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Technical analysis of the second biennial update report of Paraguay submitted on 27 December 2018

Summary report by the team of technical experts


Summary

According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention, consistently with their capabilities and the level of support provided for reporting, were to submit their first biennial update report by December 2014. Further, paragraph 41(f) of that decision states that Parties not included in Annex I to the Convention shall submit a biennial update report every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. As mandated, the least developed country Parties and small island developing States may submit biennial update reports at their discretion. This summary report presents the results of the technical analysis of the second biennial update report of Paraguay, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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Abbreviations and acronyms

AD	activity data
AFOLU	agriculture, forestry and other land use
Annex II Party	Party included in Annex II to the Convention
BUR	biennial update report
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
EF	emission factor
FOLU	forestry and other land use
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
ICA	international consultation and analysis
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance	<i>Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories</i>
IPCC good practice guidance for LULUCF	<i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i>
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NC	national communication
NE	not estimated
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
N ₂ O	nitrous oxide
PFC	perfluorocarbon
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	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF ₆	sulfur hexafluoride
TTE	team of technical experts
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

I. Introduction and process overview

A. Introduction

1. The process of ICA consists of two steps: a technical analysis of the submitted BUR and a facilitative sharing of views under the Subsidiary Body for Implementation, resulting in a summary report and record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. In addition, paragraph 41(f) of that decision states that non-Annex I Parties shall submit a BUR every two years, either as a summary of parts of their NC in the year in which the NC is submitted or as a stand-alone update report.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. Decision 14/CP.19, paragraph 7, outlines that developing country Parties seeking to obtain and receive payments for results-based actions can submit relevant information and data through the BUR in the form of a technical annex as per decision 2/CP.17, annex III, paragraph 19. Decision 14/CP.19, paragraph 8, outlines that the submission of the technical annex is voluntary and in the context of results-based payments. As mandated by decision 14/CP.19, paragraphs 10–14, the technical annex submitted by Paraguay has been subject to technical analysis by two LULUCF experts as part of the technical analysis of the Party's BUR.
5. Paraguay submitted its first BUR on 30 December 2015, which was analysed by a TTE in the fifth round of technical analysis of BURs from non-Annex I Parties, conducted from 13 to 17 June 2016. After the publication of its summary report, Paraguay participated in the second workshop for the facilitative sharing of views, convened in Marrakech on 10 November 2016.
6. This summary report presents the results of the technical analysis of the second BUR of Paraguay, undertaken by a TTE in accordance with the provisions on the composition, modalities and procedures of the TTE under ICA contained in the annex to decision 20/CP.19. The technical report capturing the results of the technical analysis of the technical annex voluntarily submitted by Paraguay in the context of results-based payments in accordance with paragraphs 7 and 8 of decision 14/CP.19, referred to in paragraph 4 above, is contained in document FCCC/SBI/ICA/2019/TATR.1/PRY.

B. Process overview

7. In accordance with the mandate referred to in paragraph 2 above, Paraguay submitted its second BUR on 27 December 2018 as a stand-alone update report. The submission was made more than two years after the submission of the first BUR.
8. In its BUR, the Party indicated that the delay in submission occurred because Paraguay requested funds to support the preparation of the second BUR in 2016 and the preparation started after the funding was approved in 2017. During the technical analysis, Paraguay further clarified that during the preparation of the first BUR, the Party did not have the institutional capacity to elaborate a project proposal for requesting funds for subsequent BURs; therefore, an implementation agency prepared the proposal during 2016 and it was approved in 2017. Paraguay informed the TTE about the improvement in its institutional capacity for the timely submission of its next BUR.
9. The technical analysis of the BUR took place from 27 to 31 May 2019 in Bonn and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the

basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Laura Aranguren (Colombia), Liviu Gheorghe (Romania), Leticia Guimarães (Brazil), Thelma Krug (Brazil), María José López (Belgium), Juan Luis Martín Ortega (El Salvador), Mauro Meirelles de Oliveira Santos (Brazil), Rosa María Rivas Palma (New Zealand), Marieke Sandker (Netherlands), Koen E. L. Smekens (Belgium), Alexander Valencia (Colombia) and Brian Zutta (Peru). Ms. López and Mr. Martín Ortega were the co-leads. The technical analysis was coordinated by Javier Hanna and Karen Ortega Marín (secretariat).

10. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Paraguay engaged in consultation¹ on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Paraguay's second BUR, the TTE prepared and shared a draft summary report with Paraguay on 22 August 2019 for its review and comment. Paraguay, in turn, provided its feedback on the draft summary report on 13 September 2019.

11. The TTE responded to and incorporated Paraguay's comments referred to in paragraph 10 above and finalized the summary report in consultation with the Party on 9 October 2019.

II. Technical analysis of the biennial update report

A. Scope of the technical analysis

12. The scope of the technical analysis is outlined in decision 20/CP.19, annex, paragraph 15, according to which the technical analysis aims to, without engaging in a discussion on the appropriateness of the actions, increase the transparency of mitigation actions and their effects and shall entail the following:

(a) The identification of the extent to which the elements of information listed in paragraph 3(a) of the ICA modalities and guidelines (decision 2/CP.17, annex IV) have been included in the BUR of the Party concerned (see chap. II.B below);

(b) A technical analysis of the information reported in the BUR, specified in the UNFCCC reporting guidelines on BURs (decision 2/CP.17, annex III), and any additional technical information provided by the Party concerned (see chap. II.C below);

(c) The identification, in consultation with the Party concerned, of capacity-building needs related to the facilitation of reporting in accordance with the UNFCCC reporting guidelines on BURs and to participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention (see chap. II.D below).

13. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Paraguay's BUR outlined in paragraph 12 above.

B. Extent of the information reported

14. The elements of information referred to in paragraph 12(a) above include the national GHG inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and the progress made in their implementation; information on domestic MRV; and information on support needed and received.

15. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 14 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is mostly consistent with the

¹ The consultation was conducted via teleconferencing.

UNFCCC reporting guidelines on BURs. Specific details on the extent of the information reported for each of the required elements are provided in annex I.

16. The current TTE noted improvements in reporting in the Party's second BUR compared with that in the first BUR. Information on GHG inventories, institutional arrangements, and needs and support reported in the second BUR demonstrates that the Party has taken into consideration the areas for enhancing transparency noted by the previous TTE in the summary report on the technical analysis of the Party's first BUR.

17. Regarding the areas for enhancing transparency noted by the previous TTE in the summary report on the technical analysis of the first BUR that were not addressed in the second BUR, Paraguay identified them as areas for enhancing national capacity (BUR, p.130). The main areas are technical capacity to evaluate technology needs and prepare GHG inventories; and capacity to monitor mitigation actions and implement the MRV system.

C. Technical analysis of the information reported

18. The technical analysis referred to in paragraph 12(b) above aims to increase the transparency of mitigation actions and their effects, without engaging in a discussion on the appropriateness of those actions. Accordingly, the focus of the technical analysis was on the transparency of the information reported in the BUR.

19. For information reported on national GHG inventories, the technical analysis also focused on the consistency of the methods used for preparing those inventories with the appropriate methods developed by the IPCC and referred to in the UNFCCC reporting guidelines on BURs.

20. The results of the technical analysis are presented in the remainder of this chapter.

1. Information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis

21. As per the scope defined in paragraph 2 of the UNFCCC reporting guidelines on BURs, the BUR should provide an update to the information contained in the most recently submitted NCs, including information on national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis. In their NCs, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5, and they could report similar information in their BUR, which is an update of their most recently submitted NC.

22. In its second BUR, Paraguay provided an update on its national circumstances, including a description of its geography, territory, land use, climate, population and economy. During the period 2001–2015, Paraguay had a population growth rate of 25 per cent, and in 2016, the population had reached about 6,854,535. The economy has been growing steadily in the past decade owing to the agriculture sector (crops and livestock). Paraguay experienced a growth in gross domestic product in 2018 of 4.5 per cent. The main economic crop in the agriculture sector is soy, followed by wheat, corn and rice. The Party reported that growing deforestation due to land-use change and wood extraction from natural forests affects mainly soil fertility and the vulnerability of the country.

23. In addition, Paraguay provided a summary of relevant information regarding its national circumstances in tabular format. It also included in the BUR graphs to illustrate the trends in population and gross domestic product in the period 1990–2015.

24. Paraguay described in its BUR the existing institutional arrangements relevant to climate change management in the country. In 2017 the Law on Climate Change was enacted to enable sustainable and coordinated national resource planning and urgent action regarding climate change impacts in the country. The main objective of the law is to reduce vulnerability and GHG emissions through supporting adaptation and mitigation strategies to combat climate change. The National Climate Change Division of the Ministry of Environment and Sustainable Development is the institution responsible for compiling and reporting GHG inventories. The Party reported that it is working on a system that will ensure

the sustainable preparation of national GHG inventories in the future. The Party also reported on the composition of its National Commission on Climate Change.

25. Paraguay's second BUR does not report detailed information on the institutional arrangements for the preparation and submission of NCs and BURs on a continuous basis. During the technical analysis, Paraguay indicated that the most relevant institutional arrangements for the periodic preparation of national reports comprise the sectoral working groups on the GHG inventory and the nationally determined contribution and enactment of the Law on Climate Change. The Party recognized the importance of improving its institutional arrangements for preparing its NCs and BURs on a continuous basis. The TTE noted that reporting detailed arrangements in place and improvement plans for the preparation and submission of national reports (BURs and NCs) on a continuous basis could facilitate a better understanding of the information reported.

26. The TTE noted that the transparency of the information reported on institutional arrangements could be further enhanced by addressing the areas noted in paragraph 25 above.

27. Paraguay reported information on its proposed domestic MRV system. The planned system will centralize climate change information and improve its transparency. The institution leading development of the system is the Ministry of Environment and Sustainable Development. The system will be designed at the national level and will cover five main areas: GHG emissions, REDD+, mitigation measures, adaptation activities, and support received and financial support needed. Organizational, technical and financial institutional arrangements are all required to implement the MRV system. During the technical analysis, Paraguay clarified that the MRV system is in the planning stage and that the Party needs to move towards implementing it.

2. National greenhouse gas emissions by sources and removals by sinks

28. As indicated in table 1 in annex I, Paraguay reported information on its GHG inventory in its BUR mostly in accordance with paragraphs 3–10 of the UNFCCC reporting guidelines on BURs and paragraphs 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8.

29. Paraguay submitted its second BUR in 2018, and the GHG inventory reported is for 1990–2015, which is consistent with the requirements for the reporting time frame.

30. GHG emissions and removals for the BUR covering the 1990–2015 inventories were estimated using mainly a tier 1 methodology from the 2006 IPCC Guidelines. Country-specific EFs were used for some categories within the AFOLU sector, such as forest land remaining forest land (3.B.1.a) and forest land converted to cropland (3.B.2.b.i). The TTE commends the Party for its efforts to implement higher-tier methods than those used for the previous GHG inventory for some categories. Paraguay expressed the need for additional training and capacity-building on using higher-tier methodologies for more categories.

31. With regard to the methodologies used, information was clearly reported, including tier levels and sources of AD used for each category and subcategory.

32. Information on the Party's total GHG emissions by gas for 2015 is outlined in table 1 below in Gg CO₂ eq. It shows a decrease in emissions of 7.9 per cent since 1990 (4,396.26 Gg CO₂ eq). Information on HFCs, PFCs and SF₆ and the use of notation keys was reported.

Table 1
Greenhouse gas emissions by gas for Paraguay for 2015

<i>Gas</i>	<i>GHG emissions (Gg CO₂ eq) including FOLU</i>	<i>Change (%) 1990–2015</i>
CO ₂	22 234.0	–42.6
CH ₄	19 341.2	73.1
N ₂ O	9 417.8	64.1
HFCs	282.9	NE
PFCs	NE	NE

<i>Gas</i>	<i>GHG emissions (Gg CO₂ eq) including FOLU</i>	<i>Change (%) 1990–2015</i>
SF ₆	16.5	0.1
Other	NE	NE
Total	51 293.28	-7.9

33. Paraguay applied notation keys in tables where numerical data were not provided. The use of notation keys was consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, which enabled the TTE to have a better understanding of the information reported.

34. Paraguay did not report comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF but did report information similar to the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines. During the technical analysis, the Party submitted comparable information in the form of table 3.2 (“AFOLU background table: 3.B carbon stock changes in FOLU 2015 from the 2006 IPCC Guidelines”); table 3A.2.1A (“Reporting table for emissions and removals of CO₂ and non-CO₂ gases from LULUCF in 2015”); and table 3A.2.1B (“Reporting table for emissions and removals of CO₂ and non-CO₂ gases due to conversion of forest land and grassland to other land categories in 2015”) from the IPCC good practice guidance for LULUCF. The TTE noted that the Party including these tables in the BUR would increase the transparency of reporting.

35. The shares of emissions that different sectors contributed to the total GHG emissions as reported by the Party in 2015 are reflected in table 2.

Table 2
Shares of greenhouse gas emissions by sector for Paraguay for 2015

<i>Sector</i>	<i>GHG emissions (Gg CO₂ eq)</i>	<i>Share^a (%)</i>	<i>Change (%) 1990–2015</i>
Energy	6 170.74	17.36	49.3
IPPU	931.37	2.62	192.9
AFOLU	42 887.73	NA	NA
Livestock (3.A)	17 531.61	49.33	-30.4
Land (3.B)	15 755.05	NA	NA
Aggregate sources and non-CO ₂ emission sources on land (3.C)	9 601.07	27.02	-28.2
Waste	1 303.43	3.67	29.5

^a Share of total without emissions/removals from the land category (3.B).

36. Paraguay reported information on its use of GWP values consistent with those provided by the IPCC in its Second Assessment Report based on the effects over a 100-year time-horizon of GHGs.

37. For the energy sector, information was clearly reported. Emissions from the energy sector changed from 2,474.77 Gg CO₂ eq in 1990 to 6,170.74 Gg CO₂ eq in 2015. For this sector, road transportation (1.A.3.b) was identified as a key category and is the most significant source of emissions.

38. For IPPU, the source categories reported are mineral industry (2.A), metal industry (2.C) and non-energy products from fuels and solvent use (2.D). Paraguay reported “NO” or “NA” for emissions from the chemical industry (2.B). During the technical analysis, the Party clarified that there is no production of PFCs in the country and this is the reason for reporting “NO”, “NA” or “NE” for PFC emissions in different categories in the BUR. Emissions from the IPPU sector rose from 237.03 Gg CO₂ eq in 1990 to 931.37 Gg CO₂ eq in 2015.

39. Paraguay reported separately the agriculture and FOLU sectors and used two abbreviations for the same sector (FOLU and LULUCF), with a note in the executive

summary of the BUR clarifying that it also uses the term “AFOLU sector”, which covers agriculture and LULUCF. The TTE noted that the Party using only one abbreviation (name) for the land-use sector (FOLU or LULUCF) would increase the transparency of the GHG inventory.

40. For the agriculture sector, direct N₂O emissions from managed soils and CH₄ emissions from enteric fermentation were identified as key categories and the most significant emission sources in the sector. Emissions from the agriculture sector increased from 14,210.04 Gg CO₂ eq in 1991 to 27,485.03 Gg CO₂ eq in 2014.

41. For the FOLU sector, Paraguay reported GHG emissions and removals for the period 1990–2015. Emissions from the FOLU sector changed from 36,483.73 Gg CO₂ eq in 1990 to 15,755.05 Gg CO₂ eq in 2015. In this sector, categories 3.B.1 (forest land) and 3.B.2 (cropland) are the most significant sources of emissions. However, since 2013, these emissions have decreased owing to a reduction in the levels of deforestation.

42. In the waste sector, CH₄ emissions from solid waste disposal and wastewater treatment and discharge were the most significant categories. Emissions from the waste sector fluctuated between 567.90 Gg CO₂ eq in 1990 and 1,303.43 Gg CO₂ eq in 2015. Information was not reported on the use of notation keys in categories 4.A.1 (managed waste disposal sites), 4.A.2 (unmanaged waste disposal sites) and 4.A.3 (uncategorized waste disposal sites). The TTE noted that the Party providing explanations for the use of notation keys in the BUR could facilitate a better understanding of the information reported.

43. The national inventory report provides an update to all GHG inventories reported in previous NCs and BURs. Paraguay reported its national inventory report as a technical annex to the BUR and included information that provides an update of the NC3 and first BUR inventories, which addressed anthropogenic emissions and removals for several years, the most recent one being 2012. The update was carried out for all years in the period 1990–2015 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 26-year time series. The previous national inventory was prepared using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF. The TTE commends the Party for using the more recent 2006 IPCC Guidelines and for recalculating previous inventory years to ensure time-series consistency.

44. Paraguay described in its BUR the institutional framework for the preparation of its 2015 GHG inventory. The Ministry of Environment and Sustainable Development is the governmental body responsible for climate change policies and is responsible for the Party's GHG inventory, which was prepared mainly with financial support from the Global Environment Facility for the preparation of the NC and BUR. During the technical analysis, Paraguay clarified that the focal points designated by the data-providing institutions formed five sectoral working groups (for the energy, IPPU, agriculture, FOLU and waste sectors). Meetings of these working groups were organized in the period 2017–2018. The role of the institutions involved in preparing the GHG inventory was to provide the AD, and in some cases the EFs, used for the calculations, as well as to validate the results obtained. Paraguay explained that the National Climate Change Division established an archive for storing all the documentation used and the results obtained during the preparation of the GHG inventory. The Party expressed the need for additional training and capacity-building on implementing institutional arrangements that would ensure the preparation of GHG inventories on a continuous basis.

45. Paraguay reported that a key category analysis was performed for the level of emissions. The key categories for the 2015 inventory were identified as being forest land converted to cropland (3.B.2.b), forest land remaining forest land (3.B.1.a), enteric fermentation (3.A.1), direct N₂O emissions from managed soils (3.C.4), land converted to forest land (3.B.1.b), road transportation (1.A.3.b), land converted to other land (3.B.6.b) and indirect N₂O emissions from managed soils (3.C.5). Paraguay also presented a key category analysis for the trend in emissions for the period 1990–2015, which confirmed most of the categories above to be key categories and added energy – other sectors (1.A.4) and solid waste disposal (4.A).

46. The BUR provides information on QA/QC measures for the overall GHG inventory. The TTE commends Paraguay for providing information on QA/QC measures for all sectors.

47. Paraguay reported information on CO₂ fuel combustion using both the sectoral and the reference approach along with an examination of the difference between the results obtained from the two approaches, which was 2 per cent. A greater amount of emissions resulted from the reference approach.

48. Information was reported on international aviation but was not reported on marine bunker fuels. During the technical analysis, Paraguay indicated that it faces limitations regarding national data for estimating emissions from maritime and fluvial navigation activities. The data available from the national energy balance are not disaggregated by type of transport, and, as such, cannot be reported separately in the BUR. The TTE noted that the Party providing information on how international transport emissions are reported in the BUR could facilitate a better understanding of the information reported.

49. Paraguay reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach (method 1 (propagation of error) from the 2006 IPCC Guidelines) and covers almost all source categories and all direct GHGs. The results obtained, as reported in the BUR, reveal that the level uncertainty for emissions is 98.7 per cent (98.6 per cent for LULUCF) and the trend uncertainty is 62.3 per cent. During the technical analysis, Paraguay expressed the need for additional training and capacity-building on performing uncertainty analyses for the inventory team and the institutions in charge of generating and providing data. The TTE noted that the Party reporting the uncertainty of AD and EFs in the BUR could facilitate a better understanding of the information reported.

50. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 34, 39, 42, 48–49 above.

51. In paragraphs 30–33 and 36 of the summary report on the technical analysis of Paraguay's first BUR, the previous TTE noted where the transparency of reporting could be enhanced; these areas were providing sources of AD and EFs, applying a consistent approach to the use of notation keys, maintaining the IPCC category/subcategory reporting structure, and providing comparable information to tables from annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF as well as the reporting tables for other sectors as annexed to the Revised 1996 IPCC Guidelines. The TTE noted that Paraguay took into consideration most of the areas for improvement in its second BUR in the inventory chapter and commends the Party for enhancing the transparency of the information reported.

3. Mitigation actions and their effects, including associated methodologies and assumptions

52. As indicated in table 2 in annex I, Paraguay reported in its BUR, partially in accordance with paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, information on mitigation actions and their effects, to the extent possible.

53. The information reported provides an overview of the Party's proposed mitigation actions and their effects. In its BUR, which includes information on national context and changes thereto, Paraguay frames its national mitigation planning and actions in the context of its nationally determined contribution. The Party reported that climate change has been mainstreamed and integrated into its development plans, including mitigation. In 2017, Paraguay produced a national climate change mitigation plan (Plan Nacional de Mitigación ante el Cambio Climático y los Programas de Acción), which establishes seven main strategic lines of action: (1) optimization of the sustainable use of biomass; (2) diversification of the energy matrix; (3) promotion of energy efficiency; (4) promotion of sustainable renewable energies, clean technologies, fuel quality and biofuels; (5) improvement of the public transportation system; (6) enhancing forest plantations, agricultural and forestry practices; and (7) improving waste management. Paraguay also reported three transverse lines of action (raising awareness and education, institutional strengthening and a gender approach). These lines of action lead to small- or medium-scale programmes of action that could be scaled up depending on international support and technology received. Paraguay is working on a 2020–2030 road map for facilitating the implementation of these actions. The Party has projects

under the REDD+ mechanism that resulted in emission reductions of 26,793 Gg CO₂ eq in the period 2015–2017.

54. The Party only reported a summary of its future and ongoing mitigation actions in the AFOLU sector within the framework of its nationally determined contribution in tabular format. Other mitigation actions in other sectors were not reported in tabular format.

55. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Paraguay reported its programmes of action in the energy sector (integral management of the transport sector, use of efficient stoves using firewood from reforestation, substitution of liquefied petroleum gas stoves with electric stoves in urban areas, and sustainable architecture), the FOLU sector (sustainable use of forests) and the waste sector (reduction of waste) and ongoing actions in the AFOLU sector (the Green Production Landscapes Project, the Poverty, Reforestation, Energy and Climate Change Project (PROEZA Project) and the voluntary environmental services payment incentives programme for avoiding and reducing GHG emissions in the highly threatened Chaco Seco Forest Complex (PROMESA programme)). Information on a description of mitigation actions (including information on the nature of the action and coverage) and information on quantitative goals and indicators was not clearly reported in the BUR. During the technical analysis, Paraguay clarified that detailed information on mitigation actions, including a description of the nature of the action, objectives, steps taken and progress indicators, is available in its national climate change mitigation plan, which is publicly available. Further, Paraguay explained that it plans to submit detailed information on the quantitative goals of its mitigation actions in its next BUR. The TTE noted that the Party reporting detailed information on a description and the quantitative goals and indicators of its mitigation actions could facilitate a better understanding of the information reported.

56. Paraguay did not report the calculation methodologies, assumptions, objectives of the actions, steps taken or envisaged to achieve the action, information on the progress of implementation of the mitigation actions, information on the progress and the underlying steps taken or envisaged and information on the results achieved, such as estimated outcomes and estimated emission reductions. During the technical analysis, the Party clarified that the assumptions are available in specific sectoral documents and are publicly available. The TTE noted that the Party reporting information consistently with decision 2/CP.17, annex III, paragraph 12(b)–(d) for all mitigation actions could facilitate a better understanding of the information reported.

57. Paraguay did not provide information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. During the technical analysis, Paraguay informed the TTE that clean development mechanism projects had been reported in the first BUR and that had not been further developed since then. The TTE noted that the Party reporting updated information on international market-based mechanisms could facilitate a better understanding of the information reported.

58. Paraguay listed in annex R to its BUR ongoing projects of a social or environmental nature that may result in emission reductions, but which are not linked to the national climate change mitigation plan. These projects are in the AFOLU sector and under the control of public institutions and non-governmental organizations. Paraguay also reported the development of a tool for determining the carbon footprint of the public and private sectors.

59. Paraguay reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Paraguay is in the process of developing and designing a domestic MRV system for mitigation actions and that the Party has already defined the objectives of the system and the institutions and actors that will be involved. The proposed MRV system will include the following additional components besides mitigation: GHG emissions, mitigation measures, adaptation activities, support received and financial support needed, and REDD+. The entire MRV system must be part of a climate change platform or system led by the Ministry of Environment and Sustainable Development. For the AFOLU sector, the institutions and other actors identified as contributors to the MRV system are the National Forestry Institute, the Ministry of Agriculture and Livestock, non-governmental organizations, academic institutions, production associations, and owners and users of public and private lands.

60. The TTE noted that the transparency of the information reported on mitigation actions and their effects could be further enhanced by addressing the areas noted in paragraphs 55–57 above.

4. Constraints and gaps, and related technology, financial, technical and capacity-building needs, including a description of support needed and received

61. As indicated in table 3 in annex I, Paraguay reported in its BUR, mostly in accordance with paragraphs 14–16 of the UNFCCC reporting guidelines on BURs, information on finance, technology and capacity-building needs and support received.

62. Paraguay reported information on constraints and gaps, and related financial, technical and capacity-building needs, in accordance with decision 2/CP.17, annex III, paragraph 14. In its BUR, Paraguay identified limited budget, lack of staff, low technical capacity in its institutions, high dependency on technical and financial cooperation, and poor access to information as the main constraints and gaps for climate change management in the country. The Party reported that its financial, technical and capacity-building needs primarily relate to strengthening the technical capacity of its staff, implementing its Law on Climate Change and a national MRV system, and obtaining financial resources for institutional strengthening. During the technical analysis, Paraguay identified as a high priority area for capacity-building the identification of gaps and constraints.

63. Paraguay reported information on financial resources received and capacity-building workshops in which the Party participated. In its BUR, Paraguay reported that it received more than USD 70,807,703 from the Global Environment Facility, the Green Climate Fund, the Forest Carbon Partnership Facility and the Adaptation Fund. This amount includes the financial support the Party received for both its first and second BURs and its NC3. The Party did not report information on support received from Annex II Parties and other developed country Parties. During the technical analysis, Paraguay indicated that the implementation of a tracking system to monitor and report on climate finance received from developed countries, multilateral entities and the private sector is a high priority. Paraguay provided information on the establishment of a working group on climate finance within the National Commission on Climate Change comprising relevant national and private institutions and non-governmental organizations, among other members. One of this working group's objectives is to systematize information on the financial support received in the country for climate action. The TTE noted that the Party reporting all climate finance support received in the BUR could facilitate a better understanding of the information reported.

64. Paraguay did not report information on nationally determined technology needs with regard to the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16. In its BUR, Paraguay reported that it has not yet carried out a technology needs assessment. During the technical analysis, Paraguay recognized the usefulness of identifying technology needs for the country and therefore recognized the technology needs assessment as a high priority. The TTE noted that the Party assessing technology needs in a nationally determined manner and including this information in the BUR could facilitate better understanding of the information reported.

65. The TTE noted that the transparency of the information reported on needs and support received could be further enhanced by addressing the areas noted in paragraphs 63 and 64 above.

66. In paragraph 48 of the summary report on the technical analysis of Paraguay's first BUR, the previous TTE noted where the transparency of reporting on constraints and gaps could be further enhanced. The current TTE noted that Paraguay took into consideration this area for improvement in its second BUR and commends the Party for enhancing the transparency of the information reported.

D. Identification of capacity-building needs

67. In consultation with Paraguay, the TTE identified the following needs for capacity-building that could facilitate the preparation of subsequent BURs and participation in ICA:

- (a) Improving the institutional arrangements for preparing NCs and BURs on a continuous basis;
- (b) Strengthening institutional capacity regarding MRV system implementation;
- (c) Designing and implementing an MRV system for mitigation actions that includes data collection, processing and analysis, including private projects, and a climate finance tracking system to facilitate the monitoring and reporting of information on financial resources received;
- (d) Developing and using higher-tier methodologies;
- (e) Developing the capacity of the inventory team and the institutions in charge of generating and providing data to carry out uncertainty analyses;
- (f) Enhancing the national capacity to report mitigation actions;
- (g) Identifying and formulating baselines, scenarios, methodologies and assumptions for estimating the effects of mitigation actions, and monitoring the progress of mitigation actions;
- (h) Identifying gaps and constraints;
- (i) Reporting the information generated by the working group on climate finance in the BUR;
- (j) Assessing technology needs in a nationally determined manner.

68. The TTE noted that, in addition to those identified during the technical analysis, Paraguay reported several capacity-building needs in table 13 of its BUR covering the following areas:

- (a) Human capacity for collecting data for the MRV system;
- (b) A platform for collecting data for GHG inventories;
- (c) Institutional arrangements and technical support for implementing mitigation projects and nationally appropriate mitigation actions;
- (d) Support for implementing renewable energy projects;
- (e) Development of mitigation scenarios;
- (f) Development of national adaptation indicators;
- (g) Scientific research in climate phenomena and dissemination of that research.

69. In paragraphs 56 and 57 of the summary report on the technical analysis of Paraguay's first BUR, the previous TTE, in consultation with Paraguay, identified capacity-building needs. In its second BUR (p.130), Paraguay reflected on the status of those capacity-building needs in detail. The main achievements in overcoming the capacity-building needs have been the training of national experts in using the 2006 IPCC Guidelines for preparing GHG inventories; and establishing a centralized platform and inter-institutional working groups for collecting data for developing the GHG emissions inventory.

III. Conclusions

70. The TTE conducted a technical analysis of the information reported in the second BUR of Paraguay in accordance with the UNFCCC reporting guidelines on BURs. The TTE concludes that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs and provides an overview of national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis; the national inventory of anthropogenic emissions by sources and removal by sinks of all GHGs not controlled by the Montreal Protocol; mitigation actions and their effects; constraints and gaps and related financial, technical and capacity-building needs, including a description of support needed and received; the level of support received to enable the preparation and submission of BURs;

domestic MRV; and any other information relevant to the achievement of the objective of the Convention. The TTE concluded that the information analysed is mostly transparent.

71. Paraguay reported information on the institutional arrangements in place for climate change working areas in the country, including the preparation of national reports. The Party has taken significant steps in this regard: the enactment of the Law on Climate Change, the establishment of a National Commission on Climate Change and the formation of working groups for collecting data for GHG inventories and climate finance. Paraguay has proposed a domestic MRV system to centralize climate change information and improve its transparency. The leading institution for this system is the Ministry of Environment and Sustainable Development. Paraguay recognizes the importance of improving its institutional arrangements for preparing NCs and BURs on a continuous basis, and of strengthening institutional, capacity-building and financial support for implementing the domestic MRV system.

72. In its second BUR, submitted in 2018, Paraguay reported information on its national GHG inventory for the period 1990–2015. This included GHG emissions and removals of CO₂, CH₄, N₂O, HFCs and SF₆ for all relevant sources and sinks. Estimates of fluorinated gases were only partly provided owing to difficulties in obtaining the necessary data, as clarified by the Party in the BUR and during the technical analysis. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2015 were reported as 35,538.22 Gg CO₂ eq (excluding FOLU) and 51,293.28 Gg CO₂ eq (including FOLU). Eight key categories were identified, with CO₂ and land converted to cropland identified as the main gas and key category, respectively.

73. Paraguay reported information on mitigation actions and their effects from the 2017 national climate change mitigation plan, which establishes 10 main strategic and three transverse lines of action. Paraguay reported mitigation actions that are planned, which will occur in the energy, FOLU and waste sectors, and ongoing actions in the AFOLU sector. The key mitigation actions are in the FOLU sector, where a REDD+ project has already resulted in emission reductions of 26,793 Gg CO₂ eq in the period 2015–2017. During the technical analysis, Paraguay acknowledged the need for enhancing the information on its mitigation actions and the related MRV system.

74. Paraguay reported information on key constraints, gaps and related needs. The Party reported limited budget, lack of staff, low technical capacity in its institutions, high dependency on technical and financial cooperation, and poor access to information as the main constraints and gaps. The BUR identifies the following needs: increasing the technical capacity of the Party's staff, implementing the Law on Climate Change, operating a national climate change MRV system and increasing the budget for institutional strengthening. Information on overall support received and needed was reported, but support received from Annex II Parties and other developed country Parties was not. Information on technology needs was not reported, while technology support received was included in the BUR.

75. The TTE, in consultation with Paraguay, identified the capacity-building needs listed in chapter II.D above that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. Paraguay categorized all the capacity-building needs as being of high priority.

Annex I

Extent of the information reported by Paraguay in its second biennial update report

Table 1

Identification of the extent to which the elements of information on greenhouse gases are included in the second biennial update report of Paraguay

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Paraguay submitted its second BUR in December 2018; the GHG inventory reported is for 1990–2015.
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established in the latest UNFCCC guidelines for the preparation of NCs from non-Annex I Parties approved by the Conference of the Parties or those determined by any future decision of the Conference of the Parties on this matter.	Yes	Paraguay used the 2006 IPCC Guidelines.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Yes	
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;	No	Comparable information was not reported in the BUR but was provided during the technical analysis.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Comparable information was reported.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Yes	The time series reported in the BUR included 1990–2015.
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).	Yes	This information was reported for 1990, 1994, 2000, 2005, 2011 and 2012.
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of a national inventory report as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National greenhouse gas inventories), including:	Yes	

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 10	(a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);	Partly	Comparable information was reported in table B of the annexes to the BUR. Information on precursors was not reported.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF ₆).	Yes	Comparable information was reported in table B of the annexes to the BUR.
Decision 17/CP.8, annex, paragraph 12	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	Yes	The Party submitted a national inventory report as an annex to its BUR and a REDD+ technical annex.
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.	Yes	
Decision 17/CP.8, annex, paragraph 14	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.	Partly	The procedures in place to make the preparation of the inventory a continuous process are not fully described in the BUR. The roles of the institutions involved are also not described.
Decision 17/CP.8, annex, paragraph 15	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
Decision 17/CP.8, annex, paragraph 15	(a) CO ₂ ;	Yes	
	(b) CH ₄ ;	Yes	
	(c) N ₂ O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	Yes	
	(a) HFCs;	Yes	
	(b) PFCs;	Yes	During the technical analysis, Paraguay explained that there is no production of PFCs in the country and that the consumption figures are not known. The notation key “NO” has been used to report PFCs.
Decision 17/CP.8, annex, paragraph 16	(c) SF ₆ .	Yes	Information on SF ₆ was reported.
	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as:		
	(a) Carbon monoxide;	No	Paraguay did not report carbon monoxide emissions. In its BUR, Paraguay noted that owing to time and other resource constraints, it prioritized the reporting of direct GHGs.
	(b) Nitrogen oxides;	No	Paraguay did not report emissions of nitrogen oxides. In its BUR, Paraguay noted that owing to time and other resource

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	(c) Non-methane volatile organic compounds.	No	constraints, it prioritized the reporting of direct GHGs. Paraguay did not report non-methane volatile organic compounds. In its BUR, Paraguay noted that owing to time and other resource constraints, it prioritized the reporting of direct GHGs.
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as sulfur oxides, and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	No	The Party did not report on other gases, such as sulfur oxides. In its BUR, Paraguay noted that owing to time and other resource constraints, it prioritized the direct gases and did not calculate estimates for other gases.
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible, and if disaggregated data are available, to estimate and report CO ₂ fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	Yes	
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	No	
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO ₂ eq should use the GWP provided by the IPCC in its Second Assessment Report based on the effects of GHGs over a 100-year time-horizon.	Yes	The Party used the GWP provided in the IPCC Second Assessment Report.
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Paraguay used the 2006 IPCC Guidelines. Tier 1 and tier 2 methodologies were used for specific sectors.
	(b) Explanation of the sources of EFs;	Yes	Paraguay used the 2006 IPCC Guidelines.
	(c) Explanation of the sources of AD;	Yes	Paraguay used the 2006 IPCC Guidelines.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Comments on the extent of the Yes/partly/no/NA information provided</i>	
	(d) If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe: (i) Source and/or sink categories; (ii) Methodologies; (iii) EFs; (iv) AD;	NA	
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1 and 2 of the guidelines annexed to decision 17/CP.8 in reporting its national GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information that is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated.	Yes	Notation keys were used.
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties: (a) Level of uncertainty associated with inventory data; (b) Underlying assumptions; (c) Methodologies used, if any, for estimating these uncertainties.	Yes No Yes	

Note: The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paragraphs 3–10 and 41(g). Further, as per paragraph 3 of those guidelines, non-Annex I Parties are to submit updates of their national GHG inventories in accordance with paragraphs 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8. The scope of such updates should be consistent with the non-Annex I Party’s capacity and time constraints and the availability of its data, as well as the level of support provided by developed country Parties for biennial update reporting.

Table 2

Identification of the extent to which the elements of information on mitigation actions are included in the second biennial update report of Paraguay

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Partly	Future and ongoing mitigation actions in the AFOLU sector were reported in tabular format (table R of the annex to the BUR). The summary includes the name of the action, the implementation period and the estimated emission reductions per year.
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
	country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Partly	Information on mitigation actions is not complete. For REDD+ activities and some other AFOLU mitigation actions, partial information is presented. Coverage, quantitative goals and progress indicators were not provided. Mitigation actions in the energy and waste sectors were named only.
	(b) Information on:		
	(i) Methodologies;	Partly	No information on mitigation action methodologies is included in the BUR, except for the REDD+ project.
	(ii) Assumptions;	No	
	(c) Information on:		
	(i) Objectives of the action;	No	
	(ii) Steps taken or envisaged to achieve that action;	No	
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Partly	The Party reported the status of implementation of mitigation actions only for the ongoing mitigation actions in the AFOLU sector, which are listed in annex R to the BUR.
	(ii) Progress of implementation of the underlying steps taken or envisaged;	No	
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	The Party reported on emission reductions for the REDD+ project, which were 26,793 Gg CO ₂ eq in the period 2015–2017. There is no information on the results achieved for the ongoing mitigation actions in all sectors.
	(e) Information on international market mechanisms.	No	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Partly	A general description of Paraguay's future MRV system is presented in the BUR.

Note: The parts of the UNFCCC reporting guidelines on BURs on the reporting of information on mitigation actions in BURs are contained in decision 2/CP.17, annex III, paragraphs. 11–13.

Table 3

Identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the second biennial update report of Paraguay

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on:		
	(a) Constraints and gaps;	Yes	
	(b) Related financial, technical and capacity-building needs.	Yes	
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide:		
	(a) Information on financial resources received, technology transfer and capacity-building received;	Yes	
	(b) Information on technical support received from the Global Environment Facility, Annex II Parties and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.	Partly	Paraguay did not report support provided from Annex II Parties and other developed country Parties.
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on:		
	(a) Nationally determined technology needs;	No	
	(b) Technology support received.	Yes	

Note: The parts of the UNFCCC reporting guidelines on BURs on the reporting of information on finance, technology and capacity-building needs and support received in BURs are contained in decision 2/CP.17, annex III, paras. 14–16.

Annex II

Documents and information used during the technical analysis

Reference documents

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