



United Nations

FCCC/ETF/TERR.1/2024/CUB



Framework Convention on
Climate Change

Distr.: General
28 August 2026

English only

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

Summary

This report presents the results of the technical expert review of the first biennial transparency report of Cuba, 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, and 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 Bonn.

* 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

A6.4ER	emission reduction under Article 6, paragraph 4, of the Paris Agreement
BTR	biennial transparency report
CER	certified emission reduction
CH ₄	Methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
CRT	common reporting table
CTF	common tabular format
ETF	enhanced transparency framework under the Paris Agreement
FAOSTAT	statistical database of the Food and Agriculture Organization of the United Nations
F-gas	fluorinated gas
GHG	greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
IPPU	industrial processes and product use
ITMO	internationally transferred mitigation outcome
LED	light-emitting diode
LULUCF	land use, land-use change and forestry
MPGs	modalities, procedures and guidelines for the transparency framework for action and support referred to in Article 13 of the Paris Agreement
N ₂ O	nitrous oxide
NA	not applicable
NDC	nationally determined contribution
NE	not estimated
NF ₃	nitrogen trifluoride
NID	national inventory document
NR	not reported
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)
RES	renewable energy source(s)
SF ₆	sulfur hexafluoride
TERT	technical expert review team
UA	information not available at the time of reporting

I. Introduction and summary

A. Introduction

1. This report covers the technical expert review of the BTR1 of Cuba. The review was organized by the secretariat and conducted by the TERT in accordance with the MPGs,¹ particularly chapter VII thereof. Cuba, on a voluntary basis, requested the secretariat to organize a review of the information reported in the BTR1 pursuant to chapter IV of the MPGs as part of the technical expert review.² The outcome of the voluntary review is presented in annex I.

2. A draft version of this report was transmitted on 2 July 2026 to the Government of Cuba, which provided comments, on 29 July 2026, that were taken into account, as appropriate, in this final version of the report.³

3. The review was conducted as a centralized review from 4 to 8 May 2026 in Bonn⁴ by the following team of nominated experts from the UNFCCC roster of experts: Buket Akay (Türkiye), Laura Aranguren (Colombia), Violeta Hristova (Bulgaria), Mattias Lundblad (Sweden), Macarena Maia Moreira (Argentina), María Tomé Nuez (Spain) and Mauro Santos (Brazil). Violeta Hristova and Mauro Santos were the lead reviewers. The review was coordinated by Ruta Bubniene and Stefania D'Annibali (secretariat).

4. Developing country Parties seeking to obtain and receive payments for results-based REDD+ actions can submit relevant information and data in a technical annex to the BTR.⁵ The submission of the technical annex is voluntary and in the context of results-based payments.⁶ The technical annex submitted by Cuba was subject to technical analysis by two LULUCF experts concurrently with the technical expert review.⁷ The results of the technical analysis are captured in a separate technical report.⁸

B. Scope

5. The TERT conducted a technical expert review of the information reported in the BTR1 of Cuba as per the scope of the review defined in paragraph 146 of the MPGs and decision 9/CMA.4, consisting of:

(a) Review of the consistency of the information submitted by the Party under Article 13, paragraphs 7 and 9, of the Paris Agreement with the MPGs taking into account the flexibility accorded to the Party under Article 13, paragraph 2, of the Paris Agreement (see chap. II.A below);

(b) Consideration of the Party's implementation and achievement of its NDC under Article 4 of the Paris Agreement (see chap. II.B below);

(c) Identification of areas of improvement⁹ for the Party related to implementation of Article 13 of the Paris Agreement (see chap. II.D below);

(d) Assistance in identifying capacity-building needs (see chap. II.E below);

¹ Decision 18/CMA.1, annex.

² See decision 9/CMA.4, para. 1.

³ As per para. 162(e) of the MPGs.

⁴ Owing to national circumstances at the time of the review, in consultation with the Party the format of the review was changed from an in-country to a centralized review.

⁵ See decisions 14/CP.19, para. 7; 1/CP.24, para. 45; and 18/CMA.1, para. 14.

⁶ See decision 14/CP.19, para. 8.

⁷ See decisions 14/CP.19, paras. 10–14; 1/CP.24, para. 46; and 18/CMA.1, para. 14.

⁸ See document FCCC/ETF/TATR.1/2026/CUB, to be made available upon publication at https://redd.unfccc.int/submissions/by-country/country_detail/cub.html.

⁹ As referred to in paras. 7, 8, 146(d) and 162(d) of the MPGs.

(e) Voluntary review of the information reported by the Party pursuant to chapter IV of the MPGs (see annex I).

C. Summary

6. Cuba submitted its BTR1 on 31 December 2024, on the deadline mandated in decision 18/CMA.1. Cuba submitted its NID as a stand-alone document on 31 December 2024, on the deadline. Cuba submitted its CRTs on 14 April 2025, after the deadline, and CTF tables on 31 December 2024, on the deadline.¹⁰ The TERT noted that the Party applied discretion in relation to the timing of its submission in accordance with paragraph 4 of decision 18/CMA.1.

7. A list of the areas of improvement identified on the basis of the review of the consistency of the reported information with the MPGs can be found in the assessment tables.¹¹

8. The Party applied flexibility as provided for those developing country Parties that need it in the light of their capacities pursuant to Article 13, paragraph 2, of the Paris Agreement in relation to the national inventory report of anthropogenic GHG emissions by sources and removals by sinks¹² and the information necessary to track progress in implementing and achieving its NDC.¹³ Information on where the flexibility was applied is included in chapters II.A.1–II.A.2 below.

D. Information provided by the Party pursuant to paragraphs 143–145 of the modalities, procedures and guidelines

9. Cuba did not report information on support needed and received for implementing Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity-building. Specifically, the TERT noted that the narrative part of the BTR does not include details of such support, while “NR” was reported in cells in CTF table III.12 and “UA” was reported in cells in CTF table III.13. During the review, in response to a request from the TERT, Cuba clarified that in the reporting period (2021–2022) Global Environment Facility support was not yet available. The Party also explained that, although it has identified the areas requiring strengthening for the implementation of Article 13, a formal methodology for estimating the financial resources required for these activities has not yet been identified. The TERT noted that the above-mentioned information reported by the Party is not subject to review as per the scope of the review defined in paragraph 146 of the MPGs.

¹⁰ The technical expert review was conducted on the basis of the revised versions of the BTR1 and the NID submitted on 31 March 2025 and the revised versions of the CTF tables submitted on 2 April 2025.

¹¹ Contained in document FCCC/ETF/TERR.1/2024/CUB/Add.1, available at <https://unfccc.int/first-biennial-transparency-reports>.

¹² The developing country Party applied flexibility in the light of its capacities with respect to the provision in para. 48 of the MPGs.

¹³ The developing country Party applied flexibility in the light of its capacities with respect to the provision in para. 92 of the MPGs.

II. Technical expert review¹⁴

A. Review of the consistency of the submitted information with the modalities, procedures and guidelines¹⁵

1. National inventory report¹⁶

10. The TERT assessed the information reported in the BTR1 of Cuba and identified areas of improvement relating to consistency with the MPGs, which are described in tables 2–7 of the assessment tables referred to in paragraph 7 above and summarized in table 1.

¹⁴ As per para. 187 of the MPGs.

¹⁵ As per para. 146(a) of the MPGs.

¹⁶ As per para. 150(a) of the MPGs.

Table 1

Information reported in Cuba's national inventory report and review of consistency with the modalities, procedures and guidelines

<i>Element</i>	<i>Information to be reported</i>	<i>Response and summary as relevant</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
Submission type (para. 12 of the MPGs)	Has the national inventory report been submitted as a stand-alone document?	Yes	No areas of improvement relating to recommendations were identified
Time series (paras. 57–58 of the MPGs)	What years have been reported and is the time series in accordance with the MPGs?	1990–2022, in accordance with the MPGs	No areas of improvement relating to recommendations were identified
Metrics (para. 37 of the MPGs)	Has the Party used the 100-year global warming potential values from the Fifth Assessment Report of the IPCC?	Yes	No areas of improvement relating to recommendations were identified
	Has the Party used other metrics?	No	No areas of improvement relating to recommendations were identified
Gases (paras. 48–49 of the MPGs)	Which gases have been reported? ^b	CO ₂ , CH ₄ , N ₂ O, SF ₆ , NF ₃	No areas of improvement relating to recommendations were identified
Indirect emissions (para. 52 of the MPGs)	Has the Party reported indirect CO ₂ emissions and national totals with and without indirect CO ₂ ?	No	No areas of improvement relating to recommendations were identified
	Has the Party reported indirect N ₂ O emissions from sources other than those in the agriculture and LULUCF sectors as a memo item?	No	NA
National circumstances and institutional arrangements (paras. 18–19 of the MPGs)	Has the Party reported information on the functions related to inventory planning, preparation and management?	Yes	No areas of improvement relating to recommendations were identified
Methodologies, parameters and data (paras. 20–24 of the MPGs)	Has the Party used the <i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i> ?	Yes	No areas of improvement relating to recommendations were identified
	Has the Party used other IPCC methodological guidance?	Yes, the <i>2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>	No areas of improvement relating to recommendations were identified

<i>Element</i>	<i>Information to be reported</i>	<i>Response and summary as relevant</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
Key category analysis (paras. 25, 41 and 42 of the MPGs)	Has the Party reported a key category analysis?	Yes, a key category analysis was performed using approach 1 and a 95 per cent threshold for level and trend assessment for the starting inventory year (1990) and the latest reporting year (2022) and with and without LULUCF	No areas of improvement relating to recommendations were identified
Time-series consistency and recalculations (paras. 26–28, 43 and 57 of the MPGs)	Has the Party reported a consistent time series?	Partly	3.E.4
	Has the Party reported recalculations and provided justification and explanatory information for them?	Yes, in relation to its biennial update report submission under the Convention	No areas of improvement relating to recommendations were identified
Uncertainty assessment (paras. 29 and 44 of the MPGs)	Has the Party reported the results of the uncertainty analysis and the methods used, underlying assumptions and trends?	Partly, including level and trend uncertainty, reported using approach 1, but only for the latest reporting year (2022)	2.G.2
QA/QC plan and procedures (paras. 34–36 and 46 of the MPGs)	Has the Party elaborated information on an inventory QA/QC plan, including information on the inventory agency responsible for implementing QA/QC, and current and future QA/QC procedures?	Yes, including information on the inventory agency responsible for implementing QA/QC, an inventory QA/QC plan, general QC procedures, and category-specific QC for key categories and for individual categories for which significant methodological changes and/or data revisions have occurred	No areas of improvement relating to recommendations were identified
Assessment of completeness (paras. 30–33, 45, 47 and 50 of the MPGs)	Have any areas of improvement for lack of completeness been identified for the following sectors?	Yes	2.G.1
	Energy	Yes	3.E.6, 3.E.8
	IPPU	No	No areas of improvement relating to recommendations were identified
	Agriculture	Yes	5.A.3, 5.A.4
	LULUCF	Yes	6.L.1, 6.L.7
	Waste	Yes	7.W.3, 7.W.4
Threshold for reporting significant categories (para. 32 of the MPGs)	Are the estimated emissions for all categories and in total for all gases and	No	2.G.1

<i>Element</i>	<i>Information to be reported</i>	<i>Response and summary as relevant</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
Methodologies, emission factors, parameters and activity data (paras. 39, 40 and 53–56 of the MPGs)	categories reported insignificant below the relevant thresholds?		
	For categories reported as “NE” owing to insignificance, has information been reported showing that the likely level of emissions is below the threshold of significance?	No	NA
	Has information been transparently reported on categories, gases, methodologies (including the rationale for selecting them), emission factors and activity data at a disaggregated level for the following sectors?		
	Energy	Partly	3.E.1
	Has information been reported on international aviation and marine bunker fuel emissions as two separate entries and such emissions distinctly reported from national totals?	Partly	NA
	Has information been reported indicating how feedstocks and non-energy use of fuels have been accounted for in the inventory, under the energy or IPPU sector?	No	NA
	IPPU	Partly	4.I.1, 4.I.3
	Agriculture	Partly	5.A.1, 5.A.2
	LULUCF	Partly	6.L.4, 6.L.5, 6.L.8
	Waste	Partly	7.W.1, 7.W.2, 7.W.4

^a See document FCCC/ETF/TERR.1/2024/CUB/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.

^b The developing country Party applied flexibility in the light of its capacities with respect to this provision.

2. Information necessary to track progress in implementing and achieving the nationally determined contribution¹⁷

11. The TERT assessed the information reported in the BTR1 of Cuba and identified areas of improvement relating to consistency with the MPGs, which are described in tables 8–11 and 13 of the assessment tables referred to in paragraph 7 above and summarized in table 2.

Table 2

Information reported in Cuba's submission

<i>Topic</i>	<i>ID#(s) for the area(s) of improvement identified^a</i>
National circumstances and institutional arrangements (paras. 59–63 of the MPGs)	8.1, 8.2
Description of the NDC under Article 4 of the Paris Agreement, including updates (para. 64 of the MPGs)	9.1
Information necessary to track progress in implementing and achieving the NDC under Article 4 of the Paris Agreement (paras. 65–79 of the MPGs)	10.1, 10.2, 10.3, 10.4
Mitigation PaMs, actions and plans related to implementing and achieving the NDC under Article 4 of the Paris Agreement (paras. 80–90 of the MPGs)	11.1, 11.3, 11.4
Summary of GHG emissions and removals (para. 91 of the MPGs)	No areas of improvement relating to recommendations were identified
Projections of GHG emissions and removals ^b (paras. 92–102 of the MPGs)	13.1

^a See document FCCC/ETF/TERR.1/2024/CUB/Add.1. The areas of improvement referred to in this table comprise only those relating to recommendations in that document.

^b The developing country Party applied flexibility in the light of its capacities with respect to this provision.

3. Financial, technology development and transfer, and capacity-building support provided¹⁸

12. Cuba does not consider itself subject to the reporting obligations applicable to developed country Parties pursuant to Article 13, paragraph 9, of the Paris Agreement. Accordingly, the Party did not provide information on financial, technology development and transfer, or capacity-building support provided to developing country Parties under Articles 9–11 of the Paris Agreement in its BTR1.¹⁹

B. Consideration of the Party's implementation and achievement of its nationally determined contribution²⁰

13. In considering Cuba's progress in implementing and achieving its NDC, the TERT noted that the NDC²¹ comprises five sectoral mitigation targets: one GHG target (GHG emission reduction under swine production in agriculture) and four non-GHG targets (focusing on renewable energy, energy efficiency, fossil fuel consumption in land transport and forest cover, in the energy, transport, agriculture and LULUCF sectors). NDC implementation and achievement is tracked using target-specific indicators, namely the share of renewable electricity generated for the renewable energy target; the number of efficient units introduced for the energy efficiency target; the share of fossil fuel consumption in land transport for the transport target; forest area for the forest-cover target; and GHG emission

¹⁷ As per para. 150(b) of the MPGs.

¹⁸ As per para. 150(c) of the MPGs.

¹⁹ As per para. 118 of the MPGs.

²⁰ As per para. 146(b) of the MPGs.

²¹ The consideration of the Party's implementation and achievement of its NDC is in the context of the first updated NDC, submitted by Cuba on 17 September 2020. The TERT noted that the Party submitted a new NDC on 27 February 2025.

reductions, expressed in kt CO₂ eq, for the reducing emissions from swine production target. All five mitigation targets have 2030 as the target year, but their time frames or periods of implementation and reference years or starting points vary (2014–2030 for the renewable electricity generation and energy efficiency targets, 2018–2030 for the fossil fuel consumption in land transport target, 2019–2030 for the forest-cover target and 2020–2030 under the swine production target). Cuba has not set an overall economy-wide GHG emission reduction target. The mitigation contributions are presented as requiring financial, technology development and transfer, and capacity-building support for their full implementation. The BTR provides an aggregate estimate of support needed for the five mitigation targets, which amounts to USD 13.8 billion, of which around USD 8.36 billion is estimated support needed in the form of credits for technology acquisition. The only explicitly identified unconditional component is part of the forest-cover contribution, namely 80,000 ha to be reforested using domestic resources; the remaining part of the contribution and the other mitigation contributions are presented as requiring support for full implementation.

14. The indicators that Cuba selected to track progress in implementing and achieving its NDC are described in table 3.

Table 3

Description of the indicator(s) selected by Cuba to track progress in implementing and achieving its nationally determined contribution

<i>NDC target</i>	<i>Indicator</i>	<i>Description</i>
Increase the share of electricity generated from RES in the electricity generation mix to 24 per cent by 2030	Share of electricity generated from RES in the electricity generation mix (percentage)	The indicator measures the share of electricity generated from RES in the national electricity generation mix. The data required include gross generation from renewable energy technologies and total gross generation of the electricity system. The Cuban Electric Union is the institution responsible for coordinating the collection of data and information related to electricity generation from RES
Increase energy efficiency through the introduction of more efficient units by 2030, including induction cookers, LED luminaires, solar heaters and solar pumps	Number of more efficient units introduced, disaggregated by technology: induction cookers, LED luminaires, solar heaters and solar pumps (number of units)	The indicator tracks the cumulative number of more efficient units introduced for each technology. During the review, Cuba clarified that the indicator is tracked through a direct count of efficient units entering the country, disaggregated by technology, and that, once counted, the units are assumed to be operational. The additional information provided during the review indicates that the supporting data include sales and installation records for energy efficiency equipment and data on solar pumps deployed in livestock operations
Reduce fossil fuel consumption by the road vehicle fleet to 50 per cent of the 2018 level by 2030	Share of fossil fuel consumption by the road vehicle fleet (percentage)	The indicator measures annual fossil fuel consumption by land vehicles as a percentage of fossil fuel consumption in the base year (2018). The BTR links the indicator to the energy sector (subcategory 1.A.3.b road transport). During the review, Cuba clarified that the underlying data are annual gasoline and diesel consumption data for land transport, collected by the Center for Research and Environmental Management of Transportation from the National Office of Statistics and Information
Increase forest cover to 33 per cent of the national territory by 2030	Forest area (kha)	The indicator tracks the area covered by forests, expressed in kha. The supporting data are compiled by the Forest Service Directorate from the national forest dynamics reporting system and provided to the Agroforestry Research Institute for preparing the relevant reporting information. Progress is

<i>NDC target</i>	<i>Indicator</i>	<i>Description</i>
		tracked by comparing the reported forest area with the 2019 reference point and the 2030 target level
Reduce annual GHG emissions under swine production by 2030	Annual GHG emission reductions/avoided emissions under the swine production target (kt CO ₂ eq)	The indicator tracks annual GHG emission reductions/avoided emissions under the swine production mitigation target, expressed in kt CO ₂ eq. The mitigation action is linked to wastewater treatment in the swine production subsector and the use of biogas for heat and electricity production. Progress is assessed by comparing the annual reported emission reductions/avoided emissions with the 2020 reference value and the 2030 target level reported for this indicator. Supporting data include data on pig population, animals covered by anaerobic digesters, average animal weights and biogas captured, flared or used

Sources: Cuba's BTR1 and CTF tables 1–3.

15. The TERT noted that Cuba's NDC includes a LULUCF-related target for increasing forest cover, which is not based on GHG emissions, tracked using forest area, expressed in kha, and that Cuba did not use ITMOs, A6.4ERs or CERs from cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement or the mechanism established by Article 6, paragraph 4, of the Paris Agreement towards the achievement of its NDC. The TERT also noted that Cuba reported that it has not participated in any of the mechanisms established under Article 6 of the Paris Agreement to date and that it is considering future participation in cooperative approaches.

16. Tables 4–8 summarize information on progress in implementing the NDC based on sector-specific quantitative indicators taking into account the type of Cuba's NDC targets, including quantitative and qualitative values for the base year, implementation period, including the most recent year available, and target year, and information on the contribution of LULUCF and use of ITMOs towards the implementation and achievement of the NDC, as applicable.

Table 4

Summary of information on Cuba's progress in implementing and achieving its nationally determined contribution based on share of energy generated from renewable energy sources in the electricity generation mix

(%)

	<i>Share of energy generated from RES in the electricity generation mix</i>	<i>ITMOs used towards NDC, as applicable</i>	<i>Indicator adjusted for ITMOs used towards NDC, as applicable</i>
Base year (2014)	4.1		
2021	4.8	NA	4.8
2022	4.1	NA	4.1
Target level (2030) ^a			24.0

Sources: Cuba's BTR1 and CTF table 4, and information provided by the Party during the review.

^a Target level corresponds to an unconditional NDC target.

17. According to the most recent information on the share of energy generated from RES in the electricity generation mix provided in CTF table 4.1, in 2022 Cuba's share of energy generated from RES in the electricity mix was 4.1 per cent. The indicator is equal to the base-year level and 19.9 percentage points below the target level of 24.0 per cent in 2030.

Table 5

Summary of information on Cuba's progress in implementing and achieving its nationally determined contribution based on number of more efficient units introduced, disaggregated by technology

(number of units)

	<i>Number of units</i>	<i>ITMOs used towards NDC, as applicable</i>	<i>Indicator adjusted for ITMOs used towards NDC, as applicable</i>
LED luminaires			
Base year (2014)	0		
2021	8 212 801	NA	8 212 801
2022	9 126 470	NA	9 126 470
Target level (2030)			15 250 000
Solar heaters			
Base year (2014)	0		
2021	23 429	NA	23 429
2022	26 356	NA	26 356
Target level (2030)			833 333
Induction cookers			
Base year (2014)	0		
2021	633 514	NA	633 514
2022	727 907	NA	727 907
Target level (2030)			2 000 000
Solar pumps			
Base year (2014)	0		
2021	1 833	NA	1 833
2022	1 883	NA	1 883
Target level (2030)			5 000

Sources: Cuba's BTR1 and CTF table 4, and information provided by the Party during the review.

Note: Target level corresponds to an unconditional NDC target.

18. According to the most recent information on the number of more efficient units introduced provided in CTF tables 4.5–4.8, the number of units for all four technology types increased compared with the base-year value of zero units. For 2022, Cuba reported 9,126,470 LED luminaires, 26,356 solar heaters, 727,907 induction cookers and 1,883 solar pumps introduced, which are below the 2030 target levels by 6,123,530, 806,977, 1,272,093 and 3,117 units respectively. The 2022 levels correspond to approximately 59.8 per cent of the 2030 target level for LED luminaires, 3.2 per cent for solar heaters, 36.4 per cent for induction cookers and 37.7 per cent for solar pumps.

Table 6

Summary of information on Cuba's progress in implementing and achieving its nationally determined contribution based on share of fossil fuel consumption by the road vehicle fleet

(%)

	<i>Share of fossil fuel consumption by the road vehicle fleet</i>	<i>ITMOs used towards NDC, as applicable</i>	<i>Indicator adjusted for ITMOs used towards NDC, as applicable</i>
Base year (2018)	100.0		
2021	72.0	NA	72.0
2022	NE	NA	NE
Target level (2030) ^a			50.0

Sources: Cuba's BTR1 and CTF table 4, and information provided by the Party during the review.

^a Target level corresponds to an unconditional NDC target.

19. According to the most recent information on the share of fossil fuel consumption by the road vehicle fleet provided in CTF table 4.2, in 2021 Cuba's share of fossil fuel consumption by the road vehicle fleet was 72.0 per cent. The indicator is 28 percentage points below the base-year level of 100 per cent and 22 percentage points above the target level of 50 per cent in 2030.

Table 7

Summary of information on Cuba's progress in implementing and achieving its nationally determined contribution based on forest area

(kha)

	Forest area	ITMOs used towards NDC, as applicable	Indicator adjusted for ITMOs used towards NDC, as applicable
Base year (2018)	3 269.40		
2021	3 307.10	NA	3 307.10
2022	3 316.30	NA	3 316.30
Target level (2030) ^a			3 434.40

Sources: Cuba's BTR1 and CTF table 4, and information provided by the Party during the review.

^a Target level corresponds to an unconditional NDC target.

20. According to the most recent information on forest area provided in CTF table 4.3 and information provided during the review, in 2022 the area covered by forest in Cuba was 3,316.30 kha. The indicator is 46.90 kha above the base-year level of 3,269.4 kha and 118.10 kha below the target level of 3,434.4 kha in 2030.

Table 8

Summary of information on Cuba's progress in implementing and achieving its nationally determined contribution based on annual greenhouse gas emission reductions/avoided emissions under the swine production target

(kt CO₂ eq)

	Annual GHG emission reductions/avoided emissions under the swine production target	Contribution of LULUCF, as applicable	ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable	Indicator adjusted for contribution of LULUCF and ITMOs, A6.4ERs and/or CERs used towards NDC, as applicable
NDC base year (2020)	113.70			
2021	7.30	NA	NA	7.30
2022	15.00	NA	NA	15.00
Target level (2030)				538.00

21. According to the most recent information on annual GHG emission reductions/avoided emissions under the swine production target provided in CTF table 4.4 and information provided during the review, in 2022 Cuba's annual GHG emission reductions/avoided emissions under the swine production target amounted to 15.00 kt CO₂ eq. The indicator is 86.8 per cent (98.70 kt CO₂ eq) below the corrected 2020 reference point of 113.70 kt CO₂ eq and 97.2 per cent (523.00 kt CO₂ eq) below the 2030 target level of 538.00 kt CO₂ eq.

22. Cuba reported information on the actions and PaMs that support the implementation and achievement of its NDC. Table 9 provides a summary of the reported information on the key PaMs of Cuba.

Table 9

Summary of information on key policies and measures reported by Cuba

Sector	Key PaMs ^a	Estimate of expected GHG emission reductions in 2030 (kt CO ₂ eq)	Estimate of achieved GHG emission reductions in 2022 (kt CO ₂ eq)
Energy	Energy efficiency	NE	2 866.5

<i>Sector</i>	<i>Key PaMs^a</i>	<i>Estimate of expected GHG emission reductions in 2030 (kt CO₂ eq)</i>	<i>Estimate of achieved GHG emission reductions in 2022 (kt CO₂ eq)</i>
	Installation of solar heaters in the residential and public sectors		
	Installation of LED lamps in the residential and public sectors		
	Efficient stoves installed		
	Introduction of photovoltaic pumping systems in livestock farming		
Energy supply and renewables	Increasing the share of energy generated by RES in the electricity mix	Not available	594.5
Transport	Introduction of electric land vehicles	Not available	367.9 ^b
Agriculture	Wastewater treatment and the use of biogas for heat and electricity production in pig farming	900	15.0
LULUCF	Increase in forest cover	Not available	78.5

Sources: Cuba's BTR1 and CTF table 5, and information provided by the Party during the review. The values presented in this table do not correspond to the values provided in CTF table 5 as they reflect the updated values provided during the review.

^a Names of PaMs reproduced as reported in Cuba's BTR.

^b 2021 value as 2022 value is not available.

23. PaMs in the area of energy efficiency focus on deploying highly efficient appliances in the residential and public sectors and photovoltaic pumping systems in livestock farming. The Party reported steady progress, with emission reductions in 2022 estimated at 2,866.5 kt CO₂ eq. The TERT noted a 12 per cent emission reduction in public electricity and heat production (subcategory 1.A.1.a.i) and a 16 per cent decrease in total electricity consumption in 2019–2022 (BTR table 2.5). However, the TERT emphasizes that determining whether these reductions can be specifically attributed to energy efficiency measures remains challenging. Owing to a lack of disaggregated end-use data, it is difficult to isolate the impacts of PaMs from the effects of external drivers, such as electricity supply constraints and economic factors affecting consumption patterns.

24. Regarding the mitigation action for increasing the share of energy generated from RES in the electricity mix, the TERT noted that the share of renewables in the electricity generation mix remained constant (4.1 per cent) between the base year (2014) and 2022. However, the TERT noted a 25 per cent increase in installed renewable capacity in 2019–2022 (BTR table 2.4), and the share of renewable capacity relative to total installed capacity increased from 10 to 13 per cent in the same period. In parallel, GHG inventory subcategory 1.A.1.a public electricity and heat production showed a 12 per cent reduction in emissions between 2019 and 2022. This trend is consistent with the 13 per cent decline in total electricity generation observed for the same period. Additionally, the share of fossil-fuel-based generation decreased by 12 per cent, while electricity imports increased significantly owing to national circumstances (fuel supply constraints) over the same period.

25. The TERT noted that Cuba's transport mitigation actions and PaMs primarily focus on the electrification of road transport. Within the transport subsector, road transportation is the primary driver of GHG emissions, accounting for 54 per cent of total sectoral emissions in 2022. The Party reported progress in the implementation of these sectoral PaMs, highlighting the introduction of electric buses for public transit and electric vehicle fleets for service companies, and the growing number of privately owned electric motorcycles. For 2021, the introduction of electric land vehicles achieved an estimated GHG emission reduction of 367.9 kt CO₂ eq. The TERT observed that, in the GHG inventory, road transport emissions (subcategory 1.A.3.b) show a significant reduction of 37 per cent in 2018–2022 (BTR table 3.23). However, the TERT emphasizes the high degree of uncertainty associated with isolating the mitigation impact of electrification measures. The observed emission trend in the transport sector is heavily influenced by national circumstances, specifically fuel

supply shortages, which have restricted overall fuel consumption in recent years. Consequently, it is challenging to distinguish between the reductions resulting from the implementation of PaMs and those caused by reduced transport activity due to fuel scarcity.

26. Regarding the measure on forest cover, which is aimed at increasing forested areas, the Party reported the progress in its implementation, with an estimated impact of an emission reduction of 78.5 kt CO₂ eq for 2022. The TERT noted that the impact of this measure is reflected in the GHG inventory under category 4.A.1 forest land remaining forest land. This is a key category, accounting for 35 per cent of the total national GHG emissions and removals in 2022. The TERT observed an increase in removals of 2 per cent in this category in 2019–2022, which aligns with the reported progress of the mitigation action.

27. Regarding the mitigation action for wastewater treatment and the use of biogas for heat and electricity production in swine farming, the Party reported that GHG emission reductions of 15 kt CO₂ eq were achieved in 2022. The TERT observed that the corresponding GHG inventory category, manure management – swine (category 3.B.3), shows a 31 per cent reduction in emissions in 2018–2022. However, the TERT also noted that the swine production volume decreased by nearly 90 per cent in the same period owing to national circumstances. Consequently, it remains difficult to distinguish between the mitigation impact of the action and the significant decline in sectoral activity.

28. The TERT notes that in order to reach the respective target levels in 2030, the Party needs to achieve increases of 19.9 per cent for the share of energy generated by RES in the electricity mix; 118.10 kha for the area covered by forest; 523.00 kt CO₂ eq for GHG emission reductions/avoided emissions under the swine production target; 6,123,530 units for LED luminaires; 806,977 units for solar heaters; 1,272,093 units for induction cookers; and 3,117 units for solar pumps compared with the levels in the most recent reported year (2022).

29. A reduction of 22 percentage points is needed for the share of fossil fuel consumption by the road vehicle fleet to reach the target level compared with the level in the most recent year for which data are available (2021). The TERT also notes that this indicator was reported as “NE” for 2022.

30. Cuba applied the flexibility available to those developing country Parties that need it in the light of their capacities and did not report projections under the ‘with measures’ scenario or any other scenarios.²²

31. The TERT assessed Cuba’s progress towards its NDC target for 2021–2030. The TERT notes that progress is needed to reach all five targets (see para. 28 above). The TERT also notes that there are not yet enough data to sufficiently assess Cuba’s progress in implementing the NDC, as data are available only for a limited number of years in the implementation period (i.e. for 2021–2022, or only for 2021 in the case of the indicator on fossil fuel consumption in land transport). The TERT further notes that regular monitoring of the selected indicators and the results of mitigation actions allows adjustments to be made as needed towards achieving the increases and reduction referred to above.

C. Consideration of the Party’s support provided²³

32. Cuba does not consider itself subject to the reporting obligations applicable to developed country Parties pursuant to Article 13, paragraph 9, of the Paris Agreement and did not report information in its BTR1 on financial, technology transfer and development, and capacity-building support provided to developing country Parties under Articles 9–11 of the Paris Agreement (see para. 12 above).

²² As per para. 92 of the MPGs.

²³ As per para. 146(c) of the MPGs.

D. Identification of areas of improvement²⁴

33. During the technical expert review, the TERT identified areas of improvement in relation to Cuba's implementation of Article 13 of the Paris Agreement, which are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 7 above.

E. Assistance in identifying capacity-building needs²⁵

34. The TERT, in consultation with Cuba, identified the following prioritized needs for capacity-building to facilitate the Party's reporting in its BTR relating to the flexibilities applied by it as per the MPGs:²⁶

- (a) Strengthening the Party's technical capacity and methodological approach for modelling GHG projections (as per para. 92 of the MPGs);
- (b) Establishing institutional arrangements for the data-collection system for F-gases in the IPPU sector (as per para. 48 of the MPGs).

35. Furthermore, in order to facilitate continuous improvement in reporting, the following additional capacity-building needs were identified during the review:

- (a) Strengthening the QA/QC system with a view to ensuring consistency across the BTR and the CTF tables, as well as across the NID and the CRTs, and improving the accuracy and transparency of the reporting (high priority);
- (b) Enhancing experts' understanding of the use of notation keys in the GHG inventory, CRTs and CTF tables; the reference approach in prioritizing improvements; the ETF reporting tools; and the use of the IPCC software for the energy and IPPU sectors through training (high priority);
- (c) Establishing institutional arrangements for data-collection systems in the energy sector for fugitive emissions and other industries; in the agriculture sector for burning practices and enteric fermentation, covering, inter alia, categorization of livestock data in accordance with the 2006 IPCC Guidelines; in the LULUCF sector for all categories other than forest land, covering, inter alia, the adaptation of data to IPCC requirements and the use of secondary data, such as FAOSTAT and remote-sensing data; and in the waste sector for waste incineration and open burning (high priority);
- (d) Enhancing the data-collection system and methods applied to enable disaggregated information to be obtained on solid waste disposal on land (high priority).

36. Cuba also identified the capacity-building support needs in its BTR1 (chap. 5).

III. Conclusions and recommendations

37. The TERT conducted a technical expert review of the information reported in the BTR1, NID, CRTs and CTF tables of Cuba in accordance with the MPGs.

38. The areas of improvement identified by the TERT on the basis of the review of the consistency of the information reported by Cuba with the MPGs are summarized in chapter II.A above and included in the assessment tables referred to in paragraph 7 above.

39. The TERT notes that additional efforts are needed to reach the respective 2030 target levels for the five selected indicators for tracking progress in implementing and achieving the NDC, which relate to electricity generated from RES, energy efficiency, fossil fuel consumption in land transport, forest area and GHG emission reductions from the swine production. The TERT also notes that there are not yet enough data to sufficiently assess

²⁴ As per para. 146(d) of the MPGs.

²⁵ As per para. 146(e) of the MPGs.

²⁶ For a complete list of the capacity-building needs identified by the TERT in consultation with the Party, see table 15 in document FCCC/ETF/TERR.1/2024/CUB/Add.1.

Cuba's progress in implementing and achieving its NDC, as data are only available for a limited number of years in the implementation period (i.e. for 2021–2022, or only for 2021 in the case of the indicator on fossil fuel consumption in land transport).

40. The TERT notes that the Party has made progress in implementing mitigation actions and PaMs in the energy, transport, agriculture and LULUCF sectors, which have started to have an impact on GHG emission reductions and removals. However, the TERT highlights significant challenges in directly attributing the emission reductions observed in the GHG inventory to these measures. The TERT also notes that national circumstances, such as fuel supply constraints, have influenced emission trends in the energy and transport sectors, making it difficult to separate the impact of mitigation actions and PaMs from the effects of the overall decrease in domestic activity. Similarly, in swine manure management, the national context of a reduced livestock production owing to limited access to feed has influenced the emission trend. Finally, for PaMs related to renewable energy, energy efficiency, transport and forest cover, the TERT was unable to fully assess progress in terms of estimated GHG emission reductions owing to a lack of disaggregated data on expected emission reductions for 2030, which prevents a comparison between current trends and future targets.

41. Cuba does not consider itself subject to the reporting obligations applicable to developed country Parties pursuant to Article 13, paragraph 9, of the Paris Agreement and, in accordance with the MPGs, did not report information on financial, technology development and transfer, or capacity-building support provided to developing country Parties under Articles 9–11 of the Paris Agreement in its BTR1.

42. Cuba did not provide information on support required for implementing Article 13 of the Paris Agreement and transparency-related activities. Although Cuba identified the areas requiring strengthening for the implementation of Article 13, lack of a formal methodology for estimating the financial resources required for these activities prevents Cuba from reporting this information.

43. In consultation with Cuba, the TERT identified reporting-related needs for capacity-building support relating to the flexibilities applied by the Party as per the MPGs that could facilitate the Party's preparation of subsequent BTRs. For Cuba, the main reporting-related needs for capacity-building support are strengthening its technical capacity and methodological approach for modelling GHG projections and establishing institutional arrangements for the system for collecting data on F-gases in the IPPU sector.

44. The TERT recommends an in-country review of the Party's BTR2 for the following reasons:

(a) An in-country review would be a welcome capacity-building opportunity, which could help to foster mutual learning and the sharing of good practices in line with the ETF guiding principle²⁷ of facilitating improved reporting and transparency over time;

(b) Several categories in the energy, IPPU, agriculture, LULUCF and waste sectors would benefit from a more comprehensive review and direct interaction between the national team and the review team, as enabled through an in-country review;

(c) As Cuba plans to provide GHG projections for the first time in its BTR2, it would benefit from a comprehensive review that could inform the implementation of the NDC;

(d) Although Cuba provided detailed written responses in a timely manner, operational challenges affected virtual participation and exchange of technical information during the review week, and the physical presence of the review team could facilitate a more fluid, rich and inclusive technical dialogue between the Party and the reviewers;

(e) Considering Cuba's national circumstances as a small island developing State that has a high level of vulnerability to the impacts of climate change and faces significant challenges related to territorial adaptation and climate resilience, in-person engagement could also contribute to strengthening the Party's reporting of climate change adaptation efforts.

²⁷ Para. 3(b) of the MPGs.

Annex I

Outcome of the review conducted on a voluntary basis of the information reported by the Party in its first biennial transparency report pursuant to chapter IV of the modalities, procedures and guidelines

I. Summary of reported information

1. In its BTR1 Cuba provided information related to climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the MPGs and, as per paragraph 1 of decision 9/CMA.4, on a voluntary basis, requested the secretariat to organize a review of that information as part of the technical expert review pursuant to chapter VII of the MPGs.

2. In accordance with chapter IV of the MPGs, Cuba provided information on its climate change impacts; risks and vulnerabilities; adaptation priorities and barriers to implementing adaptation action; and cooperation, good practices, experience and lessons learned in relation to climate change impacts and adaptation, which is summarized in table I.1.

Table I.1

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

<i>Priority adaptation sector or area</i>	<i>Vulnerability and adaptation measures reported</i>	<i>Challenges and constraints</i>	<i>Cooperation, good practices, experience and lessons learned</i>
Coastal zones	Vulnerability: sea level rise, coastal erosion, saline intrusion and increased intensity of extreme weather events affecting ecosystems and human settlements, leading to land loss, infrastructure damage and degradation of marine and coastal resources. Adaptation measures: ecosystem-based approaches such as mangrove restoration, beach recovery, coastal protection interventions, and relocation of settlements in highly exposed areas, particularly under the State Plan for Confronting Climate Change, known as <i>Tarea Vida</i>.	Limited financial resources, technical capacity and availability of high-resolution data constrain activities related to coastal monitoring, risk assessments and long-term planning.	A coastal resilience project, implemented in 16 coastal municipalities, supported the preparation of municipal adaptation plans based on hazard, vulnerability and risk studies and sea level rise scenarios.
Water ^a	Vulnerability: droughts, rainfall variability and saltwater intrusion affect water availability, and deterioration of hydraulic infrastructure and increased urbanization in water production areas reduce system efficiency and increase pressure on water resources and water supply systems. Adaptation measures: integrated water resources management, adjustment of design parameters for hydraulic infrastructure,	Ageing infrastructure, insufficient maintenance capacity and limited financial resources reduce the effectiveness of adaptation measures.	Strengthening integrated water governance through updated hydrological assessments, sectoral water efficiency regulations, monitoring of saline intrusion in aquifers, and local water-saving and water reuse practices, such as rainwater harvesting and the use of recycled

<i>Priority adaptation sector or area</i>	<i>Vulnerability and adaptation measures reported</i>	<i>Challenges and constraints</i>	<i>Cooperation, good practices, experience and lessons learned</i>
	improvement of water-use efficiency, protection of water resources, rainwater harvesting and reuse of treated wastewater.		water in the tourism sector.
Food and agriculture ^a (agrop productive systems)	Vulnerability: droughts, high temperatures, extreme weather events and climate variability affect crop yields, food security and rural livelihoods. Adaptation measures: development and use of crop varieties resistant to high temperatures, water stress and pests; crop diversification; reduction of crops in coastal or saline-affected areas; soil conservation practices; and sustainable land management practices such as polyculture, crop rotation, use of organic fertilizers and cover crops and minimum tillage.	Limited access to technology, financial constraints and capacity gaps among producers affect the implementation of adaptation practices.	Not reported.
Infrastructure and human settlements ^a	Vulnerability: hurricanes, floods and sea level rise result in infrastructure damage, economic losses and population displacement. Adaptation measures: restrictions on construction of new housing in coastal settlements projected to disappear owing to permanent flooding, reduction of population density in low-lying coastal areas, risk-informed urban and territorial planning, and preparedness and response mechanisms implemented through the national civil defence system.	Financial resource limitations and infrastructure deficits limit the Party's capacity to respond effectively to extreme events.	The Party's well-established civil defence system is an example of good practice in disaster risk management. The Nature4Cities project provides local experience in urban adaptation through nature-based solutions, inter-institutional collaboration, gender-sensitive approaches and recovery of traditional practices such as rainwater harvesting.
Ecosystems and biodiversity ^a	Vulnerability: temperature increase, changes in precipitation patterns and extreme events lead to biodiversity loss and terrestrial and marine ecosystem degradation. Adaptation measures: ecosystem conservation and restoration, implementation of protected areas, rehabilitation of mangroves and coral reefs, protection of coastal and marine biodiversity, and promotion of ecosystem-based adaptation approaches.	Limited financial and technical resources constrain conservation efforts and activities related to long-term ecosystem monitoring.	Ecosystem-based adaptation approaches are reflected in national initiatives, such as the State Plan <i>Tarea Vida</i> and in a project in the city of Camagüey aimed at implementing nature-based solutions to enhance climate resilience.
Health ^a	Vulnerability: increased risks of climate-sensitive infectious	Limited quantitative information on vulnerability	Systems for monitoring climate-

<i>Priority adaptation sector or area</i>	<i>Vulnerability and adaptation measures reported</i>	<i>Challenges and constraints</i>	<i>Cooperation, good practices, experience and lessons learned</i>
	diseases, particularly outbreaks of acute respiratory infections and dengue during rainy periods and higher incidence of acute diarrheal diseases during dry and rainy seasons. Adaptation measures: measures related to strengthening the public health system, improving epidemiological surveillance and enhancing prevention and response strategies for climate-sensitive diseases.	trends and on the implementation progress, effectiveness and impacts of reported adaptation measures.	related health risks and early warning systems were strengthened through studies on climate-sensitive diseases, Informed, the MACVAH/AREEC epidemic risk assessment models, bioclimatic forecasting systems, and health surveillance and capacity-building actions.
Tourism	Vulnerability: sea level rise, storm surges, temporary and permanent coastal flooding, strong winds, wave impacts and increasing salinization affect tourism development areas with inadequate building typologies and construction designs. Adaptation measures: actions to reduce heat stress, such as increasing green and shaded areas and promoting climate-responsive architectural design; use of RES in tourism facilities to address increased electricity demand for cooling; and use of rainwater harvesting and water recycling systems to manage higher water demand resulting from rising temperatures.	Limited access to climate data, financial constraints and coordination challenges affect adaptation in the sector.	Not reported.

^a Thematic target under the United Arab Emirates Framework for Global Climate Resilience.

3. Cuba provided a description of its adaptation strategies, policies, plans and goals and of its progress in implementing adaptation action, and information on its monitoring and evaluation of adaptation actions and processes, which is summarized within the context of the iterative adaptation cycle in table I.2.

Table I.2

Summary of information on the iterative adaptation cycle reported by the Party

<i>Dimension</i>	<i>Information on progress reported</i>
Impact, vulnerability and risk assessment	Impact, vulnerability and risk assessment: conducted through national studies, including hazard, vulnerability and risk analyses and climate change scenarios developed under the State Plan for Confronting Climate Change (<i>Tarea Vida</i>, adopted in 2017). The outcomes of these assessments have informed the prioritization of adaptation sectors and measures and are used to guide national policies, plans and adaptation strategies. Multi-hazard early warning systems: in 2022 Cuba formally established multi-hazard early warning and monitoring systems, which are supported by national observation networks and institutional coordination mechanisms. These systems enable the systematic observation of climate-related variables and support disaster risk reduction and adaptation decision-making processes across sectors and territories.
Planning	Adaptation planning in Cuba is guided by the State Plan for Confronting Climate Change (<i>Tarea Vida</i>), adopted in 2017, which defines 13 prioritized adaptation actions across key sectors, namely coastal protection, housing and human settlements, water management, food security and agriculture, ecosystem conservation, land-use and urban planning, tourism,

<i>Dimension</i>	<i>Information on progress reported</i>
	health, fisheries, forestry, construction and infrastructure, transport and disaster risk reduction.
	Adaptation is integrated into national and sectoral policies and planning instruments, including the National Economic and Social Development Plan 2030. Planning processes are informed by scientific research and risk assessments and include territorial-level implementation through municipal adaptation plans. Elements such as ecosystem-based approaches, gender considerations and intersectoral coordination are increasingly incorporated.
Implementation	Cuba has implemented adaptation measures across priority sectors. These measures include ecosystem restoration (e.g. for mangroves and coral reefs), use of climate-resilient agricultural practices, improvements in water-use efficiency, infrastructure adaptation and territorial planning measures. Implementation is supported by national programmes and local-level initiatives. International cooperation projects have also contributed to the development of municipal adaptation plans and the application of nature-based solutions. These efforts have strengthened resilience and reduced vulnerability in a number of territories and sectors.
Monitoring, evaluation and learning	Cuba has started developing monitoring and evaluation efforts for adaptation actions and projects, including sectoral indicators and national observation systems, particularly in areas such as water resources, agriculture and ecosystems. Early warning systems and climate monitoring networks also contribute to efforts to track climate risks and impacts. However, the information reported indicates that only the monitoring system for the agriculture sector shows some progress, while a comprehensive, fully operational national monitoring, evaluation and learning system for adaptation is still under development. Challenges include limited data availability, a lack of harmonized indicators and constraints in systematically assessing the effectiveness of adaptation actions across sectors and territories.

II. Areas of improvement identified during the technical expert review of the reporting in the Party's first biennial transparency report on climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the modalities, procedures and guidelines

4. The TERT assessed the information reported on climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the MPGs in the BTR1 of Cuba and identified areas of improvement relating to consistency with the MPGs, which are described in table I.3. All encouragements contained in the table are for the next BTR, unless otherwise specified.

Table I.3

Areas of improvement of the reporting on climate change impacts and adaptation under Article 7 of the Paris Agreement

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with encouragement</i>
I.3.1	Specified in paragraph 107(c) of the MPGs	Cuba provided information in its BTR on climate change impacts, vulnerabilities and risks, including references to sectoral assessments and national studies (BTR section 3.2), and made an overarching cross reference to its third national communication. However, the TERT was unable to clearly identify detailed information on the specific approaches, methodologies and tools used to assess climate trends and climate change impacts and vulnerabilities across sectors, or on how associated uncertainties and challenges are addressed. During the review, Cuba clarified that the methodology used is summarized in BTR section 3.2.1 and that a complete description is contained in a report by Planos-Gutiérrez and Guevara-Velazco (2014), which was shared with the TERT, along with other materials. The Party also indicated that, as an improvement for its BTR3, it plans to update its methodology by incorporating a specific section on uncertainties.

ID#	Reporting requirement	Description of area of improvement with encouragement
I.3.2	Specified in paragraph 109(c), (e) and (h) of the MPGs	The TERT encourages Cuba to provide, as appropriate, more detailed information on the approaches, methodologies and tools used to identify and assess climate change impacts, vulnerabilities and risks across sectors, including information on associated uncertainties and challenges. If the Party deems that it is not possible to report this information consistently with paragraph 107(c) of the MPGs, the TERT encourages the Party to clarify this in the BTR. Although Cuba provided some information related to scientific knowledge, local experience and adaptation initiatives throughout the BTR, the TERT was not able to clearly identify how gender perspectives, traditional and local knowledge, mitigation co-benefits and stakeholder participation are systematically included in a cross-cutting manner in the adaptation cycle across different sectors and levels of governance. During the review, Cuba clarified that law 150 on the natural resources and environment system (2022) strengthens community participation and integrates local knowledge into adaptation processes. The Party also shared examples of local and traditional knowledge, gender perspectives and community participation being integrated into adaptation planning and implementation, including examples related to the Environmental Bases for Local Food Sustainability, or BASAL, project, municipal defence councils, traditional water management initiatives, local vulnerability assessments and the Adaptation Plan for the Havana Coastal Zone (AdaptHabana). Although Cuba did not report detailed information on mitigation co-benefits resulting from adaptation actions, it highlighted that adaptation is a central pillar of its national policies, as recognized in its NDC. In view of the limited resources available for the climate agenda, the Party has prioritized adaptation actions that generate mitigation co-benefits. A prominent example is the State Plan for Confronting Climate Change, <i>Tarea Vida</i>, which integrates energy efficiency considerations into construction and mangrove conservation efforts linked to blue carbon inventories. The TERT encourages Cuba to provide, as appropriate, more structured and explicit information on how best available science, gender perspectives, and traditional and local knowledge are integrated in a cross-cutting manner into the adaptation cycle across different sectors and levels of governance, as well as information on mitigation co-benefits and stakeholder involvement. If the Party deems that it is not possible to report this information consistently with paragraph 109(c), (e) and (h) of the MPGs, the TERT encourages the Party to clarify this in the BTR.
I.3.3	Specified in paragraph 110(a), (b) and (e) of the MPGs	Cuba provided information in its BTR (sections 3.3–3.6) on adaptation actions, strategies, sectoral approaches and barriers to implementation, notably information on progress in the agriculture sector and a general explanation of the State Plan for Confronting Climate Change (<i>Tarea Vida</i>) as the national adaptation framework. However, the TERT could not clearly identify: (a) Comprehensive information on progress in implementing adaptation actions across other priority sectors, or sufficiently detailed information on progress in implementing the State Plan for Confronting Climate Change and other adaptation instruments; (b) Information on steps taken to formulate, implement, publish and update national and regional programmes, strategies, measures and policy frameworks related to adaptation; (c) Information on coordination activities and changes in regulations, policies and planning. During the review, Cuba explained that: (a) Consistency with the NDC is reflected in BTR section 3.3.1 (“Prioritized Adaptation Actions”) onward, while the early parts of BTR section 3 focus on general considerations related to vulnerabilities and risks; in the BTR2, the adaptation chapter will place greater emphasis on adaptation actions and their implementation, in line with the NDC; BTR section 3.5 presents examples of progress in the agricultural sector, while additional experience in sectors such as water resources, coastal and marine resources, forests, human settlements and land use, biodiversity and human health was reported on in section 3.2 of the third

ID#	Reporting requirement	Description of area of improvement with encouragement
I.3.4	Specified in paragraph 111 of the MPGs	national communication; and updated information on progress in other sectors, including the energy sector, is currently being compiled for inclusion in the BTR2; (b) There is progress in updating legislative, regulatory and technical frameworks related to climate change adaptation, which have continued to expand through different regulations and standards, including resolution 252/2021 on the catalogue of Cuban beaches; law 148/2022 on food sovereignty and food and nutritional security; law 161/2022 on the promotion and development of livestock farming; decree-law 77/2023 on coastal zones; and resolution 106/2025 on regulation for carbon market activities, all of which incorporate elements related to adaptation, climate resilience and the protection of priority sectors. However, Cuba acknowledged that weaknesses and gaps persist in the regulations and technical standards needed to effectively operationalize adaptation commitments and protect some priority sectors at the local level; (c) In the first quarter of 2026, the Council of Ministers approved a road map for the protection, conservation and sustainable use of coral reefs, recognizing their role as priority ecosystems for climate change adaptation. The TERT encourages Cuba to provide, as appropriate, more comprehensive and detailed information on progress in implementing adaptation actions, related regulatory frameworks across different sectors, stakeholders and levels of governance, and information on the steps taken to formulate, implement, publish and update national and regional programmes, strategies and measures, policy frameworks (e.g. national adaptation plans) and other relevant information. The TERT also encourages Cuba to clearly explain the linkages between the NDC, the State Plan for Confronting Climate Change (<i>Tarea Vida</i>) and the different regulatory, technical and institutional instruments related to adaptation. If the Party deems that it is not possible to report this information consistently with paragraph 110(a), (b) and (e) of the MPGs, the TERT encourages the Party to clarify this in the BTR. Cuba provided some information in BTR section 5.4 (pp.177–185) on adaptation actions and support received for 2019–2022. However, the BTR does not clearly indicate how supported adaptation measures were implemented or describe their effectiveness. During the review, Cuba explained that it received support for a total of 22 international projects in 2021–2022, of which 17 were primarily focused on adaptation. Cuba highlighted the most significant projects, namely a project called Coastal Resilience to Climate Change in Cuba through Ecosystem-based Adaptation, or MI COSTA; a project with a nutritional focus aimed at strengthening the resilience of local food systems in the face of natural disasters and climate change for supplying social protection networks, which ran in five eastern provinces; and the Adaptation Plan for the Havana Coastal Zone (AdaptHabana). Cuba also noted that, because adaptation actions still lack robust monitoring indicators for assessing their effectiveness, it is difficult to evaluate their progress; however, efforts are being made to strengthen the monitoring of these actions. The TERT encourages Cuba to include, as appropriate, more detailed information on the implementation of supported adaptation actions and on the effectiveness of already implemented measures. If the Party deems that it is not possible to report this information consistently with paragraph 111 of the MPGs, the TERT encourages the Party to clarify this in the BTR.
I.3.5	Specified in paragraph 113 of the MPGs	The TERT noted that Cuba provided some information on the monitoring and evaluation of adaptation actions, including references to existing indicators and sector-specific systems, particularly in the agriculture sector (BTR section 3.6, p.165). However, the TERT was not able to clearly identify the following information related to monitoring and evaluation: (1) achievements, impacts, resilience, review, effectiveness and results; (2) approaches and systems used, and their outputs; (c) assessment of and indicators for how adaptation increased resilience and reduced impacts; when adaptation is not sufficient to avert impacts; and how effective implemented adaptation measures are; (3) implementation, in particular on transparency of planning and implementation; how support programmes meet specific vulnerabilities and adaptation needs; and how adaptation actions influence other development goals; and (4) good practices, experience and lessons learned from policy and regulatory changes, actions and coordination mechanisms.

ID#	Reporting requirement	Description of area of improvement with encouragement
I.3.6	Specified in paragraph 114 of the MPGs	During the review, Cuba reported that the second implementation cycle (2021–2025) of the State Plan for Confronting Climate Change (<i>Tarea Vida</i>) will strengthen the development of expected results of adaptation actions and monitoring indicators related to priority sectors and ecosystems, and that it is currently updating the projections of the plan for 2026–2030 with the aim of strengthening adaptation actions and indicators on the basis of climate science and lessons learned. The Party also indicated that the national monitoring and evaluation system is currently under development and it is seeking international funding, recognizing that limitations persist in relation to evaluating adaptation impacts and defining and monitoring specific indicators at the sectoral and territorial level. Cuba also noted that agriculture is currently the only sector with an operational monitoring and evaluation system for adaptation, developed through a Capacity-building Initiative for Transparency project in the agriculture, forestry and other land use sector, and explained that it is seeking to extend the system to other priority sectors such as water resources, health and energy by 2028 through a second Capacity-building Initiative for Transparency project proposal. Cuba further stated that good practices and lessons learned are identified through the use of periodic evaluations, innovation projects and knowledge management platforms, and that monitoring and evaluation will continue through working groups established at the national, territorial and local level. The TERT encourages Cuba to provide, as appropriate, in its BTR3 information on the development and implementation of a comprehensive national monitoring and evaluation system for adaptation in accordance with paragraph 113 of the MPGs. The TERT also encourages Cuba to continue strengthening the institutionalization, coordination and scalability of adaptation-related monitoring and evaluation systems, including by extending sectoral systems to other priority sectors, and to integrate lessons learned and good practices into future adaptation planning and reporting processes for future BTRs. If Cuba deems that it is not possible to report this information consistently with paragraph 113 of the MPGs, the TERT encourages Cuba to clarify this in the next BTR. Cuba did not provide information on the effectiveness and sustainability of adaptation actions, including on their results, long-term impacts and how their performance is assessed over time. During the review, Cuba clarified that since 2017 the implementation of the State Plan for Confronting Climate Change (<i>Tarea Vida</i>) has evolved into a more results-oriented approach, including through the development of monitoring indicators for assessing adaptation actions, which are progressively being linked with medium-term resilience outcomes. The Party also stated that, on the basis of scientific research and with the support of innovation projects and international cooperation, it is developing a more robust monitoring and evaluation system for assessing the effectiveness and sustainability of adaptation actions, including through the domestic operationalization of the Belém Adaptation Indicators. Cuba emphasized that strengthening its national capacity to evaluate, monitor and report on the effectiveness, sustainability and long-term impacts of adaptation actions remains a priority capacity-building need. The TERT encourages Cuba to report, as appropriate, information on the effectiveness and sustainability of adaptation actions, including their results, long-term impacts and the methodologies and processes used to assess their performance over time across different sectors and levels of governance. If the Party deems that it is not possible to report this information consistently with paragraph 114 of the MPGs, the TERT encourages the Party to clarify this in its next BTR.
I.3.7	Specified in paragraph 115 of the MPGs	Cuba provided some information (BTR section 3.7, pp.165–166) on climate change impacts and vulnerabilities and related actions that may contribute to averting, minimizing and addressing loss and damage. However, the TERT was unable to clearly identify information explicitly framed within the context of loss and damage, including on specific approaches, activities and institutional arrangements, and how these differ from broader adaptation measures. During the review, the Party clarified that it has a disaster risk management system and methodological tools for estimating disaster-related loss and damage. Cuba also reported progress since the submission of its BTR1, including with regard to the adoption of resolution 127/2025 on disaster risk reduction management; the Party's incorporation into the Santiago network for averting, minimizing and addressing loss

<i>ID#</i>	<i>Reporting requirement</i>	<i>Description of area of improvement with encouragement</i>
		and damage associated with the adverse effects of climate change; capacity-building initiatives; the preparation of project proposals for the Fund for responding to Loss and Damage in sectors such as water resources, agriculture and energy; and efforts to strengthen integrated surveillance, monitoring and early warning systems. The Party further indicated that continued strengthening of capacities, policy frameworks, instruments and specific indicators related to climate change loss and damage remains a capacity-building need. The TERT encourages Cuba to provide, as appropriate, information on averting, minimizing and addressing loss and damage associated with climate change impacts, including on relevant approaches, activities, methodologies, institutional arrangements and reporting processes, and to clarify how these differ from broader adaptation measures. If the Party deems that it is not possible to report this information consistently with paragraph 115 of the MPGs, the TERT encourages the Party to clarify this in the next BTR.

III. Assistance in identifying capacity-building needs¹

5. In order to facilitate continuous improvement of the reporting in the BTR on climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the MPGs, the following capacity-building needs were identified during the review:

(a) Strengthening institutional and technical capacity to design, develop and implement a comprehensive monitoring and evaluation system for adaptation, ensuring alignment with the State Plan for Confronting Climate Change through the use of cross-sectoral approaches, stakeholder engagement and multilevel governance (high priority);

(b) Enhancing technical capacity to design, develop and apply methodologies for assessing, quantifying and reporting uncertainties related to climate trends, hazards and impacts (high priority);

(c) Strengthening technical capacity to design, develop and operationalize indicators aligned with national and sectoral priorities in support of systematic monitoring and reporting of progress in adaptation actions, including by enhancing technical capabilities in agencies with regard to implementing monitoring and evaluation frameworks and by establishing feedback mechanisms to support iterative adaptation planning and reporting (high priority);

(d) Enhancing institutional capacity to integrate cross-cutting aspects throughout the adaptation cycle through the use of cross-sectoral approaches, stakeholder engagement and multilevel governance, paying particular attention to gender, local knowledge, urban and territorial planning and private sector engagement (medium priority);

(e) Strengthening technical capacity to assess and report on the effectiveness and sustainability of adaptation actions, including by tracking results and long-term impacts (high priority);

(f) Enhancing technical capacity to assess, quantify and report on loss and damage, including through methodologies for estimating economic and non-economic impacts (medium priority);

(g) Strengthening institutional capacity to mainstream adaptation into national regulations, technical standards, and intersectoral and multilevel governance systems (medium priority).

6. Cuba also identified capacity-building support needs in its BTR1 to facilitate reporting in the BTR on climate change impacts and adaptation under Article 7 of the Paris Agreement pursuant to chapter IV of the MPGs (BTR table 8.1, p.193).

¹ As per para. 146(e) of the MPGs.

Annex II

Documents and information used during the review

A. Reference documents

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

BTR1 CTF tables of Cuba.

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

B. Additional information provided by the Party

Responses to questions during the review were received from Jessica Fernández Casañas and Ernesto Rivera López (Ministry of Science, Technology and Environment of Cuba) and Orlando Rey (climate change consultant), including additional material. The following references were provided by Cuba and may not conform to UNFCCC editorial style as some have been reproduced as received:

Anuario Estadístico de Cuba 2023, Available at <https://www.onei.gob.cu/cuba>

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Government of Cuba. (2017). *Tarea Vida: State Plan for Confronting Climate Change*. Havana, Cuba.

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Planos-Gutiérrez, E., & Guevara-Velazco, A. V. (2014). *Methodological Guide for Integrated Studies of the Impact of Climate Change and Adaptation Measures in Cuba: Conceptual Framework*. Report of the Project *Integrated Analysis of the Impact of Climate Change and Adaptation Measures in Southern Artemisa and Mayabeque*. Havana, Cuba.

United Nations Development Programme (UNDP) Cuba. (n.d.). *Herramientas metodológicas y recursos para la adaptación al cambio climático: experiencias del proyecto BASAL*. Available at: UNDP Cuba - BASAL tools and methodologies.

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