that the decline in production observed between 2019 and 2020 accurately reflects the market landscape; reduced industry output was observed at that time owing to the combination of severe weather events, the coronavirus disease 2019 pandemic and biological stressors, including Black Sigatoka disease in bananas and citrus greening disease. The National Climate Change Office has prioritized engagement with lime producers as a key planned improvement and intends to use actual total production values rather than averages to estimate CO_2 emissions in the future. The TERT welcomes the Party's intention to engage with lime producers in upcoming inventory cycles. The TERT recommends that Belize acquire and apply annual production values from producers to estimate CO_2 emissions from high-calcium lime production for all years reported in the time series, avoiding the use of multi-year averages, and explain the drivers underpinning any observed trends in production AD in the NID.
4.I.2	Specified in paragraphs 45 and 47 of the MPGs 2.A.2 Lime production – CO_2	According to the NID (p.89), Belize Minerals is the primary producer of dolomitic lime in the country. Emissions for this producer were reported for 2012, 2015 and 2017–2019 in NID table 4-7 and CRT 2(I).A-H, with "NE" being reported for all other reported years in the time series. It was not clear to the TERT if there are other dolomitic lime producers in Belize and if the lack of data from other potential producers impacts the time series. During the review, the Party clarified that a facility in Cayo District operated by Limbe Agricultural Lime may also produce dolomitic lime, but further discussions are required to understand the nature and quantity of any production. The TERT recommends that Belize review the completeness of its estimates for CO_2 emissions from dolomitic lime production across the reported time series, including by investigating whether dolomitic lime is produced at the facility in Cayo District operated by Limbe Agricultural Lime, and if so, acquiring annual lime production data from this facility to incorporate into the CO_2 emission estimate.
4.I.3	Specified in paragraph 21 of the MPGs 2.A.2 Lime production – CO_2	According to NID table 4.8, the Party applied IPCC default EFs for high-calcium lime (0.75 t CO_2/t lime) and dolomitic lime (0.77 t CO_2/t lime for developing countries). Using these EFs and the AD reported in NID table 4.7, the TERT estimated emissions in 2018 to be 2.21 kt CO_2 (with an IEF of 0.77 t CO_2/t lime), whereas Belize reported in CRT 2(I).A-H a value of 2.43 kt CO_2 (with an IEF of 0.85 t CO_2/t lime). During the review, the Party clarified that it had made an error in calculating emissions from dolomitic lime for 2018, incorrectly applying the EF of 0.86 t CO_2/t lime for developed countries instead of the EF for developing countries. The Party confirmed that it will use the correct value for the next submission. The TERT recommends that Belize apply an appropriate CO_2 EF for estimating emissions from dolomitic lime production for 2018, either the IPCC default value for developing countries or another appropriate value should Belize decide to the update the method and/or the EF on the basis of new information.
4.I.4	Specified in paragraph 47 of the MPGs 2.D.1 Lubricant use – CO_2	Belize reported in NID table 4.10 AD for lubricant imports for 2018 (94.71 TJ); however, the TERT noted that AD and emissions for category 2.D.1 lubricant use are reported as "NE" in CRT 2(I).A-H. During the review, the Party clarified that the discrepancy in reporting on lubricant use between the NID and the CRT for 2018 resulted from technical challenges encountered during data migration from the IPCC inventory software (in JavaScript Object Notation files) to the CRTs. The Party provided the TERT with

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		the IPCC inventory software database, and after reviewing the relevant data, the TERT noted that the Party did not enter data for 2018 in the IPCC inventory software, leading to the inadvertent reporting of "NE". The TERT recommends that Belize ensure that the AD and CO_2 emissions for lubricant use for 2018 are reported in CRT 2(I).A-H and are thus included in total national GHG emissions for that year.
4.I.5	Specified in paragraphs 45 and 47 of the MPGs 2.D.2 Paraffin wax use – CO_2	The Party reported "NE" for AD and CO_2 emissions for category 2.D.2 paraffin wax use for the entire reported time series in CRT 2(I).A-H. The TERT noted that this category is typically relevant for most countries; however, no mention of the category is made in the NID, and use of "NE" is not explained in the NID or CRT 9. The TERT also noted that the Party referred to the use of petroleum products importation data for the energy sector (e.g. in NID table 3.4) and asked Belize if this data source includes information on imports of paraffin wax. During the review, the Party clarified that data on paraffin wax imports and use are not included in the data available for inventory preparation. However, the Party indicated that it will initiate discussions with relevant organizations, for example the Belize Customs and Excise Department, to investigate the availability of AD on paraffin wax imports. The TERT recommends that Belize investigate whether import data on paraffin wax are available and if available, use them to estimate CO_2 emissions from paraffin wax use and report those estimates in CRT 2(I).A-H, providing the relevant methodological information, AD and EFs in the NID, or if not available, report "NE" for category 2.D.2 paraffin wax use, providing an explanation for the use of this notation key in CRT 9.
4.I.6	Specified in paragraphs 20, 39 and 51 of the MPGs 2.D.3 Other (non-energy products from fuels and solvent use) – CO_2, NMVOCs and CO	According to the NID (pp.92–93), Belize estimated CO_2 emissions from asphalt use for road paving by using AD (in TJ) of asphalt imported (NID table 4.10) and an EF of 0.001 t C/TJ (NID table 4.11). The Party indicated that the EF was sourced from the 2006 IPCC Guidelines. However, the TERT noted that the 2006 IPCC Guidelines (vol. 3, chap. 5) do not provide a method for estimating direct CO_2 emissions from asphalt use for road paving, noting that such emissions are negligible, and refer to the *EMEP/CORINAIR Emission Inventory Guidebook* (European Environment Agency, 2005) with regard to estimating NMVOC and CO emissions from this source. Further, although Belize reported in its NID (p.70) that the emissions from asphalt use are included under category 1.A.3.c railways (p.70) (see ID# 3.E.5 in table 3), the TERT noted that for category 1.A.3.c, the Party did not apply the EF of 0.001 t C/TJ reported in NID table 4.11; instead, the Party assumed that the total carbon content of bitumen/asphalt (22 t/TJ) is released during road paving. During the review, the Party clarified that it applied a basic equation of AD multiplied by EF to estimate emissions for road paving and noted that it transparently documented the misallocation of those emissions to category 1.A.3.c railways in the NID. The Party indicated that it plans to address the misallocation for the BTR2. The TERT discussed with the Party whether the Party's intention was to report direct CO_2 emissions for category 2.D.3, and if so, what the source of the 0.001 t C/TJ EF was, or whether its intention was to calculate the NMVOC emissions and report indirect CO_2 emissions. Belize indicated that it will investigate this category, including the type of emissions and source of the EF, and update its reporting, as appropriate, for its BTR2. The TERT recommends that Belize review the method, AD and EFs used to estimate direct CO_2 emissions from asphalt use for road paving, and if deemed necessary, revise the emissions and report them under category 2.D.3, documenting the source of the method, AD and EF in the NID. The TERT encourages Belize to report precursor emissions of NMVOCs and CO from asphalt use for road paving.
4.I.7	Specified in paragraphs 47 and 49 of the MPGs 2.F Product uses as substitutes for ozone-depleting substances – HFCs	Belize estimated emissions of HFC-134a for category 2.F.1 refrigeration and air conditioning for all years of the reported time series using a tier 1 method (see ID# 4.1.8 below regarding use of the tier 1 method). The TERT noted two issues regarding the reporting of HFC emissions for category 2.F: (a) NID table 4-14 reported the amount of HFC-134a imported and several blends of refrigerants (R-404A, R-407C, R-410A, R-422B and R-507A) that are

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		covered in the 2006 IPCC Guidelines and whose constituents are covered for reporting under the ETF, but the Party reported emissions only for HFC-134a in NID table 4-12 and CRT 2(II).B-Hs2; (b) HFC-134a emissions are reported only for category 2.F.1 in CRT 2(II).B-Hs2; emissions for categories 2.F.2–2.F.6 are reported as "NE" or "NO" in the same table. During the review, the Party clarified that the total amount of HFCs reported for category 2.F.1 is specific to refrigeration and air conditioning and does not include HFCs used for other applications (e.g. fire extinguishers, aerosols and foams). Although it is likely that emissions from those other applications occur in the country, they cannot be estimated owing to a lack of data on the types and number of equipment imported over the time series. Regarding the blends of refrigerants, the Party indicated it could not estimate emissions as it does not know the year of introduction of the blends in the country. The Party recognized that further refinement of national statistics, including precise introduction years and annual growth rates in equipment use, is necessary to improve the accuracy of the time series, and indicated that doing so is a planned improvement. The TERT recommends that Belize consult with relevant organizations to identify the applications relevant to the country under categories 2.F.1–2.F.6, the types of HFC species and/or blend consumed by each application and the year of introduction of those species and/or blends in the country, and estimate GHG emissions from those species and/or blends to improve the completeness of the estimates for category 2.F.
4.1.8	Specified in paragraphs 21 and 23 of the MPGs 2.F.1 Refrigeration and air conditioning – HFCs	Belize estimated HFC emissions for category 2.F.1 refrigeration and air conditioning for all years of the reported time series using a tier 1 method. The TERT noted that Belize did not provide specific information in the NID as to why it was unable to apply a tier 2 method for this key category, but did indicate in NID table 10.2 (planned improvements) the challenges associated with data collection for category 2.F and its plan to establish a procedure for collecting data on refrigerant use in the tourism industry. During the review, the Party confirmed that it faces constraints in acquiring data to separately track the types and quantities of HFC species and blends used under each subcategory of 2.F.1 (i.e. commercial, domestic, transport and industrial refrigeration, as well as stationary and mobile air conditioning) and in identifying the year of introduction of those HFC species and blends. The TERT recommends that Belize explicitly explain in the NID that it applies the tier 1 methodology to estimate HFC emissions for the key category 2.F.1 refrigeration and air conditioning owing to a lack of resources to collect the necessary information on the year of introduction and the use of specific HFCs and refrigerant blends in specific applications. The TERT encourages Belize to make every effort to use a tier 2 method for estimating HFC emissions for category 2.F.1 refrigeration and air conditioning, in line with IPCC good practice, and to report in the NID information on how it is addressing or intends to address the issue.
4.I.9	Specified in paragraphs 21 and 40 of the MPGs 2.F.1 Refrigeration and air conditioning – HFC-134a	The TERT noted in NID table 4.14 a significant increase of 2,375 per cent in imports of HFC-134a between 2020 (27.95 t) and 2021 (691.85 t). In 2022, imports (33.86 t) returned approximately to the 2020 level. No explanation for the trend is included in the NID. During the review, the Party clarified that the 691.85 t figure for 2021 constitutes an error that occurred during data processing and that after data verification, the actual 2021 imports were determined to be 32.30 t, which the Party views as representing a reasonable change consistent with normal trade patterns. The Party noted that the relevant QA/QC procedure will be improved to avoid this type of error in the future. The TERT recommends that Belize correct the AD for imports of HFC-134a for 2021, recalculate HFC-134a emissions for both 2021 and 2022 (given that the error in 2021 also affects emissions in 2022) and describe the recalculations in the NID.
4.I.10	Specified in paragraphs 31 and 47 of the MPGs	The Party reported in the NID (p.80) that N_2O from product uses (i.e. category 2.G.3) may occur in Belize. The TERT noted that NID table 4.1 does not contain

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
	2.G.3 N_2O from product uses – N_2O	any information for category 2.G.3. In CRT 2(I).A-H, the Party reported "NE" for this category but provided no information in CRT 9 explaining the use of "NE". During the review, in response to questions on this matter and questions about whether N_2O is used in medical applications, Belize indicated that there is no evidence of N_2O use in the country that would generate measurable emissions. However, the Party noted that there could be opportunities to engage further with public health officials in both the public and the private sector to better understand if N_2O is used in medical applications. The TERT recommends that Belize engage with public health officials to identify whether N_2O is used in medical applications and if it is, identify possible sources to obtain the data necessary for estimating N_2O emissions and estimate and report those emissions, providing the AD and EFs used and methodological information in the NID, or if it is not, report category 2.G.3 as "NO" in both the NID and the CRTs.
4.I.11	Specified in paragraphs 20 and 51–52 of the MPGs 2.H.2 Food and beverages industry – CO_2	The Party reported CO_2 emissions from wheat, alcohol and beer production in the NID (pp.100–102) and in CRT 2(I).A-H. In NID table 4.18, the Party referred to using CO_2 EFs from the 2006 IPCC Guidelines to estimate those emissions. However, the TERT noted that the EFs provided in NID table 2.24 are from the Revised 1996 IPCC Guidelines and are for estimating NMVOC emissions, not CO_2 emissions. The 2006 IPCC Guidelines do not provide an EF for estimating direct CO_2 emissions for category 2.H.2 food and beverages industry. The use of the NMVOC EFs from the Revised 1996 IPCC Guidelines for estimating direct CO_2 emissions leads to an overestimation of emissions for this category. During the review, the Party acknowledged that the calculation reported under category 2.H.2 relates to NMVOC emissions, not CO_2 emissions. The TERT recommends that Belize review the method and EF used to estimate CO_2 emissions for wheat, alcohol and beer production under category 2.H.2 food and beverages industry, and if necessary, revise the emissions and report them in CRT 2(I).A-H. The TERT encourages Belize to report precursor emissions of NMVOCs for category 2.H.2 food and beverages industry.

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 paragraphs 26–27 and 47 of the MPGs 3. General (agriculture) – CH_4 and N_2O	Belize estimated CH_4 and N_2O emissions from enteric fermentation and manure management of buffaloes and of mules and asses for 1994 to 2017 and reported the emissions in NID table 5.5 and CRTs 3.A, 3.B(a) and 3.B(b); however, for 2018 to 2022, "NO" was reported in CRT 3.A and "NE" was reported in NID table 5.6. The TERT noted that the reason for not estimating emissions for these livestock categories for 2018 to 2022 was not provided, and that for mules and asses, FAOSTAT provides values for the number of animals. During the review, the Party indicated that data on mules and asses are not readily available for 2018–2022 and owing to time constraints related to their collection, the emissions were reported as "NE". Regarding the FAOSTAT data, Belize explained that there are differences between those data and the data collected from farmers, therefore, this information was not used for preparing the national GHG inventory. Belize also explained that it requires support to restructure existing surveys in order to close data gaps related to buffaloes, and mules and asses. The TERT recommends that Belize estimate the CH_4 and N_2O emissions from enteric fermentation and manure management of buffaloes and of mules and asses for 2018 to 2022 by collecting data on the populations of animals for those years. The TERT encourages Belize to use surrogate data and extrapolation, interpolation or other methods consistent with the splicing techniques contained in the 2006 IPCC Guidelines (vol. 1, chap. 5) to estimate CH_4 emissions for category 3.C.1 irrigated rice cultivation for those years for which data are not available.
5.A.2	Specified in paragraph 40 of the MPGs	Belize estimated CO_2 emissions for categories 3.G liming and 3.H urea application and reported them in NID tables 5.17 and 5.20 respectively, and CRT 3.G-J. The TERT noted a significant decrease (of 97 per cent) in annual consumption of

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
	3. General (agriculture) – CO_2	limestone from 2009 to 2012 but was unable to find an explanation for the decrease in the NID. The TERT also noted that the values for annual application of limestone during 1997–2009 are of the same order of magnitude (between 3,371 and 5,224 t/year), while after 2012 the values decrease significantly and stay low (between 143 and 541 t/year). The TERT further noted significant changes in urea application over the time series: values in 1994, 2003 and 2015 are significantly higher compared with the other years in the time series (e.g. in 2017 urea consumption is 16,811.64 t, whereas in 2018 it is 32.59 t). The TERT was unable to identify the reason for the significant changes over the time series. During the review, the Party explained that it faced challenges in collecting data from dolomite and limestone producers and that the decrease in application from 2009 to 2012 was caused by losses in the citrus and banana industries due to flooding, hurricanes and major disease outbreaks. Regarding urea, the Party explained that import data are used for urea application because Belize does not export urea and that high values in urea application over the time series may reflect the fact that some imports of urea are stored for use in later years. The TERT recommends that Belize provide information on the assumptions applied and procedures for collecting AD on the application of limestone, dolomite and urea, and to explain the national context underpinning the trends in AD for the categories 3.G liming and 3.H urea application.
5.A.3	Specified in paragraphs 39–40 of the MPGs 3. General (agriculture) – CH_4 and N_2O	Belize estimated CH_4 emissions from enteric fermentation and CH_4 and N_2O emissions from manure management and reported the emissions in NID tables 5.5 and 5.8 respectively, and CRTs 3.A, 3.B(a) and 3.B(b). The emissions were estimated by applying a tier 1 method and using default parameters (i.e. typical average animal mass and Nex rate) and EFs from the 2006 IPCC Guidelines (vol. 4, chap. 10). However, the TERT noted that an explanation of how the default parameters and EFs were selected and information relevant to the selection, such as mean annual temperature of the country and average national milk production for dairy cattle, is not included in the NID. During the review, the Party explained that it selected parameters and EFs by choosing in the IPCC inventory software the values for developing countries in Latin America and the Caribbean whose national circumstances align best with those of Belize. Belize indicated that for the EF used to estimate CH_4 emissions from manure management, a temperature above 25 °C was considered appropriate. The TERT recommends that Belize ensure that the application of default EF of the 2006 IPCC Guidelines does not result in an under- or overestimation of emissions by selecting default EFs that are appropriate for its national circumstances, and provide in the NID information such as mean annual temperature of the country and average national milk production for dairy cattle relevant to the selection of EFs used for estimating CH_4 emissions from enteric fermentation and CH_4 and N_2O emissions from manure management.
5.A.4	Specified in paragraph 47 of the MPGs 3. General (agriculture) – CH_4 and N_2O	Belize estimated and reported CH_4 and N_2O emissions from manure management for categories 3.B.2 sheep and 3.B.3 swine for all years in the time series, except for 2018 for sheep and 2021 for swine, which were reported as 0.00 in NID table 5.8 and "NE" in CRTs 3.B(a) and 3.B(b). The TERT noted that an explanation as to why the emissions were not estimated for 2018 and 2021 is not included in the NID. The TERT also noted that the annual amount of N excreted on pasture, range and paddock, in category 3.D.1.c urine and dung deposited by grazing animals, was reported in CRT 3.D but the corresponding N_2O emissions were not reported. The TERT was unable to understand from the information included in the NID how the annual amount of N excreted on pasture, range and paddock was estimated. During the review, the Party explained that the emissions were estimated using the IPCC inventory software and provided the databases used. The TERT noted that the EFs and parameters, such as Nex rate and the CH_4 EF for manure management for sheep in 2018 and the CH_4 EF for manure management for swine in 2021, were not selected in the IPCC inventory software, which prevented the estimation of emissions for those categories in 2018 and 2021 respectively. The TERT also noted that the fraction of N from an N source deposited within the land-use category was not selected in the IPCC inventory software, which prevented the

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		estimation of direct and indirect N_2O emissions from the annual amount of N excreted on pasture, range and paddock for the whole time series. The TERT recommends that Belize review its selection of EFs and parameters, including Nex rate, CH_4 EFs for manure management and fraction of N from an N source deposited within the land-use category, to enable the estimation of (1) CH_4 and N_2O emissions from manure management for categories 3.B.2 sheep and 3.B.3 swine for the missing years (2018 for sheep and 2021 for swine) and (2) direct and indirect N_2O emissions from the annual amount of N excreted on pasture, range and paddock for the whole time series.
5.A.5	Specified in paragraphs 21 and 23 of the MPGs 3.A.1 Cattle – CH_4	Belize estimated CH_4 emissions from enteric fermentation of cattle (category 3.A.1) using a tier 1 method from the 2006 IPCC Guidelines and reported the emissions in NID table 5-5 and CRT 3.A. The TERT noted that 3.A.1 is a key category according to tables 1–2 in annex I to the NID, therefore, a higher-tier method should have been used to estimate the emissions. It was not clear to the TERT what prevented Belize from applying a tier 2 method. During the review, the Party explained that, to apply a tier 2 method for enteric fermentation, it will require support and resources for conducting studies to collect AD to estimate parameters such as animal weight, average daily weight gain and digestibility rate for different categories of cattle and for strengthening the Belize Livestock Registry and providing the Belize Livestock Producers Association with capacity-building support for collecting all livestock performance data. The TERT recommends that Belize include in the NID an explanation of what prevented it from following the recommended method in the 2006 IPCC Guidelines (vol. 4, chap. 10, figure 10.2) for estimating CH_4 emissions for category 3.A.1 cattle, which the Party identified as a key category. The TERT encourages Belize to make every effort to use a higher-tier methodology for estimating CH_4 emissions for category 3.A.1 cattle, in accordance with the 2006 IPCC Guidelines for key categories.
5.A.6	Specified in paragraph 39 of the MPGs 3.C Rice cultivation – CH_4	Belize estimated CH_4 emissions for category 3.C rice cultivation using a tier 1 method and reported the emissions in NID table 5-10 and CRT 3.C. The TERT noted that an explanation of how the methodology was applied and how scaling factors were selected is not included in the NID. During the review, the Party clarified that equation 5.2 from the 2006 IPCC Guidelines (vol. 4, chap. 5) was used to estimate the emissions and provided the values for the scaling factors. The TERT noted that the values were not consistently applied across the time series. The TERT recommends that Belize provide information on how the scaling factors were selected for each rice cultivation system for which CH_4 emissions were estimated under category 3.C rice cultivation. The TERT encourages Belize to apply values for scaling factors used to estimate emissions from rice cultivation consistently throughout the time series.
5.A.7	Specified in paragraphs 26–27 and 47 of the MPGs 3.C.1 Irrigated – CH_4	Belize estimated and reported CH_4 emissions from rice cultivation in NID section 5.6 and CRT 3.C. However, the TERT noted that the time series for the AD is not complete and that Belize reported AD as "NE" for 1994, 1997, 2003 and 2006 for 3.C.1 irrigated rice cultivation. During the review, the Party explained that data are available for rice cultivation from 2000 and it will be able to use those data together with splicing techniques to complete the time series. The TERT recommends that Belize estimate the emissions from rice production for missing years using the available information. The TERT encourages Belize to use surrogate data and extrapolation, interpolation or other methods consistent with the splicing techniques contained in the 2006 IPCC Guidelines (vol. 1, chap. 5) to estimate CH_4 emissions for category 3.C.1 irrigated rice cultivation for those years for which data are not available.
5.A.8	Specified in paragraphs 21 and 47 of the MPGs	Belize estimated N_2O emissions from agricultural soils for category 3.D.1.b organic N fertilizers and reported the emissions in NID table 5.13 and CRT 3.D. Belize reported that the N content of each type of synthetic fertilizer used in the country is unknown; hence, emissions for category 3.D.1.a inorganic N fertilizers

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
	3.D Direct and indirect N_2O emissions from agricultural soils – N_2O	were not estimated and the category remains an ongoing area of improvement. The TERT, noting that urea consumption AD were used for estimating CO_2 emissions from urea application, was unable to understand why this information was not used to estimate the annual amount of synthetic fertilizer N applied to soils and the corresponding N_2O emissions from category 3.D.1.a inorganic N fertilizers. The TERT also noted that cultivated area disaggregated by crop may be available and thus could be used to estimate the annual amount of N in crop residues and corresponding emissions from category 3.D.1.d crop residues. During the review, the Party clarified that urea application and cultivated area were not used as inputs in the IPCC inventory software for category 3.D direct and indirect N_2O emissions from agricultural soils. Belize indicated that it faces challenges collecting data on synthetic fertilizers and confirmed that the collection of such data is included as an area of improvement in Belize's national inventory improvement plan. The Party also indicated that cultivated area and production data disaggregated by crop are available from 2000 onward. The TERT recommends that Belize (1) estimate direct and indirect N_2O emissions for inorganic N fertilizers from urea application using the default EF from the 2006 IPCC Guidelines (vol. 4, chap. 11.2) and the existing AD on urea application, (2) collect AD for estimating emissions from synthetic fertilizers, and (3) estimate N_2O emissions for category 3.D.1.d crop residues using default EFs from the 2006 IPCC Guidelines (vol. 4, chap. 11.2) and disaggregated AD on crop production and area.
5.A.9	Specified in paragraphs 30–31 and 39 of the MPGs 3.E Prescribed burning of savannahs – CH_4 and N_2O	Belize reported category 3.E prescribed burning of savannahs as "NE" in NID table 2.2 and "NO" in CRT 3.E. The TERT noted that an explanation as to whether these emissions occur in the country or whether Belize faces constraints in estimating emissions for this category was not provided. During the review, the Party explained that burning of forest land and grassland occurs in the country, and such burning is assumed to arise from wildfires, given that prescribed burning is not a common practice in the country. Emissions from wildfires are reported under category CRT 4(IV) biomass burning in the LULUCF sector. The TERT recommends that Belize report category 3.E prescribed burning of savannahs as "NO" in both the NID and CRT 3.E and explain in the NID that burning of forest land and grassland is not a common practice in the country and that the methodology used to collect data on fires cannot differentiate between wildfires and prescribed burning.

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 39–40 and 47 of the MPGs 4. General (LULUCF) – CO_2, CH_4 and N_2O	The TERT noted several significant deviations in emission and removal trends over the time series for the LULUCF sector in CRT 10s1 for which the drivers were not explained in the NID, namely (1) an 84 per cent increase in emissions for category 4.B cropland between 2009 (2.13 Mt CO_2 eq) and 2012 (3.92 Mt CO_2 eq), whereas the cropland area increased by only 12 per cent, from 163.26 to 182.26 kha, in the same period; (2) significantly lower emissions for category 4.B cropland in 2020 and 2021 (approximately 1.2 Mt CO_2 eq for each year) compared with adjacent years in the time series; (3) a significant increase in emissions for category 4.C grassland between 2021 (1.1 Mt CO_2 eq) and 2022 (2.0 Mt CO_2 eq); and (4) a tripling of emissions for category 4.E settlements between 2020 (0.2 Mt CO_2 eq) and 2021 (0.7 Mt CO_2 eq), whereas the total area remained similar in the same period. During the review, the Party provided the following corresponding explanations: (1) the trend is attributable to the combined effects of Hurricane Richard in 2010 and subsequent wildfires, which caused extensive forest damage and accelerated land-use conversion; (2) the comparatively low emissions observed for 2020 and 2021 can be largely attributed to measures associated with the coronavirus disease 2019 pandemic, which significantly limited agricultural activities, leading to a

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		decrease in the rate of conversion to cropland; (3) the doubling of grassland emissions between 2021 and 2022 followed the impacts of Hurricane Lisa and a major wildfire in 2020, after which the cleared forest land was converted into pasture for livestock production, with prolonged dry conditions and reduced rainfall also contributing, prompting land-use shifts towards pasture; and (4) the more than doubling of settlement emissions between 2020 and 2021 was mainly due to the expansion of villages and the development of other infrastructure. The TERT, while recognizing that the effects of hurricanes, the pandemic and the expansion of settlements have contributed to shifts in land use and changes in emissions, noted that it is unclear whether the explanations provided are the primary drivers of the deviations in trends observed, as area changes reported in CRTs 4.B, 4.C and 4.E for the corresponding categories in the years in which the deviations occurred do not seem themselves to deviate significantly from the trends in converted area. The TERT recommends that Belize include in the NID explanations for any significant deviations in emission trends over the time series for the LULUCF sector and, where applicable, explain how the drivers of those deviations are reflected in the values reported for converted land areas in the relevant CRTs.
6.L.2	Specified in paragraphs 27 and 31 of the MPGs 4. General (LULUCF) – CO_2, CH_4 and N_2O	The TERT noted that emissions/removals for all categories of the LULUCF sector, apart from 4.G harvested wood products, were not reported for 1994 and 1997 in CRTs 4.A–4.F, and that the corresponding cells were left blank rather than being filled with a notation key. The TERT acknowledges that Belize has applied the flexibility provision in paragraph 57 of the MPGs with regard to time series, and notes that gaps in the time series (1994–2000) are identified in NID table 10.2 as an area of improvement. However, it was unclear to the TERT whether splicing techniques from the 2006 IPCC Guidelines (vol. 1, chap. 5) were considered by the Party, and if so, what prevented their application. During the review, the Party clarified that the notation key "NE" was not applied owing to an oversight during the compilation and reporting process and indicated that it intends to address this issue in future submissions. The Party explained that emissions were not estimated for the years prior to 2000 because it lacks the spatial data on land-use dynamics necessary to estimate emissions and removals for those years. The TERT recommends that Belize report notation keys for the emissions/removals for 1994 and 1997 for all categories for which quantitative data are not available and indicate the reasons for the emissions/removals not being reported. The TERT encourages Belize to use surrogate data and extrapolation, interpolation or other methods consistent with the splicing techniques contained in the 2006 IPCC Guidelines (vol. 1, chap. 5) to estimate missing emission values resulting from a lack of AD, EFs or other parameters in order to ensure a consistent time series.
6.L.3	Specified in paragraph 39 of the MPGs Land representation	Belize reported in NID section 1.11 that it distinguishes between managed and unmanaged lands. However, the TERT noted that Belize reported "NA" for unmanaged forest land, grassland and wetlands in CRT 4.1 and that clarification of how unmanaged land is treated in the inventory was not provided by the Party in the NID. During the review, the Party clarified that all lands within the national territory are considered managed, and that it applies the managed land proxy in accordance with the 2006 IPCC Guidelines. As such, the notation key "NA" was applied for unmanaged land. The TERT recommends that Belize include in the NID a description of how managed and unmanaged lands are treated in the inventory, along with an explanation of the notation key(s) applied.
6.L.4	Specified in paragraph 39 of the MPGs Land representation	Belize provided the definitions for the various land-use classes in the LULUCF sector in NID section 6.4. However, the TERT noted that the Party did not clarify in the NID whether a hierarchy or decision rule is applied when assigning land to those classes. It is therefore unclear how areas were treated when more than one land-use definition apply, or conversely, when none of the definitions applies.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		During the review, the Party clarified that it does apply a land-use hierarchy and noted that detailed information thereon is available in its modified forest reference level submission (section 4.5.3). The TERT recommends that Belize include in the NID information on decision rules for land representation that help the Party to ensure that land representation is consistent, complete and non-overlapping or a clear reference to where this information can be found.
6.L.5	Specified in paragraph 39 of the MPGs Land representation	The TERT noted that Belize distinguishes between 'remaining' and 'converted to' land-use categories in CRTs 4.A–4.C and 4.E but could not find information on the conversion/transition time period applied for the land-use conversions in the NID or CRTs. Without this information, the TERT was unable to verify whether land-use conversions were correctly allocated between the 'converted to' and 'remaining' categories across the time series, in accordance with the 2006 IPCC Guidelines. During the review, the Party indicated that it applies the IPCC default transition period of 20 years for all conversions between land-use categories. The TERT recommends that Belize specify in the NID which conversion/transition period is applied for the 'converted to' land-use categories so that allocation of land-use transitions can be verified.
6.L.6	Specified in paragraphs 39–40 of the MPGs 4.A Forest land – CO_2, CH_4 and N_2O	Belize reported in NID table 6.3 that it used a tier 2 and tier 3 methodology with country-specific EFs for estimating emissions/removals from forest land. In NID sections 6.6.1–6.6.2 the Party described the AD for all forest land ('remaining' and 'converted to') categories. However, the TERT could not find detailed information on the specific methodology or the country-specific AD used to estimate emissions and removals from forest land; specifically, it is unclear from the provided information which equations and/or models were used to calculate the carbon stock change factors, which country-specific data were used, how the country-specific data were collected and which values were applied for each forest type. During the review, Belize provided a detailed explanation of the methodologies, country-specific AD and carbon stock change factors used, and how fieldwork is conducted. Belize applies the gain–loss methodology for forest land. Biomass gains are estimated using parameters such as forest area, average annual biomass increment, root-to-shoot ratios and carbon fraction. Biomass losses are estimated from wood removals, fuelwood extraction and disturbances. EFs are derived from carbon stock changes, integrating both growth and loss components and applying biomass conversion and expansion factors, carbon fraction and other relevant coefficients. Data are collected through the national forest inventory and field-based measurements. Further information on how carbon stock changes are estimated and the parameters used is available in Belize's modified forest reference level submission (section 4.8.8). The TERT recommends that Belize include in the NID a description of the subcategories that are included under 4.A forest land and detailed information on the methodologies, AD, parameters, carbon stock change factors and assumptions used to estimate emissions and removals from forest land, including references and sources of the reported information.
6.L.7	Specified in paragraphs 39–40 of the MPGs 4.B Cropland – CO_2 and CH_4	Belize provided information on AD (total cropland area) and emission trends for category 4.B cropland in NID section 6.7. However, the TERT could not find information on the methodologies applied to estimate carbon stock changes for this land use. It is unclear which crop types and management systems were considered, which AD and EFs were used for the various crop types and which equations were used to determine carbon stock changes for the cropland category. During the review, the Party explained that it used the gain–loss methodology to estimate carbon stock changes for cropland and provided a description of the three subcategories of cropland recognized in the country: cropland on which swidden farming (slash-and-burn agriculture) is practised, cropland on which intensive agriculture is practised and fallow land. Belize also provided the AD, EFs and parameters used with the methodology. The TERT recommends that Belize include in the NID a description of the subcategories that are included under 4.B cropland and detailed information on the

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		methodologies, AD, parameters, EFs and assumptions used to estimate emissions from cropland, including references and sources of the reported information.
6.L.8	Specified in paragraphs 39–40 of the MPGs 4.C Grassland – CO_2, CH_4 and N_2O	Belize provided information on AD (total grassland area) and emission trends for category 4.C grassland in NID section 6.8. However, the TERT could not find information on the methodologies applied to estimate carbon stock changes for this land use. It is unclear which grassland types, vegetation types and management practices were considered and how AD and EFs were determined. During the review, the Party explained that it used the gain–loss methodology to estimate carbon stock changes for grassland and provided a description of the eight subcategories of grassland recognized in the country: savannah (four types), shrubland, pasture, ferns and submountainous grassland. Belize also provided the AD, EFs and parameters used with the methodology. The TERT recommends that Belize include in the NID a description of the subcategories that are included under 4.C grassland and detailed information on the methodologies, AD, parameters, EFs and assumptions used to estimate emissions from grassland, including references and sources of the reported information.
6.L.9	Specified in paragraphs 31 and 40 of the MPGs 4.D Wetlands – CO_2, CH_4 and N_2O	Belize reported CO_2 emissions and removals for category 4.D wetlands as "NO" in CRT 4.D. The TERT noted that no explanation for the use of this notation key was provided in the NID or in CRT 9. Further, it was unclear to the TERT which types of wetlands occur in Belize. During the review, the Party clarified that it reported "NO" for category 4.D wetlands to indicate it is a particular source/sink category that does not occur in the country. The Party provided descriptions for two types of wetlands: coastal lagoons and inland water bodies. The TERT noted that the two types of wetlands are inconsistent with the use of the notation key "NO" for category 4.D wetlands. The TERT recommends that Belize describe the types of wetlands that occur in the country, reassess the use of the notation key "NO" for reporting category 4.D wetlands and explain in the NID the notation key used.
6.L.10	Specified in paragraphs 39–40 of the MPGs 4.E Settlements – CO_2	Belize provided information on AD (total settlements area) and emission trends for category 4.E settlements in NID section 6.10. However, the TERT could not find information on the methodologies applied to calculate emissions from settlements, such as the emissions from carbon stock changes in biomass, soil and dead organic matter reported in CRT 4.E. During the review, the Party explained that it used the gain–loss methodology to estimate carbon stock changes for settlements and provided the equations it used to estimate emissions from settlements. The TERT recommends that Belize include in the NID detailed information on the methodologies, AD, parameters, EFs and assumptions used to estimate emissions from settlements, including references and sources of the reported information.

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 39–40 of the MPGs 5. General (waste) – CO_2, CH_4 and N_2O	The TERT noted that Belize did not provide sufficient information in NID chapter 7 on the methods, assumptions, methodologies, AD, parameters and EFs applied at the most disaggregated level to estimate emissions for all categories and years of the inventory time series for the waste sector, as well as associated references and sources of information. During the review, Belize acknowledged that the NID does not include disaggregated information consistent with the requirements of the MPGs pertaining to the reporting of methodologies, assumptions, parameters, data and sources of information used in the waste sector. Belize provided the TERT with the complete set of calculation files for the waste sector from the IPCC inventory software. The TERT recommends that Belize report detailed information, by category and gas, on the methodologies, AD, parameters, EFs and assumptions used to estimate emissions for the waste sector, including references and sources of the reported information.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
7.W.2	Specified in paragraphs 35 and 46 of the MPGs 5. General (waste) – CO_2, CH_4 and N_2O	The TERT noted significant discrepancies in both the NID and the CRTs in relation to the reported parameters, EFs and emissions. The TERT, noting that the NID does not include information on specific QA/QC procedures for the waste sector, considers that the errors could be an indication of insufficient QA/QC for the sector. Identified discrepancies are as follows: (a) NID table 7.9 reports the use of an EF of 0.6 kg CH_4/kg BOD for category 5.A solid waste disposal on land, although this value was applied in the estimations for category 5.D.1 domestic wastewater treatment and discharge; (b) NID table 7.13 reports the use of a default maximum CH_4 producing capacity of 0.5 kg CH_4/kg BOD for category 5.D.1, although the value applied in the estimations was the default value, 0.6 kg CH_4/kg BOD, from the 2006 IPCC Guidelines (vol. 5, chap. 6, table 6.2); (c) NID table 7.13 reports the use of a value of 1.25 kg BOD/year for category 5.D.1, although the default value of 40 g/BOD/person from the 2006 IPCC Guidelines (vol. 5, chap. 6, table 6.4) and the default correction factor for additional industrial BOD discharged into sewers of 1.25 from the 2006 IPCC Guidelines (vol. 5, chap. 6, equation 6.3) were actually used; (d) Emissions for category 5.A reported in NID table 7.5 and NID figure 7.2 do not coincide with those reported in CRTs 5, 5.A, summary 1 and summary 2 or with the results obtained from the IPCC inventory software. During the review, Belize acknowledged the inconsistencies in the waste sector reporting and confirmed the limited application of QA/QC procedures, both of which resulted from time constraints. Belize indicated that it will correct these errors and improve the waste sector QA/QC procedures to avoid these types of error in the future and confirmed that ensuring that all documented parameters accurately reflect the values used in the estimations is a high-priority item of its QC improvement process. The TERT recommends that Belize strengthen the QA/QC procedures for the waste sector and report on those procedures in the NID. The TERT encourages Belize to (1) apply category-specific QC procedures, in accordance with the 2006 IPCC Guidelines (vol. 1, chap. 6.7), for category 5.A solid waste disposal on land if this category becomes a key category (see ID# 7.W.3 below); and (2) conduct a basic expert peer review of the waste sector, in accordance with the 2006 IPCC Guidelines (vol. 1, chap. 6.8).
7.W.3	Specified in paragraph 21 of the MPGs 5.A Solid waste disposal on land – CH_4	The TERT noted that the CH_4 emissions for category 5.A solid waste disposal on land reported in both the NID and CRTs 5, 5.A, summary 1 and summary 2 for the whole time series are significantly lower (by at least two orders of magnitude) than the emissions reported by other countries with similar national circumstances to those of Belize. The TERT also noted that the default (tier 1) method from the 2006 IPCC Guidelines (vol. 5, chap. 3.2.1) requires the application of the FOD model with annual data on solid waste disposal (amount, composition and management practices) for at least 50 years in order to capture the slow decomposition of organic matter in waste. However, while Belize used the IPCC FOD model, it only used AD for 1994, 1997, 2000, 2003, 2006, 2009 and 2011–2022, resulting in an underestimation of emissions. The TERT further noted that Belize's estimations were based on daily, rather than annual, per capita waste generation rates (as reported in NID section 7.4.2.2), resulting in an underestimation of total solid waste disposal quantities by a factor of 365. In addition, the TERT noted that the percentage composition of waste used by Belize (as reported in NID table 7.8) does not sum to 100 per cent, meaning some waste fractions in category 5.A were unaccounted for. The TERT considers that correcting all these errors leading to underestimations in emissions would most likely result in CH_4 emissions for category 5.A becoming a key category. During the review, Belize confirmed that the IPCC FOD model was only applied for the reported inventory years, with no multi-decadal decay accumulation, because historical waste disposal data prior to 1994 were not available at the required granularity. Belize acknowledged the default (tier 1) methods from the 2006 IPCC Guidelines for addressing data gaps and expressed its intention to apply them to category 5.A to construct a complete time series, starting from 1950, for use with the FOD model. Belize also acknowledged the error in the use of daily

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		instead of annual per capita waste generation rates. Belize clarified that waste composition values were obtained from the only two available waste characterization studies cited in NID section 7.4.2.2 and expressed its intention to review the underlying data and assumptions of those studies in order to correct the waste composition fractions such that they sum to 100 per cent. Belize indicated that it aims to improve future data on waste generation rates, composition and treatment as part of its inventory improvement plan (NID table 10.2). The TERT recommends that Belize, in estimating CH_4 emissions for category 5.A solid waste disposal on land, (1) apply the IPCC FOD model using annual data and a complete time series starting in 1950, approximating historical data in accordance with the default method set out in the 2006 IPCC Guidelines (vol. 5, chap. 3.2.2) where necessary; (2) apply annual, not daily, waste generation rates; and (3) ensure that the percentage composition of waste sums to 100 per cent. The TERT encourages Belize to make every effort to use a tier 2 method for estimating emissions for category 5.A if category 5.A becomes a key category as a result of implementing the above-mentioned recommendation.
7.W.4	Specified in paragraphs 31, 32, 45 and 47 of the MPGs 5.B.1 Composting – CH_4 and N_2O	Belize did not estimate CH_4 or N_2O emissions for category 5.B.1 composting and did not provide an explanation as to why the emissions were not estimated. Further, the TERT noted the following inconsistencies in the use of notation keys for this category: NID table 2.1 reports a value of 0, NID table 2.2 reports "NO", NID tables 7.1–7.2 report "NA" and CRTs 5, 5.B, summary 1 and summary 2 report "NE" and "NO" for the whole time series. During the review, Belize acknowledged the errors in notation key application. Belize explained that informal household and community composting occurs in the country, but its scale is negligible and thus composting is not recorded as a managed activity. Belize clarified that some data are available from an ongoing pilot composting project. The TERT recommends that Belize estimate and report CH_4 and N_2O emissions for category 5.B.1 composting or provide information demonstrating the insignificance of emissions for this category and justifying the use of the notation key "NE", in line with paragraph 32 of the MPGs.
7.W.5	Specified in paragraph 31 of the MPGs 5.B.2 Anaerobic digestion at biogas facilities – CH_4 and N_2O	The TERT noted the following inconsistencies in Belize's use of notation keys to report CH_4 and N_2O emissions for category 5.B.2 anaerobic digestion at biogas facilities: NID table 2.1 reports a value of 0, NID tables 2.2, 7.1 and 7.2 report "NO" and CRTs 5, 5.B, summary 1 and summary 2 report "NE" and "NO" for the whole time series. The TERT also noted that the NID does not include an explanation for the use of these notation keys. During the review, Belize clarified that anaerobic digestion of waste does not occur in the country and acknowledged the errors in notation key application. The TERT recommends that Belize use the notation key "NO" to report CH_4 and N_2O emissions for category 5.B.2 anaerobic digestion at biogas facilities and document in the NID that this activity does not occur in the country.
7.W.6	Specified in paragraphs 31–32 and 47 of the MPGs 5.C.1 Waste incineration – CO_2, CH_4 and N_2O	Belize did not estimate CO_2, CH_4 or N_2O emissions for category 5.C.1 waste incineration, reporting the emissions as "NE" in both the NID and CRTs 5, 5.C, summary 1 and summary 2 and explaining in NID table 1.4 that emissions for this category were not estimated owing to data constraints. The TERT noted that, according to the 2006 IPCC Guidelines (vol. 5, chap. 5.3.1), waste incineration in developing countries is likely to take place only in minor quantities, and thus the associated emissions under category 5.C.1 are potentially insignificant. During the review, Belize confirmed that there are no registered incinerators or procedures for recording quantities of incinerated waste in the country. Belize clarified that it considers waste incineration to be insignificant in the country as it only occurs in limited quantities at some healthcare facilities. Belize noted that isolated efforts have been made in the past to estimate data on healthcare waste incineration. The TERT recommends that Belize estimate and report CO_2, CH_4 and N_2O emissions for category 5.C.1 waste incineration or provide information demonstrating the insignificance of emissions for this category in order to justify

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		continued use of the notation key "NE" to report them, in line with paragraph 32 of the MPGs.
7.W.7	Specified in paragraphs 21, 31 and 47 of the MPGs 5.C.2 Open burning of waste – CO_2, CH_4 and N_2O	Belize did not estimate CO_2, CH_4 or N_2O emissions for category 5.C.2 open burning of waste, using the notation key "NE" and "NO" to report the category in both the NID and CRTs 5, 5.C, summary 1 and summary 2. The Party explained in NID table 1.4 that emissions for the category were not estimated owing to data and methodological constraints, as this activity is not officially recorded. The TERT noted that Belize did not apply the default method from the 2006 IPCC Guidelines (vol. 5, chap. 5.3.2) for estimating the amount of waste burned in the open when AD are not available, which state that, by default, the fraction of the population burning waste out in the open in developing countries can be assumed to be the sum of the population whose waste is not covered by structured collection services and the population whose waste is collected and disposed of in open dumps. During the review, Belize confirmed that open burning of waste is broadly conducted by communities without access to waste collection services and/or transfer stations. Belize indicated that data gaps related to the open burning of waste will be addressed as part of the waste sector inventory improvement plan (NID table 10.2) and that enhanced methodologies will be integrated into the inventory to improve its completeness. The TERT recommends that Belize estimate and report CO_2, CH_4 and N_2O emissions for category 5.C.2 open burning of waste by either collecting country-specific AD on the quantity of waste burned in the open in the country or applying the default methods and assumptions provided by the 2006 IPCC Guidelines (vol. 5, chap. 5.3.2).
7.W.8	Specified in paragraph 21 of the MPGs 5.D.1 Domestic wastewater – CH_4	Belize reported in NID section 7.6.2.2 the assumption that domestic and industrial wastewater are combined and treated under general conditions but did not specify the correction factor applied to account for the additional industrial BOD discharged into domestic sewers. The TERT noted that, according to the 2006 IPCC Guidelines (vol. 5, chap. 6, equation 6.3), the default correction factor for additional industrial BOD discharged into sewers of 1.25 is used when the pathway/system leads to collection (e.g. centralized shallow lagoons) and the default value of 1.00 is used when it does not (e.g. septic systems and latrines). The TERT noted that the uniform application of the value of 1.25 for this parameter leads to an overestimation of CH_4 emissions for category 5.D.1. During the review, Belize acknowledged its oversight in applying the single correction factor for additional industrial BOD discharged into sewers of 1.25 for all domestic wastewater treatment and disposal pathways/systems rather than differentiating by collected pathway/system (value of 1.25) and uncollected pathway/system (value of 1.00). Belize clarified that this oversight is attributable to both lack of implementation of QC procedures and limited technical expertise of the inventory compilers. The TERT recommends that Belize, in estimating CH_4 emissions for category 5.D.1 domestic wastewater treatment and discharge, differentiate between treatment and disposal pathways/systems when applying the correction factor for additional industrial BOD discharged into sewers, using the default value of 1.25 for collected pathways/systems and the default value of 1.00 for uncollected pathways/systems, in accordance with the 2006 IPCC Guidelines (vol. 5, chap. 6, equation 6.3).
7.W.9	Specified in paragraphs 21 and 47 of the MPGs 5.D.2 Industrial wastewater – CH_4	Belize used the notation key "NE" to report CH_4 emissions for category 5.D.2 industrial wastewater treatment and discharge. In NID section 7.6.2.2 the Party states that category 5.D.2 was not estimated because of a lack of consistent AD and specific information about the treatment of industrial wastewater. During the review, Belize clarified that the share of industrial wastewater that is discharged into domestic wastewater treatment systems was included under category 5.D.1 by applying the correction factor for additional industrial BOD discharged into sewers. Belize also clarified that, while in situ industrial wastewater treatment takes place in the country, there is a lack of consistent AD on the quantities and types, which is the reason for not estimating emissions for category 5.D.2. Belize indicated that as part of the waste sector inventory improvement plan (NID table 10.2) the country aims to implement industrial

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		wastewater treatment and discharge monitoring protocols that will enable it to estimate and report emissions for category 5.D.2. The TERT recommends that Belize initiate data collection regarding in situ industrial wastewater treatment in order to obtain the AD necessary for estimating and reporting CH_4 emissions for category 5.D.2 industrial wastewater treatment and discharge.

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*
10.1	Specified in paragraphs 67–68 of the MPGs	In the BTR1, Belize provided a description of its NDC and selected indicator for measuring progress in achieving the NDC target, namely, emissions avoided per year (in kt CO_2 eq) compared with a baseline 'business as usual' projection between 2021 and 2030. However, the TERT noted that the BTR1 does not provide sufficient information to enable an understanding of how progress will be assessed in practice. The BTR1 also presents sectoral mitigation targets in the BTR chapter for tracking progress towards the NDC and descriptions of sectoral mitigation actions, including indicative mitigation outcomes expressed in kt CO_2 eq. However, it was not clear to the TERT whether this information is intended to inform the assessment of progress against the 'business as usual' scenario for that indicator, and if so, how. In addition, the BTR1 does not include year-by-year values for the selected indicator for the NDC implementation period. During the review, Belize confirmed that it did not report a quantified assessment of progress in achieving its NDC target (avoided emissions relative to the 'business as usual' scenario) in the BTR1. Belize explained that elements of progress tracking are undertaken through monitoring the implementation of PaMs at the project level and through sectoral indicators where available, and that these practices informed the narrative information provided as an approximation of progress. Belize indicated that for the BTR2 it intends to report information on mitigation PaMs under the PaMs chapter. It also intends to track progress in achieving the NDC target by comparing inventory emission and removal estimates with the 'business as usual' reference scenario underpinning the target and to reflect this approach more clearly in the BTR2. The TERT recommends that Belize (1) apply a consistent approach to tracking progress in achieving its NDC target using its chosen indicator (emissions avoided relative to a baseline 'business as usual' projection); (2) clearly describe the approach in the BTR, including how avoided emissions are calculated and how inventory updates (including any revisions) are reflected in the approach; and (3)

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		provide the most recent year-by-year values for the selected indicator for the NDC implementation period.
10.2	Specified in paragraph 72 of the MPGs	Belize did not report in its BTR1 information on how its accounting approach and reporting is consistent with decision 4/CMA.1. During the review, Belize acknowledged that it did not clearly indicate in its BTR1 how its reporting and accounting approach is consistent with decision 4/CMA.1. Belize indicated that it considers its reporting to be consistent with the decision because it has aligned the BTR1 with the NIR, addressed the requirements of the MPGs and is making ongoing efforts to develop a national MRV system. The Party noted that while data and institutional capacity constraints remain, it intends to improve the clarity and strengthen the consistency of information reported in its BTR2, including by implementing its national MRV system. The TERT recommends that Belize clearly indicate in its BTR how its reporting is consistent with decision 4/CMA.1.
10.3	Specified in paragraph 74 of the MPGs	While Belize provided in its BTR1 a description of its NDC target, namely, economy-wide avoided emissions of 5,647 kt CO_2 eq between 2021 and 2030 relative to a baseline 'business as usual' projection and identified the baseline year, the Party did not provide information on the methodologies and/or accounting approaches used for (1) tracking progress in implementing and achieving the target; (2) constructing the baseline for the 'business as usual' projection underpinning the target; and (3) tracking the indicator selected to track progress in achieving the target. During the review, Belize clarified that information on the methodologies and/or accounting approaches related to its NDC target, including those used for constructing the 'business as usual' projection and the indicator used to track progress, was not included in the BTR1 because it was not available to the national team at the time of drafting the relevant chapter. Belize explained that the most recent NDC update, including work related to the 'business as usual' projection, was undertaken by consultants and that it is unclear whether the underlying information and data used for constructing the projection were handed over to the national team and, if so, whether they are still accessible given that staff turnover occurred during preparation of the BTR1. The Party indicated that the preparation of the BTR1 highlighted challenges related to national data management and archiving that affect data availability. Belize indicated its intention to address these challenges and strengthen its reporting on methodologies, assumptions and parameters in its BTR2. The TERT recommends that Belize provide information on the methodologies and/or accounting approaches used in relation to its NDC target, including those used for constructing and maintaining the 'business as usual' projection scenario used as the baseline.
10.4	Specified in paragraph 75 of the MPGs	Belize did not report in its BTR1 information on key parameters, assumptions, definitions, data sources, models, IPCC guidelines and metrics used in relation to the methodologies and/or accounting approaches for its NDC target, as required by paragraph 75(a–c) of the MPGs. In particular, the TERT found no such information for the indicator selected by Belize, which is defined as emissions avoided per year relative to a baseline 'business as usual' projection. Moreover, given that Belize's overall NDC target is economy-wide and includes LULUCF in its coverage, the TERT considers that the land-use elements of paragraph 75(d) of the MPGs are relevant; however, Belize did not include information on the approaches used to account for emissions and removals from natural disturbances and harvested wood products and the effects of age-class structure in forests. During the review, Belize indicated that the national GHG inventory, which underpins the tracking of its progress in mitigation, is prepared in accordance with the 2006 IPCC Guidelines, drawing on national AD and supplemented, where necessary, by regional and default EFs, uses global warming potential values from the Fifth Assessment Report of the IPCC, and is reported in the NIR and CRTs. Belize explained that methodologies for tracking progress resulting from the implementation of PaMs are not yet formalized, with current practices relying on project-level monitoring, sectoral indicators, where available, and qualitative assessments. Belize identified limited country-specific data, the absence of

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		integrated modelling tools, and institutional and technical capacity constraints as key challenges in this context and noted that it is working to address these challenges by developing a national MRV system and improving data-collection frameworks with a view to providing more comprehensive and explicit information in its BTR2. The TERT recommends that Belize provide information on key parameters, assumptions, definitions, data sources, models, IPCC guidelines and metrics used in relation to its NDC target; and any sector-, category- or activity-specific assumptions, methodologies and approaches consistent with IPCC guidance relevant to its NDC.
10.5	Specified in paragraphs 77 and 79 of the MPGs	Belize did not report the information necessary to track progress towards its NDC in a structured summary, which, in accordance with paragraph 79 of the MPGs, should be presented in narrative format and in CTF tables. During the review, the Party informed the TERT that it did not submit the structured summary in narrative format or in CTF tables in its BTR1 submission owing to data gaps (including incomplete time series of emissions and incomplete sectoral AD), limited quantified information on the impacts of PaMs and the absence of a 'business as usual' projection framework aligned with NDC accounting. Belize noted that limited technical capacity and experience in preparing the CTF tables contributed to not submitting the structured summary. Belize also noted that it is working to strengthen its national MRV system and that it requires capacity-building support in this regard. The Party indicated that it aims to submit the structured summary and CTF tables with its BTR2. The TERT recommends that Belize provide the information necessary to track progress in implementing and achieving its NDC in a structured summary and report such information in narrative format and using CTF tables.

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 of the MPGs	Belize reported information on several mitigation-related actions and PaMs in narrative format in its BTR1. However, Belize did not present this information in tabular format in CTF table 5. During the review, Belize clarified that it did not report this information in tabular format in CTF table 5 owing to capacity and data constraints. Belize explained that it lacks capacity and experience in completing the CTF tables for reporting on PaMs and that the data needed to populate CTF table 5 were not available. Belize noted that it also lacks the capacity to estimate the impacts of PaMs and indicated that it requires support to strengthen its capacity to report information on PaMs in tabular format in future BTRs. The TERT recommends that Belize report information on its mitigation actions and PaMs, to the extent possible, in tabular format using CTF table 5.
11.2	Specified in paragraph 89 of the MPGs	Belize did not provide information in its BTR1 about how its actions and PaMs are modifying longer-term trends in GHG emissions and removals. During the review, Belize clarified that it did not include this information in the BTR1 owing to capacity constraints, including limited technical capacity to estimate or assess the impacts of actions and PaMs on longer-term GHG emission and removal trends, and indicated that it requires training and methodological support in this regard. The Party noted that the national team is small and relies on consultants for preparing projections and estimates of emission reductions. Belize informed the TERT that it is therefore not able to report this information, while noting that measures such its low-emission development strategy, National Climate Change Policy, Strategy and Master Plan, and REDD+ strategy are expected to influence longer-term trends in emissions and removals.

ID#	*Reporting requirement*	*Description of area of improvement with recommendation or encouragement*
		The TERT encourages Belize to provide information, to the extent possible, on how its actions and PaMs are modifying longer-term trends in GHG emissions and removals or explain in the BTR why this is not possible.
11.3	Specified in paragraph 90 of the MPGs	Belize did not provide detailed information on the assessment of the economic and social impacts of response measures. During the review, Belize clarified that it did not include this information in its BTR1 owing to capacity constraints that limited its ability to carry out an assessment of the economic and social impacts of response measures. Belize indicated that it has identified this as an area of improvement and that it needs training and capacity-building support to enhance the collection and management of data that would enable it to assess and report on these impacts in future BTRs. The TERT encourages Belize to provide detailed information, to the extent possible, on the assessment of the economic and social impacts of response measures or explain in the BTR why this is not possible.

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*
NA	NA	No areas of improvement identified

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*
NA	NA	No areas of improvement identified

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

II. Capacity-building needs[3] identified by the Party and by the technical expert review team in consultation with the Party during the technical expert review of its first biennial transparency report

2. Table 15 presents capacity-building needs identified by the Party and by the TERT in consultation with the Party during the technical expert review of its BTR1.

Table 15
Capacity-building needs identified in consultation with the Party

ID#	*Reporting requirement*	*Area in which capacity-building is needed*
General reporting		
1_CBN.1[a]	Specified in paragraphs 29, 48 and 57 of the MPGs	Strengthening stakeholder engagement in data collection in order to close identified gaps in AD for all sectors across the GHG inventory and thus enable the assessment of quantitative uncertainty, the inclusion of all gases in the inventory and the reporting of a complete time series (high priority)

[3] As referred to in paras. 7, 8 and 162(d) of the MPGs.

ID#	*Reporting requirement*	*Area in which capacity-building is needed*
1_CBN.2[b]	Specified in paragraphs 34–36 and 46 of the MPGs	Conducting both inventory-level and category-specific QA/QC procedures, particularly by national GHG inventory sectoral team leads (high priority)
1_CBN.3	Specified in paragraphs 20–21 of the MPGs	Applying the 2006 IPCC Guidelines and using the IPCC inventory software, including by receiving training on its use, its interoperability with the ETF reporting tools, and the compilation, validation and export of CRTs (high priority)
NIR – general		
NA	NA	No capacity-building needs identified
NIR – energy		
3.E_CBN.1	Specified in paragraph 23 of the MPGs	Developing a country-specific CO_2 EF for fuel combustion under the energy sector, particularly for category 1.A.3.b road transportation, which is a key category, by conducting studies to determine the fuel-specific carbon content of fuels consumed in the country, taking into account the different sources of imported fuels (high priority)
3.E_CBN.2	Specified in paragraph 36 of the MPGs	Strengthening institutional and technical capacities to improve the completeness, consistency, accuracy and disaggregation of national energy balance data across the inventory time series, and to improve the quality of the comparison between the sectoral and reference approaches (medium priority)
NIR – IPPU		
4.I_CBN.1[a, b]	Specified in paragraphs 47 and 49 of the MPGs	Establishing a data-collection framework for fluorinated gases in order to identify single gas species and blends of gases imported into Belize, both in bulk and in equipment; report a complete time series of AD for each gas and blend, from the first year of introduction to the latest year of reporting; and determine the end-use applications of gases and blends and any relevant growth rates in use of equipment to enable development of a consistent time series (medium priority)
NIR – agriculture		
5.A_CBN.1	Specified in paragraphs 21, 26, 27, 33 and 47 of the MPGs	Enhancing the collection of data on (1) the application of synthetic fertilizers, including information on fertilizer type and N content, (2) the population of mules and asses and of buffaloes and (3) the application of limestone and dolomite used for liming (medium priority)
5.A_CBN.2	Specified in paragraphs 21 and 23 of the MPGs	Collecting the AD necessary for enabling application of a tier 2 method for estimating CH_4 emissions from enteric fermentation of cattle by conducting studies to gather information for different categories of cattle on, for example, animal weight, average daily weight gain, digestibility rate, amount of milk produced, fat content of milk and number of hours of work per day, and by enhancing the functionality of the Belize Livestock Registry and the capacity of the Belize Livestock Producers Association to collect livestock performance data (high priority)
NIR – LULUCF		
6.L_CBN.1	Specified in paragraph 26 of the MPGs	Establishing a complete and consistent time series of AD for key categories of the LULUCF sector and significant carbon pools by integrating additional data and/or applying splicing techniques consistent with the 2006 IPCC Guidelines for unreported years (high priority)
6.L_CBN.2	Specified in paragraphs 39–40 of the MPGs	Improving the clarity and transparency of documentation for the LULUCF sector inventory, including methodologies, assumptions, data sources and preparation procedures (medium priority)
NIR – waste		

ID#	*Reporting requirement*	*Area in which capacity-building is needed*
7.W_CBN.1	Specified in paragraph 21 of the MPGs	Identifying data requirements for the waste sector; applying category-specific default methodologies, assumptions, AD, parameters and EFs from the 2006 IPCC Guidelines in estimating emissions for the waste sector; and applying category-specific default methods from the 2006 IPCC Guidelines for addressing data gaps to allow the estimation of emissions for categories 5.A solid waste disposal on land and 5.C incineration and open burning of waste, including by receiving training thereon (high priority)
Information necessary to track progress in implementing and achieving the NDC under Article 4 of the Paris Agreement		
8_CBN.1[a]	Specified in paragraph 85 of the MPGs	Estimating the expected and achieved effects of PaMs related to implementing and achieving the NDC and monitoring the implementation of PaMs, at both the technical and the institutional level (high priority)
8_CBN.2[a, b]	Specified in paragraphs 92–102 of the MPGs	Developing and reporting GHG emission projections and updating the baseline 'business as usual' projection (medium priority)
8_CBN.3	Specified in paragraphs 67 and 74 of the MPGs	Updating and maintaining the 'business as usual' scenario over time, and improving institutional arrangements for data management, by receiving technical assistance thereon (high priority)
8_CBN.4	Specified in paragraphs 74–76 of the MPGs	Conducting a comparison between the baseline 'business as usual' scenario and emissions and removals estimated as part of the national GHG inventory for the purpose of tracking progress in implementing and achieving the NDC (high priority)
8_CBN.5	Specified in paragraphs 79–80 of the MPGs	Using the ETF reporting tools to support preparation and submission of CTF tables, including receiving training thereon (low priority)

[a] Capacity-building need identified by the TERT in consultation with the Party relating to the flexibilities applied by it as per the MPGs.

[b] Capacity-building need identified by the Party in its BTR1.

Annex

Documents and information used during the review

A. Reference documents

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B. Additional information provided by the Party

Responses to questions during the review were received from Edalmi Pinelo and Kamil Salazar (Ministry of Sustainable Development, Climate Change and Solid Waste Management of Belize), including additional material.