



United Nations

FCCC/SBI/ICA/2016/TASR.1/PRY



Framework Convention on  
Climate Change

Distr.: General  
30 September 2016

English only

---

## **Technical analysis of the first biennial update report of Paraguay submitted on 30 December 2015**

**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 (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, were to submit their first biennial update report (BUR) by December 2014. The least developed country Parties and small island developing States may submit BURs at their discretion. Further, according to paragraph 58(a) of the same decision, the first round of international consultation and analysis (ICA) will be conducted for non-Annex I Parties commencing within six months of the submission of the Party's first BUR. The process of ICA consists of two steps: the technical analysis of the submitted BUR, followed by a workshop for the facilitative sharing of views under the Subsidiary Body for Implementation. This summary report presents the results of the technical analysis of the first BUR 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.

GE.16-16937(E)



\* 1 6 1 6 9 3 7 \*

Please recycle



## Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Introduction and process overview .....	1–6	3
A. Introduction .....	1–2	3
B. Process overview .....	3–6	3
II. Technical analysis of the information reported in the biennial update report .....	7–57	4
A. Scope of the technical analysis .....	7–8	4
B. Overview of the elements of information reported .....	9–17	4
C. Technical analysis of the information reported.....	18–55	14
D. Identification of capacity-building needs.....	56–57	21
III. Conclusions .....	58–59	22
Annex		
Documents and information used during the technical analysis .....		24

## **I. Introduction and process overview**

### **A. Introduction**

1. According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, were to submit their first biennial update report (BUR) by December 2014. The least developed country Parties and small island developing States may submit BURs at their discretion. Further, according to paragraph 58(a) of the same decision, the first round of international consultation and analysis (ICA) will be conducted for non-Annex I Parties, commencing within six months of the submission of the Party's first BUR. The process of ICA consists of two steps: the technical analysis of the submitted BUR, resulting in a summary report for each BUR analysed, followed by a workshop for the facilitative sharing of views under the Subsidiary Body for Implementation.

2. This summary report presents the results of the technical analysis of the first BUR of Paraguay undertaken by a team of technical experts (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.

### **B. Process overview**

3. Paraguay submitted its first BUR on 30 December 2015. During the technical analysis, Paraguay clarified that the funding for the preparation of its BUR was received in March 2014 and the operational arrangements were finalized in September 2014; therefore, the preparation of the BUR started in October 2014 and continued up to the submission of the BUR in December 2015.

4. The technical analysis of the BUR took place from 13 to 17 June 2016 in Bonn, Germany, 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: Ms. María Fernanda Alcobé (Argentina), Ms. Estefania Ardila Robles (member of the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) from Colombia), Mr. Felipe de León (Costa Rica), Mr. Carlos Fuller (former member of the CGE from Belize), Ms. Inge Jonckheere (Belgium) and Ms. Rosa María Rivas Palma (New Zealand). Ms. Ardila Robles and Ms. Rivas Palma were the co-leads. Ms. Karen Ortega (secretariat) provided administrative support to the TTE.

5. During the technical analysis, the TTE and Paraguay engaged in consultation via videoconferencing on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of the BUR, the TTE prepared and shared a draft summary report with Paraguay on 24 August 2016 for its review and comment. Paraguay, in turn, provided its feedback on the draft summary report on 7 September 2016.

6. The TTE responded to and incorporated the Party's comments referred to in paragraph 5 above and finalized the summary report in consultation with Paraguay on 29 September 2016.

## **II. Technical analysis of the information reported in the biennial update report**

### **A. Scope of the technical analysis**

7. 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 chapter II.B below);

(b) A technical analysis of the information reported in the BUR, specified in the “UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention” (hereinafter referred to as the UNFCCC reporting guidelines on BURs) contained in annex III to decision 2/CP.17, and any additional technical information provided by the Party concerned (see chapter 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 chapter II.D below).

8. 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 7 above.

### **B. Overview of the elements of information reported**

9. The elements of information referred to in paragraph 7(a) above include: the national greenhouse gas (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 measurement, reporting and verification (MRV); and information on support received.

10. Further, 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 9 above have been included in the BUR of the Party concerned. The results of that analysis are presented in tables 1, 2 and 3 below.

#### **1. National greenhouse gas inventory**

11. 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, paragraph 41(g), and paragraphs 3–10 of the UNFCCC reporting guidelines on BURs. 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 “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention” 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.

12. Table 1 presents the results of the identification of the extent to which the elements of information on GHGs are included in the first BUR of Paraguay in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 1

**Identification of the extent to which the elements of information on greenhouse gases are included in the first 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	Yes	
Decision 2/CP.17, annex III, paragraph 5	The updates of the sections on the 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 emission factor may be made in the subsequent full national communication	Yes	
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:		
	(a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by	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>
	sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors)		
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> )	Partly	Information on anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> was included at an aggregated level and as an item of table 1
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) Tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF	Partly	Only tables 3A.2.1A and 3A.2.1B were included in the BUR
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines	Partly	Only the sectoral report table for the energy sector was included in the BUR, with emission estimates under some categories (energy industries, manufacturing industries and construction, fugitive emissions from fuels) presented at an aggregate level
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 the previous national communications	Partly	In the BUR, the Party reported a summary table on previously submitted GHG inventories (1990, 1994 and 2000) in page 67. These inventories cover a single year each. However, the 2011 inventory does not cover the time series back to the year reported in the last national communication (e.g. for

<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>
			the period 2000–2011)
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their national communications are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000)	Yes	
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex	No	
Decision 17/CP.8, annex, paragraph 13	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	Although general information on the agencies involved in the preparation of GHG inventories was reported and on efforts to make this a continuous process, the BUR does not contain information on the procedures and arrangements for data collection and archiving
Decision 17/CP.8, annex, paragraph 14	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 the following gases by sources and removals by sinks:		
	(a) CO <sub>2</sub>	Yes	
	(b) CH <sub>4</sub>	Yes	
	(c) N <sub>2</sub> O	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 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of HFCs, PFCs and SF <sub>6</sub>	Yes	HFCs, PFCs and SF <sub>6</sub> under the industrial processes sector were noted as either “NA” or “NE” in the GHG summary report table at an aggregated level
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	Yes	
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as:		
	(a) CO	Partly	Emission estimates in GHG inventory sectors other than energy were not included in the BUR and no key notation was provided in the summary report table for CO (table 7, pages 53 and 54)
	(b) NO <sub>x</sub>	Partly	Emission estimates in GHG inventory sectors other than energy were not included in the BUR and no key notation was provided in the summary report table for NO <sub>x</sub> (table 7, pages 53 and 54)
	(c) NMVOCs	Partly	Emission estimates in GHG inventory sectors other than energy were not included in the BUR and no key notation was



<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>
			provided in the summary report table for NMVOCs (table 7, pages 53 and 54)
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO <sub>x</sub> , included in the Revised 1996 IPCC Guidelines may be included at the discretion of the Parties	Partly	Emission estimates were reported for the industrial processes sector; for the energy sector, they were reported as either “NE” or “NO”; no further information was provided for other subcategories
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 emission factors and activity data. 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, emission factors and activity data 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	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>
	estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol		
	(b) Explanation of the sources of emission factors	Yes	The use of default emission factors from the Revised 1996 IPCC Guidelines and country-specific emission factors in the LULUCF sector is reported
	(c) Explanation of the sources of activity data	Partly	The existence of a variety of activity data providers is reported; however, the names of the entities and the specific activity data supplied by these providers is not reported
	(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:	NA	The Party did not use emission and removal estimates for any country-specific source or sink
	(i) Source and/or sink categories		
	(ii) Methodologies		
	(iii) Emission factors		
	(iv) Activity data		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building	Partly	Capacity-building needs in relation to GHG inventory estimates were identified. However, specific areas of improvement were not reported
Decision 17/CP.8,	Non-Annex I Parties are encouraged to provide		

<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>
annex, paragraph 24	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	No	
	(b) Underlying assumptions	No	
	(c) Methodologies used, if any, for estimating these uncertainties	No	

*Abbreviations:* BUR = biennial update report, GHG = greenhouse gas, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, LULUCF = land use, land-use change and forestry, NA = not applicable, NE = not estimated, NMVOC = non-methane volatile organic compound, NO = not occurring, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*.

## 2. Mitigation actions and their effects

13. 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.

14. Paraguay reported on mitigation actions in its first BUR. The information on mitigation actions reported is not provided in tabular format.

15. Table 2 presents the results of the identification of the extent to which the elements of information on mitigation actions are included in the first BUR of Paraguay in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 2  
**Identification of the extent to which the elements of information on mitigation actions are included in the first 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 12	For each mitigation action or groups of mitigation actions including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing 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	Name and description of a few policy instruments and non-governmental organization/civil society initiatives have been included in the biennial update report. Coverage, quantitative goals, progress and progress indicators were not included in the BUR since the information was not available at the national level
	(b) Information on:		
	(i) Methodologies	No	
	(ii) Assumptions	No	
	(c) Information on:		
	(i) Objectives of the action	Partly	Most of the initiatives described do not include information on objectives since this information was not available at the national level
	(ii) Steps taken or envisaged to achieve that action	No	

<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>
	(d) Information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible:	No	
	(i) Progress of implementation of the mitigation actions	Partly	Most of the mitigation actions do not include any information on progress of implementation since this information was not available at the national level
	(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	No	
	(e) Information on international market mechanisms	Yes	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on the description of domestic measurement, reporting and verification arrangements	Yes	

### 3. Finance, technology and capacity-building needs and support received

16. 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, paragraphs 14–16.

17. Table 3 presents the results of the identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the BUR of Paraguay in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

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 first 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 constraints and gaps, and related financial, technical and capacity-building needs:		
	Constraints and gaps	Yes	
	Related financial, technical and capacity-building needs	Yes	
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide updated information on financial resources, technology transfer, capacity-building and 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 biennial update report	Yes	
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 technology needs, which must be nationally determined, and technology support received:		
	Technology needs, which must be nationally determined	No	
	Technology support received	No	

### C. Technical analysis of the information reported

18. The technical analysis referred to in paragraph 7(b) above aims to increase the transparency of mitigation actions and their effects, without engaging in discussion on the appropriateness of those actions. Accordingly, the technical analysis focused 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 Intergovernmental Panel on Climate Change (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 national communication, including, among other things, information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis. For their national communications, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5.

22. In accordance with decision 17/CP.8, annex, paragraph 3, Paraguay, in its BUR, reported the following information on its national circumstances: governance, geography, hydrology, orography, soils, vegetation, climate, ecological zones, population, social development and economy.

23. As encouraged in decision 17/CP.8, annex, paragraph 4, Paraguay provided a summary of relevant information regarding its national circumstances in tabular format. This information transparently describes its national circumstances, in particular population (2004–2013) and gross domestic product (GDP) evolution (2000–2014), and the economic sector's contribution to the GDP of Paraguay.

24. Paraguay provided charts and graphs to illustrate some of the information on its national circumstances. The BUR also contains maps showing its geographical location, regions, hydrology, orography, soils, geology, vegetation, climate and ecological zones.

25. Paraguay reported an average economic growth of 4.9 per cent in the last decade. The economy is based on agriculture and livestock farming, which is highly vulnerable to climate variability, climate change and extreme weather events. These in turn have affected the economic growth. The Party also reported on its National Development Plan 2030.

26. In terms of the institutional arrangements relevant to the preparation of its national communications and BURs, Paraguay reported that the Environment Secretary (SEAM) through the National Office of Climate Change (ONCC) is currently responsible for coordinating and compiling the GHG inventory, and leads the processes of national communications and BURs through its Department of Inventories and Reports. Paraguay also reported that a national mechanism for preparing the GHG inventory has not been established to date. The legal roles of SEAM and particularly ONCC include those relating to the preparation of the national communications. Based on this, Paraguay clarified during the technical analysis that the compilation of the BUR is the responsibility of the same organization. Paraguay also clarified that it is in the process of defining and formalizing the institutional arrangements to collect and archive data for the preparation of the national GHG inventory for all the sectors, including the involvement of relevant agencies and organizations.

27. The TTE notes that reporting this information in the BUR would further enhance the transparency of the reporting on the preparation of national communications and BURs on an ongoing basis. Paraguay has identified the challenges, constraints and gaps, as well as the further resources required to enable Paraguay to meet the requirements for the

preparation of national communications and BURs on a continuous basis. Additional findings on these matters are included in chapter II.C.4 below.

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

28. As indicated in table 1 above, Paraguay reported information on its GHG inventory in its BUR, in accordance with paragraphs 3–10 of the UNFCCC reporting guidelines on BURs and paragraphs 8–24 of the “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention” contained in the annex to decision 17/CP.8.

29. Paraguay included in its BUR a national GHG inventory with emissions by sources and removals by sinks for 2011. The GHG inventory reflects updated activity data and, in some cases, emission factors. For instance, the emission factors for the land use, land-use change and forestry (LULUCF) sectors were updated. In addition, Paraguay has transparently indicated the methodologies used in preparing the inventory, namely: the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines), the *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* and the *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (hereinafter referred to as the IPCC good practice guidance for LULUCF). The TTE commends the Party for its efforts to implement more updated methodologies compared with previous inventory submissions, particularly the IPCC good practice guidance for LULUCF. During the technical analysis, Paraguay clarified that a transition to the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines) is being considered for subsequent reports.

30. In the BUR, Paraguay reported that further improvements on activity data are required in order to produce updated and more transparent GHG inventories. However, the specific areas of improvement have not been explicitly identified in the BUR. During the technical analysis, Paraguay provided additional information on the LULUCF, agriculture and waste sectors and confirmed that substantial capacity-building needs exist for LULUCF and agriculture regarding activity data collection, compilation, processing and archiving and other major steps of the GHG inventory process. General information was provided in the BUR on the sources of activity data and emission factors used to generate the inventory estimates; however, from the report, it is not possible to clearly establish where the data or emission factors come from. During the technical analysis, Paraguay provided additional information on such data and emission factor sources under the LULUCF, agriculture and waste sectors. Documentation on a key category analysis and a time series back to the year of the previous inventory are other missing elements; however, during the technical analysis, the Party provided further information on the time series. The TTE notes that the inclusion of this information for all sectors in subsequent reports could increase the transparency of the GHG inventory.

31. In its BUR, Paraguay included a reporting table summarizing all sectors and gases covered in the GHG inventory following the reporting structure contained in table 1 of the “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention” contained in the annex to decision 17/CP.8 with aggregate information on anthropogenic emissions by sources of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). Some notation keys in the reporting tables are not reported, nor are they allocated consistent with the IPCC methodology. The TTE notes that applying a consistent approach to the use of the notation keys and maintaining the IPCC category/subcategory reporting structure could enhance the transparency of the BUR.



32. In the GHG inventory, the complete series of 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 were not included in the BUR, with the exception of energy. The TTE notes that including this information would increase the transparency of the reports.

33. The BUR does not include an uncertainty assessment or an identification of the main sources of uncertainty. During the technical analysis, Paraguay clarified that sectoral uncertainty assessments were carried out for all sectors with the exception of LULUCF, and provided additional information on uncertainty data for the subcategories of the agriculture sector, including enteric fermentation, manure management and rice cultivation. Paraguay also stated that a complete uncertainty analysis is going to be reported in subsequent BURs. The TTE notes that the transparency of the information reported could be enhanced by including this information in the BUR.

34. For the energy sector, Paraguay included a sectoral report table containing information on emissions of GHGs and precursors. The BUR includes a description of the sector's emissions distribution by categories. In generating estimates of carbon dioxide (CO<sub>2</sub>) emissions from fuel combustion, Paraguay applied both the sectoral and the reference approach, but did not report information on the methodology. During the technical analysis, Paraguay provided additional information on the steps taken to apply the reference approach and a table with aggregate emission estimates using both approaches. In the BUR, Paraguay stated that non-CO<sub>2</sub> emissions from biomass combustion were accounted for in applying the sectoral method. GHG emissions from energy industries, railways as well as the fugitive sources were reported as "NO" (not occurring). During the technical analysis, the Party clarified that in 2011, none of the potential sources of such emissions were present in the country, and thus reporting as "NO" represents Paraguay's circumstances accurately. It also reported emission estimates from international aviation as a memo item.

35. For the industrial processes sector, emissions of non-methane volatile organic compounds and sulphur dioxide (SO<sub>2</sub>) from the chemical industry and other processes, which had not been estimated in previous submissions, were included in the BUR. The TTE commends Paraguay on this improvement. The BUR did not include a sectoral table reporting on emissions by subcategory for this sector. Emissions of methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), nitrogen oxides and carbon monoxide were not estimated, similar to the case for emissions of HFCs, PFCs and SF<sub>6</sub>. During the technical analysis, Paraguay clarified that the lack of activity data is the main reason why it was unable to undertake these estimates. To that effect, Paraguay expressed a need for additional training and capacity-building to facilitate collecting complete data sets, using country-specific emission factors and applying suitable methodologies.

36. The BUR does not include information related to the categories of land areas consistent with the IPCC good practice guidance for LULUCF, which Paraguay has applied. During the technical analysis, Paraguay clarified the definitions of the land classification system adopted by the country to be compatible with the six categories of the IPCC. The Party also mentioned the existence of a land-use change map for the years 2005–2011. The activity data for these categories were not reported in the BUR. The TTE notes that the inclusion of this information in the BUR would increase the transparency of the reporting.

37. For the waste sector, Paraguay provided CH<sub>4</sub> emission estimates for the solid waste disposal on land and wastewater handling subcategories and N<sub>2</sub>O estimates for other emission sources (other waste handling activities), yet no reference on the assumptions and specific methods applied to perform calculations was applied. Other gases and the subcategory waste incineration were not reported in the BUR. In this sector, notation keys were not applied to indicate the underlying reason why these estimates were not considered

in the inventory reporting table. In the BUR, Paraguay reported that significant improvements in the application of methodologies to estimate emissions by sources in this sector took place for the 2011 inventory preparation, compared with the 1990, 1994 and 2000 inventories. The TTE recognizes this effort to increase the quality of the inventory and the intention of Paraguay to produce recalculations of previous inventories, including these methodological improvements, as communicated to the TTE during the technical analysis. In consultation with the TTE during the technical analysis week, the Party mentioned various challenges encountered in collecting reliable activity data and completing data sets for the different subcategories of the waste sector. Paraguay plans to prepare a more complete inventory section in subsequent BURs, and to provide additional training of national experts in all activities related to inventory preparation and management.

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

38. As indicated in table 2 above, Paraguay reported in its BUR, in accordance with paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, information on mitigation actions. The BUR indicates that the LULUCF sector generated the highest emissions with a total of 108.598,61 Gg of carbon dioxide equivalent (CO<sub>2</sub> eq) in 2011. Hence, the mitigation actions including the LULUCF sector were treated as priority actions.

39. The BUR contains a description of the mitigation actions for the following sectors: LULUCF; agriculture and livestock; energy, including transport; and industrial processes. The majority of the actions described are at the strategy and policy level for each sector with many of them being enshrined at the level of national laws and presidential decrees. The mitigation actions mentioned in section III.2 include those carried out under the following initiatives:

(a) The Moises Bertoni Foundation in the Mbaracayú and Tapyta Reserves for forest enrichment;

(b) The A Todo Pulmón Paraguay Respira organization, which seeks to recover 1 million hectares of forest by implementing a reforestation project in the river watershed to restore the Upper Parana Atlantic Forest area;

(c) REDD-plus<sup>1</sup> project from the non-governmental organization Guyra Paraguay validated and verified under the Verified Carbon Standard programme and Climate, Community and Biodiversity standards;

(d) A national programme to increase the birth rate and a national sustainable dairy development plan to increase production efficiency and consequently reduce GHG emissions per unit produced;

(e) A reforestation plan for bioenergy implemented by the Directorate of Alternative Energies of the Vice-Ministry of Mines and Energy, and the National Forestry Institute to establish 40,000 hectares of wood energy plantations a year, with a total of 160,000 hectares over the next four years;

(f) The Environmental Capital Valuation Strategy (“Estrategia de Valorización del Capital Ambiental”) in Paraguay’s National Development Plan. This strategy seeks to

---

<sup>1</sup> In decision 1/CP.16, paragraph 70, the Conference of the Parties encouraged developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities: reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks.

increase renewable energy consumption to 60 per cent and reduce fossil fuel consumption to 20 per cent through actions including the development of a sustainable energy matrix and the incorporation of new renewable energy sources like solar and wind;

(g) Presidential Decree No. 2130/14, which establishes a fleet renewal scheme for public transport vehicles in Asuncion and Law No. 5.183/14, which establishes incentives for the import of electric and hybrid vehicles;

(h) Fuel-switch initiative at the government-owned National Cement Industry.

40. The TTE commends the Party for developing these mitigation initiatives. The BUR does not include complete information on names and general descriptions for all the actions, and does not provide a description of the methodologies, assumptions, steps taken or envisaged to achieve the action and information on the progress of implementation, steps taken or envisaged and results achieved, as per decision 2/CP.17, annex III, paragraph 12. During the technical analysis, Paraguay clarified that its second national communication included information on mitigation activities and a qualitative estimate on the implementation level (medium to low). The TTE notes that including additional information on mitigation actions in the BUR could improve the transparency of the reporting.

41. The BUR describes a national mitigation strategy which includes some mitigation actions that will lead to future nationally appropriate mitigation actions (NAMAs). Paraguay has not yet developed or registered any NAMAs. During the technical analysis, the Party clarified that it is planning to develop a portfolio of NAMA proposals at the end of 2016. These would be based on an identification and prioritization exercise of potential activities which was undertaken by Paraguay in 2013 with funding from the United Nations Development Programme (UNDP) and the support of the government of Spain.

42. The BUR also reported a three-year National Programme (2011–2014, extended to 2016) being implemented through the United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) of the Food and Agriculture Organization of the United Nations (FAO), UNDP and the United Nations Environment Programme (UNEP), which aims for capacity-building in five major themes: institutionalization to implement REDD-plus readiness, creating the national REDD-plus strategy, setting up an operational national forest monitoring system, carrying out analysis for a forest reference emission level and establishing a safeguard information system. During the technical analysis, Paraguay clarified that a substantial part of the programme is the currently ongoing capacity-building, which is expected to result in data generation useful for reporting under the Convention.

43. The Party reports two clean development mechanism projects: Project 2694 “Reforestación en tierras de cultivos y praderas en las comunidades de bajos ingresos del Departamento Paraguari, Paraguay” (Reforestation of cropland and grassland in low income communities of Paraguari Department, Paraguay) and Project 3291 “Producción de aceite vegetal para uso vehicular” (Plant-oil production for use in vehicles). Project 2694 is reported to have reduced approximately 7,000 t CO<sub>2</sub> eq in 2012, while Project 3291 is reported to have an estimated reduction potential of 17,188 t CO<sub>2</sub> eq for the period of 2007–2017.

44. In terms of MRV of these mitigation actions, Paraguay reports in the BUR that the development of MRV systems is at an initial or early stage, and that further details cannot be supplied. The TTE commends Paraguay on its efforts to develop the MRV arrangements required for monitoring domestic activities.

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

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

46. In chapter IV of its BUR, Paraguay reported that during the drafting of the National Climate Change Policy in 2011, the country identified priority areas that required support and capacity-building to enable Paraguay to fulfil its commitments under the Convention. Paraguay also indicated that the technical and financial needs identified through the process of the national communication were included in the BUR.

47. The categories included under financial needs cover activities to support the preparation of the BUR and the national communication, the national adaptation plan (NAP), updating financial needs to address climate change, strengthening capacities in ONCC and training officials. These coincide with the constraints and gaps identified by Paraguay to fulfil its commitments under the Convention. Additional constraints and gaps identified include those related to the preparation of GHG inventories, and strengthening national capacities for the identification and implementation of adequate mitigation and adaptation measures, and related policy instruments.

48. During the technical analysis, Paraguay provided additional information on prioritized activities identified to overcome the constraints and gaps. In addition, Paraguay provided further detail on the activities planned under the proposed financial needs. In summary, the activities are around training and capacity for the use of the 2006 IPCC Guidelines, institutional arrangements for the preparation of the BUR and national communications, capacity-building for vulnerability and adaptation assessment, preparation of climatic scenarios, evaluation of pilot projects linked to the NAP, and identification of investment needs and funding required for addressing climate change. In terms of GHG inventory improvements, Paraguay indicated that the development of a centralized national database is a priority to ensure that reliable data are available for the GHG inventory. Regarding mitigation actions, Paraguay noted that strengthening national capacity is a priority in the development of project proposals, NAMA registry and project development. The TTE notes that including this additional information would enhance the transparency of the reporting in the BUR.

49. In terms of support received to date, Paraguay reported in table 12 of the BUR the receipt of over USD 7 million from the Global Environment Facility (GEF), the World Bank, the Inter-American Development Bank, UNDP, UNEP, FAO and bilateral donors for capacity-building between 1995 and 2015 for the following: capacity-building for the clean development mechanism (CDM) office, the UN-REDD programme, implementation of REDD-plus pilot activities, health and climate change, investment and finance analysis, climate policy, and readiness for the implementation of national contributions. The financial support received includes the receipt of USD 352,000 from the GEF through UNDP for the preparation of the BUR. Paraguay reported additional funds (USD 56,000) from the UN-REDD programme for the LULUCF and agriculture sections of the GHG inventory of the BUR (as described in the BUR, chapter IV, section 1.1). In the same table, Paraguay reported on additional funds received from Japanese cooperation in training officials in the GHG inventory, climate change policy and planning, although the total amount of this support is not reported. In table 13 of the BUR, Paraguay reported the receipt of over USD 26 million from the GEF, UNDP and UNEP for climate change related activities, such as institutional strengthening, capacity-building needs assessments, small grants, green production and projects to eliminate hydrochlorofluorocarbons, and for forestry and water resource management.

50. Regarding the financial needs identified for activities for which no support has been received to date, Paraguay reported in table 15 of the BUR that USD 1.7 million is needed to develop its NAP, strengthen ONCC and strengthen the capacity of the members of the National Climate Change Commission. In the same table, Paraguay indicated that USD 282,000 is required for the preparation of the BUR and third national communication activities, in addition to the support that has already been received from UNDP/the GEF.

51. Table 17 of the BUR presents additional information on technical needs, indicating that financial resources are required, but these are not quantified. It is, however, not clear whether the financial resources were already defined in table 15 or are additional.

52. With regard to the development and transfer of technology, Paraguay did not provide information on nationally determined technology needs or a technology needs assessment (TNA). In addressing the areas of technical clarification sought by the TTE, Paraguay clarified that ONCC has not been able to complete a participatory TNA update process for the country at this stage. Further, Paraguay considered that the needs would include both mitigation and adaptation measures, and that international support would be required in order to complete this task. Including the results of such an assessment in future submissions would enhance the transparency of the reporting on the technology needs of Paraguay.

## 5. Domestic measurement, reporting and verification

53. As indicated in table 2 above, Paraguay reported in its BUR, in accordance with paragraph 13 of the UNFCCC reporting guidelines on BURs, information on the description of domestic MRV arrangements.

54. In chapter III, section 3, of its BUR, Paraguay stated that the country has developed the conceptual structure of a domestic MRV system and its objectives. Five MRV components are envisaged in the domestic system, namely: measuring GHG emissions, mitigation measures, adaptation activities, support received and financing needs, and REDD-plus. Paraguay also indicated that capacity-building is required for the continued development of the domestic MRV system. During the technical analysis, Paraguay clarified that the development of a database is needed under SEAM in order to synthesize the information available in this area, and aid the analysis and quantification of emission reductions. The TTE commends Paraguay on the planned efforts to formalize a domestic MRV system.

55. In terms of CDM projects, Paraguay explained that ONMDL,<sup>2</sup> the national office for CDM, was in charge of the registration of Paraguay's current CDM projects. ONMDL was created under SEAM in 2004. The TTE notes that additional information on the role of ONMDL and a description of the design and monitoring processes of the CDM projects would enhance the transparency of the reporting of information on domestic MRV.

## D. Identification of capacity-building needs

56. In consultation with Paraguay, the TTE identified the following capacity-building needs related to the facilitation of the preparation of subsequent BURs and participation in ICA:

- (a) Enhancing technical capacities for the preparation of the GHG inventory; this includes training on the use of the 2006 IPCC Guidelines, IPCC methodologies and tools and the UNFCCC reporting guidelines on BURs for the preparation of GHG inventories;

---

<sup>2</sup> Oficina Nacional del Mecanismo de Desarrollo Limpio.

- (b) Developing a centralized national database for improving the data collection and management processes;
- (c) Enhancing the capacities for reporting the mitigation actions in accordance with the UNFCCC reporting guidelines on BURs, such as a detailed description, progress indicators, progress of implementation and results achieved;
- (d) Improving the domestic MRV system for mitigation actions implemented in Paraguay, including data collection and processing and analysis;
- (e) Enhancing the institutional arrangements for the establishment of the MRV system;
- (f) Improving technical capacity to assess and report on the technology needs.

57. The TTE acknowledges that Paraguay identified additional capacity-building needs during the technical analysis, as follows:

- (a) Capacity-building in identifying investment needs and funding required to address climate change at the national level;
- (b) Training for the identification of costs to address climate change to be allocated in national budgets and their inclusion therein;
- (c) Updating the assessment of investment flow and financing in priority sectors to determine the costs of implementing measures;
- (d) Capacity-building on policy development, and the prioritization of sector policies linked to the national strategies and plans for mitigation and adaptation;
- (e) Training for the development of regional pilot projects in priority sectors of the NAP (which is currently under development) and measuring their impacts following implementation;
- (f) Building national capacities for the development and evaluation of pilot projects linked to the adaptation plan for testing measures in prioritized sectors nationwide;
- (g) Promoting research in areas of national priority for identifying linked adaptation measures, including the possible implementation costs;
- (h) Training in general aspects related to the design and preparation of NAMAs following best international practices, NAMA registry and development of projects;
- (i) Strengthening national capacities for the development of NAMA project proposals;
- (j) Developing mitigation scenarios for the energy sector and estimating implementation costs (all sectors).

### III. Conclusions

58. The TTE concludes that most of the elements of information listed in paragraph 3(a) of the ICA modalities and guidelines have been included in the first BUR of Paraguay:

- (a) Paraguay has reported transparently on its national circumstances and institutional arrangements relevant to the preparation of the BUR. Detailed information on its national circumstances is reported, in particular on its key economic driver, agriculture, which is highly vulnerable to climate change. Paraguay stated that its institutional arrangements and capacity must be strengthened to enable it to carry out the preparation of

national communications and BURs on a continuous basis. It also confirmed that it has begun the process of developing its domestic MRV system;

(b) Paraguay provided an update of its previous inventory submission, which addresses emissions for 2000, having incorporated the IPCC good practice guidance for LULUCF, which represents a methodological improvement. In the GHG inventory section of the BUR, the methodologies implemented are reported but there is no transparent reporting of the sectoral report tables, specific methods and underlying assumptions to estimate emissions and removals and sectoral/subsectoral information on uncertainty levels. Documentation on a key category analysis and a time series back to the year of the previous inventory are other missing elements; however, during the technical analysis, the Party provided further information on the time series. The Party plans to recalculate previous inventories with updated methods and to move to the 2006 IPCC Guidelines in subsequent reports. In addition, Paraguay confirmed the need for substantial capacity-building in areas such as activity data generation, data collection, processing, archiving, inventory preparation and application of reporting guidelines;

(c) Although the information on mitigation actions is not in a tabular format, the Party has included information on the mitigation initiatives planned for different sectors. The information included in the BUR does not include complete information as per decision 2/CP.17, annex III, paragraph 12. The TTE notes that the transparency of the reporting could be further enhanced by reporting this information in the BUR;

(d) Paraguay has reported on the constraints and gaps identified in fulfilling its obligations under the Convention. These include the financial and technical needs required to overcome these constraints, such as institutional strengthening and capacity-building to institutionalize its GHG inventory process and prepare its national communications and BURs on a continuous basis. Paraguay has not yet undertaken an update of the TNA process carried out during the preparation of the first and second national communications; therefore, the Party was unable to report on current technology needs.

59. The TTE, in consultation with Paraguay, identified six<sup>3</sup> 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. Paraguay further identified the following as the priority capacity-building needs:

(a) Enhancing technical capacities for the preparation of the GHG inventory; this includes training on the use of the 2006 IPCC Guidelines, IPCC methodologies and tools and the UNFCCC reporting guidelines on BURs for the preparation of GHG inventories;

(b) Developing a centralized national database for improving the data collection and management processes;

(c) Enhancing the capacities for reporting the mitigations actions in accordance with the UNFCCC reporting guidelines on BURs, such as a detailed description, progress indicators, progress of implementation and results achieved;

(d) Improving the domestic MRV system for mitigations actions implemented in Paraguay, including data collection and processing and analysis;

(e) Enhancing the institutional arrangements for the establishment of the MRV system;

(f) Improving technical capacity to assess and report on the technology needs.

---

<sup>3</sup> This refers to the number of capacity-building needs listed in chapter II.D.

## Annex

### Documents and information used during the technical analysis

#### Reference documents

“Composition, modalities and procedures of the team of technical experts for undertaking the technical analysis of biennial update reports from Parties not included in Annex I to the Convention”. Annex to decision 20/CP.19. Available at <<http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=12>>.

“Modalities and guidelines for international consultation and analysis”. Annex IV to decision 2/CP.17. Available at <<http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>>.

“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”. Annex III to decision 2/CP.17. Available at <<http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>>.

“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”. Annex to decision 17/CP.8. Available at <<http://unfccc.int/resource/docs/cop8/07a02.pdf#page=2>>.

First biennial update report of Paraguay. Available at <<http://unfccc.int/8722.php>>.

Second national communication of Paraguay. Available at <[http://unfccc.int/national\\_reports/non-annex\\_i\\_natcom/items/2979.php](http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php)>.