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Summary report on the technical analysis of the first biennial update report of Brazil submitted on 31 December 2014

In accordance with 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, should 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, in accordance with 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 their first BURs. The process of ICA includes two steps: the technical analysis of the submitted BURs, followed by a workshop on 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 Brazil undertaken 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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I. Introduction and process overview

A. Introduction

1. In accordance with 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, should 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, in accordance with 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 their first BURs. The process of ICA includes two steps: the technical analysis of the submitted BURs, resulting in a summary report for each BUR analysed, followed by a workshop on the facilitative sharing of views under the Subsidiary Body for Implementation.

2. In accordance with decision 14/CP.19, paragraph 7, 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. In accordance with paragraph 8 of decision 14/CP.19, the submission of the technical annex referred to in paragraph 7 of decision 14/CP.19 is voluntary and in the context of results-based payments. In accordance with decision 14/CP.19, paragraphs 10–14, this technical annex has been subject to technical analysis by two land use, land-use change and forestry (LULUCF) experts as part of the technical analysis of the BUR.

3. This summary report presents the results of the technical analysis of the first BUR of Brazil 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. The technical report capturing the results of the technical analysis of the technical annex voluntarily submitted by Brazil in the context of results-based payments in accordance with paragraphs 7 and 8 of decision 14/CP.19, referred to in paragraph 2 above, is contained in document FCCC/SBI/ICA/2015/TATR.1/BRA.¹

B. Process overview

4. Brazil submitted its first BUR on 31 December 2014.

5. The technical analysis of the BUR took place from 18 to 22 May 2015 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. Selam Kidane Abebe (Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) member from Ethiopia), Mr. Rizaldi Boer (Indonesia), Mr. Sangay Dorji (Bhutan), Mr. Takeshi Enoki (CGE member from Japan), Mr. Peter Aarup Iversen (Denmark), Ms. Baasansuren Jamsranjav (Mongolia), Mr. Christoph Streissler (Austria) and Mr. Jongikhaya Witi (South Africa). Mr. Enoki and Mr. Witi were the co-leads. Mr. Boer and Mr. Iversen were the LULUCF experts that undertook the technical analysis of the technical annex voluntarily submitted by Brazil in the context of results-based payments in accordance with paragraphs 7 and 8 of decision

¹ Available at <unfccc.int/resource/docs/2015/tatr/eng/bra.pdf>.

14/CP.19. Mr. Nalin Srivastava and Mr. Gopal Joshi from the secretariat provided administrative support to the TTE.

6. During the technical analysis, the TTE in consultation with Brazil identified capacity-building needs in order to facilitate reporting taking into account decision 20/CP.19, annex, paragraph 15(c). Following the technical analysis of the BUR, the TTE prepared and shared a draft summary report with Brazil on 28 July 2015 for its review and comments. Brazil, in turn, provided its feedback on the draft summary report on 1 November 2015.

7. The TTE responded to and incorporated the comments referred to in paragraph 6 above from Brazil and finalized, in consultation with Brazil, the summary report on 28 January 2016.

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

A. Scope of the technical analysis

8. 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 these actions, increase transparency of mitigation actions and their effects, and shall entail the following:

(a) Identification of the extent to which the elements of information listed in the ICA guidelines contained in decision 2/CP.17, annex IV, paragraph 3(a), are included in the BUR of the Party concerned (see chapter II.B);

(b) A technical analysis of the information contained 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);

(c) Identification of, in consultation with the Party concerned, capacity-building needs related to the facilitation of reporting in accordance with annex III to decision 2/CP.17 and to the participation in ICA in accordance with annex IV to decision 2/CP.17, taking into account Article 4, paragraph 3, of the Convention (see chapter II.D).

9. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Brazil’s BUR outlined in paragraph 8 above.

B. Overview of the elements of information reported

10. The elements of information referred to in paragraph 8(a) above include: the national greenhouse gas (GHG) inventory report; 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 support received.

11. Further, in accordance with decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE shall identify the extent to which the elements of information listed in the guidelines contained in decision 2/CP.17,

annex IV, paragraph 3(a), are included in the BUR of the Party concerned. The results of this analysis are presented in tables 1, 2 and 3 below.

1. National greenhouse gas inventory

12. The parts of the UNFCCC reporting guidelines on BURs on reporting information on anthropogenic GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paragraph 41(g), and annex III, paragraphs 3–10, of the same decision. Further, as per decision 2/CP.17, annex III, paragraph 3, non-Annex I Parties should submit updates of national GHG inventories according to paragraphs 8–24 of the “Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention” as contained in the annex to decision 17/CP.8. The scope of the updates on national GHG inventories should be consistent with capacities, time constraints, data availabilities and the level of support provided by developed country Parties for biennial update reporting.

13. Table 1 below presents results of the identification of the extent to which the elements of information on GHGs are included in the first BUR of Brazil 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 Brazil

<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, 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 for National GHG Inventories, the IPCC good practice guidance and Uncertainty Management in National GHG Inventories, and the IPCC good practice guidance for LULUCF; any change to the emission factor may be made in the subsequent full national communication	Partly	In its first BUR, Brazil uses the methodologies contained in the Revised 1996 IPCC Guidelines, the IPCC good practice guidance, the IPCC good practice guidance for LULUCF and the 2006 IPCC Guidelines for its inventory estimates
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: <ul style="list-style-type: none"> 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) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF₆) 	Partly Partly	Brazil’s first BUR includes a general overview of the inventory Brazil’s first BUR includes summary tables containing sectoral totals Brazil’s first BUR includes summary tables containing sectoral totals
Decision 2/CP.17, annex III,	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the		

<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>
paragraph 6	inventory section of the BUR: <ul style="list-style-type: none"> • Tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF • The sectoral report tables annexed to the Revised 1996 IPCC Guidelines 	No No	Brazil has not provided tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF, or any comparable information Brazil has not reported the sectoral tables annexed to the Revised 1996 IPCC Guidelines, or any comparable information
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	Brazil has provided summary information at the sectoral level on emissions and removals for 1994, 2000 and 2010
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	Brazil has provided summary inventory estimates for 1994 and 2000
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex	Yes	Brazil has reported data and information on estimation of emissions and removals related to the activities referred to in decision 1/CP.16, paragraph 70, in a technical annex
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	Yes	Information on institutional arrangements for the BUR, the national communication and climate policies has been provided in the national circumstances section of the BUR, including information on efforts to develop a continuous measurement, reporting and verification system
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:	Yes	Tables present the results of the anthropogenic emissions by sources minus removals by sinks of GHGs for the years 1994, 2000 and 2010 by gases and sectors

<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>
	<ul style="list-style-type: none"> • CO₂ 	Yes	Tables present the results of the anthropogenic emissions by sources minus removals by sinks of GHGs for the years 1994, 2000 and 2010 by sectors
	<ul style="list-style-type: none"> • CH₄ 	Yes	Tables present the results of the anthropogenic emissions by sources minus removals by sinks of GHGs for the years 1994, 2000 and 2010 by sectors
	<ul style="list-style-type: none"> • N₂O 	Yes	Tables present the results of the anthropogenic emissions by sources minus removals by sinks of GHGs for the years 1994, 2000 and 2010 by sectors
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 ₆	Yes	Tables present the results of the anthropogenic emissions by sources minus removals by sinks of GHGs for the years 1994, 2000 and 2010 by gases and sectors
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: <ul style="list-style-type: none"> • International aviation • Marine bunker fuels 	Yes	Emissions from international aviation and marine bunker fuels are reported separately
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: <ul style="list-style-type: none"> • CO • NO_x • NMVOCs 	Yes Yes Yes	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO _x , included in the Revised 1996 IPCC Guidelines, may be included at the discretion of the Parties	No	In its first BUR, Brazil has not provided emissions of other gases not controlled by the Montreal Protocol, such as SO _x , included in the Revised 1996 IPCC Guidelines, which may be included at the discretion of the Parties

Decision	Provision of the reporting guidelines	Yes/ Partly /No	Comments on the extent of the information provided
Decision 17/CP.8, annex, paragraph 21	<p>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:</p>	No	Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> • Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol 	No	Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> • Explanation of the sources of emission factors 	No	Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> • Explanation of the sources of activity data 	No	Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> • 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: 	No	Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ Source and/or sink categories 		Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ Methodologies 		Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ Emission factors 		Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ○ Activity data 		Brazil presented a summarized GHG inventory report
	<ul style="list-style-type: none"> • Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building 	No	In its first BUR, Brazil has not identified specific areas for improvement of data through capacity-building
Decision 17/CP.8, annex, paragraph 24	<p>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:</p>	No	Brazil presented a summarized GHG inventory report

<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>
	<ul style="list-style-type: none"> • Level of uncertainty associated with inventory data • Underlying assumptions • Methodologies used, if any, for estimating these uncertainties 		

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*, NMVOC = non-methane volatile organic compound, Revised 1996 IPCC Guidelines = *Revised 1996 Guidelines for National Greenhouse Gas Inventories*, 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

2. Mitigation actions and their effects

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

15. Brazil did report mitigation actions in its first BUR. The mitigation actions reported are provided in tabular format.

16. Table 2 below presents results of the identification of the extent to which the elements of information on mitigation actions are included in the first BUR of Brazil 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 Brazil

<i>Decision</i>	<i>Provision of the 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	Yes	Information on quantitative goals of mitigation actions has been provided, as appropriate, while other actions are qualitative in nature or use other indicators
(b)	Information on methodologies and assumptions: <ul style="list-style-type: none"> • Methodologies 	Yes	Section 6 of Brazil's first BUR states that each mitigation plan under SMMARE has a specific monitoring module based on methodologies contained in the guidelines for national GHG inventories by the IPCC
	<ul style="list-style-type: none"> • Assumptions 	Yes	During the technical analysis, Brazil clarified

<i>Decision</i>	<i>Provision of the guidelines</i>	<i>Yes/ Partly /No</i>	<i>Comments on the extent of the information provided</i>
			that the SMMARE documents all the assumptions used for mitigation plans in line with methodologies described in (a) and (b) and that most mitigation plans, are based on absolute or historical data and not assumptions.
(c)	Objectives of the action and steps taken or envisaged to achieve that action:		
	• Objectives of the action	Yes	
	• Steps taken or envisaged to achieve that action	Yes	
(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:		
	• Progress of implementation of the mitigation actions	Yes	
	• Underlying steps taken or envisaged	Yes	
	• Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible	Yes	
(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	

Abbreviations: BUR = biennial update report, NA = not applicable, SMMARE = modular system for monitoring actions and greenhouse gas emission reduction, IPCC = Intergovernmental Panel on Climate Change.

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

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

18. Table 3 below presents 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 Brazil 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 Brazil

<i>Decision</i>	<i>Provision of the guidelines</i>	<i>Yes/ Partly /No</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17,	Non-Annex I Parties should provide updated		

<i>Decision</i>	<i>Provision of the guidelines</i>	<i>Yes/ Partly /No</i>	<i>Comments on the extent of the information provided</i>
annex III, paragraph 14	information on constraints and gaps, and related financial, technical and capacity-building needs: <ul style="list-style-type: none"> • Constraints and gaps • Related financial, technical and capacity-building needs 	Yes Yes	
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should also provide updated information on financial resources, technology transfer, capacity-building and technical support received from the GEF, Annex II Parties and other developed country Parties, the GCF and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR	Partly	Information on technology transfer will be provided in the TNA, currently under preparation
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: <ul style="list-style-type: none"> • Technology needs, which must be nationally determined • Technology support received 	Partly Partly	Information on technology transfer will be provided in the TNA, currently under preparation Information on technology transfer will be provided in the TNA, currently under preparation

Abbreviations: BUR = biennial update report, GCF = Green Climate Fund, GEF = Global Environment Facility, TNA = Technology Needs Assessment.

C. Technical analysis of the information reported

19. The technical analysis referred to in paragraph 8(b) above aims to, without engaging in discussion on the appropriateness of these actions, increase transparency of mitigation actions and their effects. Accordingly, the technical analysis focused on the transparency of information reported in BURs.

20. In addition to covering the information in the BUR and any additional technical information provided by the Party concerned, the technical analysis also focused, in relation to information reported on national GHG inventories on the consistency of the methods used for developing 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. The results of the technical analysis are presented in the remainder of the 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 decision 2/CP.17, annex III, paragraph 2, the BURs should provide an update to 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 national communications, non-Annex I Parties report national

circumstances following reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5.

22. In accordance with decision 17/CP.8, annex, paragraph 3, Brazil, in its BUR, reported the following information on national circumstances: a description of national and regional development priorities, objectives and circumstances, including information on features of geography, climate and economy that may affect the ability to deal with mitigating and adapting to climate change, as well as information regarding specific needs and concerns arising from the adverse effects of climate change and/or the impact of the implementation of response measures, as contained in Article 4, paragraph 8, and, as appropriate, in Article 4, paragraphs 9 and 10, of the Convention.

23. Brazil, in its BUR, described institutional arrangements relevant to the preparation of the national communications, the BURs and climate change policies and relevant institutions for implementing climate actions including providing this information in a tabular form. Brazil provided information on the National Policy on Climate Change, the National Plan on Climate Change and institutional arrangements for the implementation of the climate change policies including the Interministerial Committee on Climate Change, the Executive Group on Climate Change and the Interministerial Commission on Global Climate Change.

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

24. Brazil reported, in its BUR, information on national GHG inventories covering GHG emissions and removals for the year 2010 following the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines), *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance), *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (hereinafter referred to as the IPCC good practice guidance for LULUCF) and *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines).

25. In addition to the emissions and removal estimates for 2010, Brazil reported GHG inventory estimates for the years 1994 and 2000. The TTE notes that Brazil included inventory estimates for the years 1990 to 2005 in its second national communication, submitted in 2010, and estimates for 1994 and 2000 have been updated for the BUR.

26. The net anthropogenic GHG emissions in 2010 reported in Brazil's first BUR were 832,398 Gg carbon dioxide (CO₂), 17,320 Gg methane, 595 Gg nitrous oxide (N₂O), 0.0767 Gg tetrafluoromethane, 0.0059 Gg hexafluoroethane, 0.0087 Gg sulphur hexafluoride, 0.1059 Gg hydrofluorocarbon-32, 0.5012 Gg hydrofluorocarbon-125, 2.6671 Gg hydrofluorocarbon-134a and 0.4671 Gg hydrofluorocarbon-143. Brazil's total GHG emissions fluctuated between 1994 and 2010, mainly owing to fluctuations in emissions and removals of CO₂, particularly in the LULUCF sector.

27. Brazil did not report tables 1 or 2, which are lists of the emissions and removals by subsector and/or categories, as encouraged by decision 17/CP.8, annex, paragraph 22, and decision 2/CP.17, annex III, paragraph 9. The TTE notes that this information would further enhance the transparency of the inventory submission, and thus help identify areas for improvement and capacity needs.

28. Brazil's first BUR does not include information on areas where data may be further improved in future GHG inventories through capacity-building as encouraged by decision 17/CP.8, annex, paragraph 21. The TTE notes that information on areas where data may be further improved in the future could further enhance the transparency of the BUR.

29. The TTE notes that, while Brazil has provided information on methodologies, emission factors and activity data used for the estimation of emissions by sources and removals by sinks of GHGs in Brazil's second national communication, its BUR does not provide information as encouraged by decision 17/CP.8, annex, paragraph 21. During the technical analysis, Brazil provided additional information that many default emission factors from the 2006 IPCC Guidelines have been used for the energy sector, while for the industrial processes and product use sector, a combination of plant level data and default values from the Revised 1996 IPCC Guidelines and the 2006 IPCC Guidelines has been used. With regard to the methodologies used, Brazil has mainly used the 2006 IPCC Guidelines for the agriculture sector, except for the enteric fermentation category. The IPCC good practice guidance for LULUCF has been used for the LULUCF sector, with the exception of the definition of managed land, which has been taken from the 2006 IPCC Guidelines. The 2006 IPCC Guidelines have been used for the waste sector. Brazil further explained that research on country-specific emission factors for the enteric fermentation category in the agriculture sector is currently ongoing. The TTE commends Brazil for the use of country-specific emission factors in the GHG inventory. The TTE also notes that this information on methodologies, emission factors and activity data used for inventory estimates would contribute to further enhancing the transparency of the BUR.

30. The TTE notes that Brazil's second national communication included an uncertainty assessment associated with inventory data and their underlying assumptions, as encouraged by decision 17/CP.8.

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

31. As indicated in table 2 above, Brazil reported, in its BUR, information on mitigation actions and their effects.

32. Brazil's first BUR presents information on eight mitigation actions that were Brazil's nationally appropriate mitigation actions (NAMAs) communicated to the UNFCCC secretariat (FCCC/AWGLCA/2011/INF.1). Brazil established sectoral plans as instruments to support the implementation of its NAMAs. The period considered for the mitigation actions in the first BUR varies from 2004 to the first half of 2014, according to the specificities of each action. The eight mitigation actions reported are:

- (a) National Action Plan for Low Carbon Emission in Agriculture, whose main objective is to increase the area under sustainable agricultural production systems;
- (b) Action Plan for the Prevention and Control of Deforestation in the Legal Amazon;
- (c) Action Plan for the Prevention and Control of Deforestation and Forest Fires in the Cerrado biome;
- (d) Increase in the Supply of Energy by means of Hydroelectric Plants;
- (e) Use of Alternative Energy Sources, which aims to increase the share of hydroelectric power and of alternative renewable energy sources in the national energy mix;
- (f) Increased Use of Biofuels in the National Energy Mix;
- (g) Implementation of Energy Efficiency, whose main objective is reduction of the consumption of fossil fuels and electric power;
- (h) Sustainable Charcoal for iron and steel production.

33. Brazil's first BUR provides the names and descriptions of the mitigation actions, including information on the nature of the actions and their coverage (sectors and gases). Progress indicators can be inferred from the information provided on progress achieved. The TTE notes that by providing information on the main objectives of the mitigation actions and their time periods, complemented by a list of more specific objectives and the progress achieved on each of them, Brazil has presented the information on objectives and progress of implementation of mitigation actions in a very transparent way.

34. The TTE also notes that Brazil's first BUR includes broad information (section 6) on the methodologies that Brazil plans to use in the future for the analysis of the impacts of the reported mitigation actions. Brazil is developing an MRV programme, a modular system for monitoring actions and GHG emission reduction (SMMARE), in which each mitigation plan will have a specific monitoring module based on methodologies contained in the guidelines for national GHG inventories by the IPCC. This was confirmed by Brazil during the technical analysis week. The TTE considers that provision of information on the methodologies and assumptions associated with each mitigation action would further improve the transparency of the information provided in the BUR.

35. In its first BUR, Brazil has reported information on the objectives of the mitigation actions and on the steps taken to achieve them. The first BUR provides information on the progress of implementation, the underlying steps taken and the results achieved for each mitigation action. The TTE notes that by providing information on the main objectives of the mitigation actions and their time periods, complemented by a list of more specific objectives and the progress achieved on each of them, Brazil has presented the information on objectives and progress of implementation of mitigation actions in a very transparent way. The TTE commends Brazil for the transparent reporting. In its reporting on the progress achieved on mitigation actions, Brazil has used various kinds of metrics depending on the type of action (e.g. capacity of power plants, domestic supply of biodiesel, etc.). Apart from the eight mitigation plans that comprise the NAMAs reported, the first BUR provided information on clean development mechanism (CDM) projects in Brazil. As of November 2014, Brazil had 330 projects registered by the CDM Executive Board. The project types with the highest estimated emission reductions in carbon dioxide equivalent (CO₂ eq) include hydropower projects, landfill gas and N₂O decomposition projects, accounting for 269,029,763 t CO₂ eq or 72.5 per cent of total CO₂ emissions to be reduced in the first crediting period.² The TTE commends Brazil for providing this information.

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

36. Brazil's first BUR provides information on constraints and gaps and related financial, technical and capacity-building needs, including a description of support needed and received. Brazil has identified a need to enhance and expand bilateral technical cooperation in some specific areas, such as sustainable cities, transport, urban mobility and sustainable production systems, to promote the exchange of knowledge, tools and technologies to increase the effectiveness of the actions proposed in sectoral plans. In this context, Brazil reported on the ongoing work of the Ministry of Science, Technology and Innovation in holding meetings with all the federal agencies responsible for the sectoral plans, which is expected to provide greater clarity on technological gaps and constraints and their related support needs. The TTE commends Brazil for the wider stakeholder engagement in identifying the gaps and constraints.

² A maximum of 10 years for fixed-period projects or 7 years for renewable period projects.

37. The BUR states that several institutions are being invited to participate in the SMMARE design and implementation. The BUR also states that these institutions, having the necessary technology and human capital to implement the monitoring modules, will work under the supervision of the relevant ministry responsible for a particular mitigation plan, with a general coordination by the Ministry of the Environment. During consultations with the TTE, Brazil informed that this process will also support stakeholder engagement in identifying additional gaps and constraints.

38. In its first BUR, Brazil has reported on related financial, technical and capacity-building needs. However, Brazil noted that there is limited information available to further elaborate on the level and type of support (financial resources, technical assistance and capacity-building) required. The TTE notes that provision of further details on the level and type of support would greatly enhance the transparency of the information provided.

39. In its first BUR, Brazil has reported on financial support received from bilateral and multilateral channels for climate-specific actions for the period 1996–2014 totalling USD 949,301,586.23 (table 6 of the BUR). However, Brazil noted that there is limited information available on technology transfer, capacity-building and technical assistance support received. The support needed and received was not disaggregated into financial, technical and capacity-building components due to lack of clarity and methodology in the UNFCCC reporting guidelines on BURs contained in decision 2/CP.17, annex III. According to the first BUR and the information provided by Brazil during the technical analysis, Brazil has not received specific support for the preparation of its first BUR. However, this should not prejudice any request for assistance in the future for preparation of BURs. The TTE commends the initiative taken by Brazil. During the technical analysis, Brazil informed the TTE that support would, however, be required for the preparation and submission of subsequent BURs.

40. In its first BUR, with regard to development and transfer of technology, Brazil did not report technology needs, which must be nationally determined. During the technical analysis, Brazil informed the TTE that the process of assessment of technology needs is currently ongoing through a three year technology needs assessment project supported by the United Nations Environmental Programme (UNEP).

5. Domestic measurement, reporting and verification

41. The first BUR provides a description of domestic MRV arrangements. Brazil is developing and implementing a modular system, SMMARE, to monitor mitigation actions and GHG emission reductions (see para. 34 above). Each mitigation plan under SMMARE has a specific monitoring module, and the monitoring modules are expected to share information through a standardized interface. The monitoring modules will encompass the following elements: a list of mitigation actions assessed, methodological assumptions, results of mitigation actions and quality assurance/quality control procedures. The TTE commends Brazil for this effort.

D. Identification of capacity-building needs

42. When considering potential capacity-building needs related to the facilitation of the preparation of subsequent BURs and participation in ICA, the TTE identified that, with regard to financial, technical and capacity-building needs, including a description of support needed and received, as noted in paragraphs 38 and 39 above, the first BUR did not provide information on the level and type of support required (financial resources, technical assistance and capacity-building) or information on technology transfer, capacity-building and technical assistance support received (except for the acknowledgement of the work of

the CGE). Brazil noted during consultations with the TTE that this is due to lack of clarity and methodology in the UNFCCC reporting guidelines on BURs contained in decision 2/CP.17, annex III, and not necessarily a capacity-building need.

III. Conclusions

43. The TTE concludes that:

(a) All the required elements and most of the non-mandatory elements listed in paragraph 3(a) of the ICA guidelines are included in the first BUR of Brazil;

(b) In summary, the TTE commends Brazil for the comprehensive BUR and highlights the following from its analysis:

(i) In its first BUR, Brazil reported GHG inventory estimates for the years 1994, 2000 and 2010 using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF, while also taking into account the 2006 IPCC Guidelines. Between 1994 and 2010, Brazil's total GHG emissions fluctuated, mainly due to fluctuations in emissions and removals of CO₂, particularly in the LULUCF sector (see paras. 24–30 above);

(ii) In its first BUR, Brazil reported information on its NAMAs communicated to the UNFCCC secretariat (FCCC/AWGLCA/2011/INF.1) and provided information on these NAMAs as eight broad mitigation actions (see paras. 31–35 above). Brazil has established sectoral plans as instruments to support the implementation of its NAMAs. Brazil is developing and implementing a modular system, SMMARE, to monitor mitigation actions and GHG emission reductions. Apart from these mitigation actions, the first BUR presents information on the CDM projects implemented in Brazil;

(iii) Brazil provided information in its first BUR that was pursuant to decision 2/CP.17, annex III, paragraphs 14–16 (see paras. 36–40 above). During the technical analysis, in consultation with the TTE, Brazil confirmed that it does not identify any capacity-building needs at present. While Brazil did not receive specific funds for the preparation of its first BUR, it would need financial support for the preparation and submission of subsequent BURs. Brazil further clarified that technology needs assessment is being conducted in an ongoing project with support from UNEP.

44. The TTE, in consultation with Brazil, did not necessarily identify any current capacity-building needs related to the facilitation of reporting in accordance with annex III to decision 2/CP.17 and to the participation in ICA in accordance with annex IV to decision 2/CP.17, taking into account Article 4, paragraph 3, of the Convention.

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 Brazil. Available at <<http://unfccc.int/8722.php>>.

Second national communication of Brazil. Available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.
