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Technical analysis of the first biennial update report of Burundi submitted on 30 August 2022

Summary report by the team of technical experts

Summary

According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention, consistently with their capabilities and the level of support provided for reporting, were to submit their first biennial update report by December 2014. As mandated, the least developed country Parties and small island developing States may submit biennial update reports at their discretion. This summary report presents the results of the technical analysis of the first biennial update report of Burundi, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

Abbreviations and acronyms

2006 IPCC Guidelines	*2006 IPCC Guidelines for National Greenhouse Gas Inventories*
AD	activity data
AFOLU	agriculture, forestry and other land use
Annex II Party	Party included in Annex II to the Convention
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CBIT	Capacity-building Initiative for Transparency
CDM	clean development mechanism
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
DTU	Technical University of Denmark
EF	emission factor
ETF	enhanced transparency framework under the Paris Agreement
GHG	greenhouse gas
GIZ	German Agency for International Cooperation
GWP	global warming potential
HFC	hydrofluorocarbon
HWP	harvested wood products
ICA	international consultation and analysis
IGEBU	Burundian Geographical Institute
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*
IPPU	industrial processes and product use
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
N_2O	nitrous oxide
NA	not applicable
NC	national communication
NDC	nationally determined contribution
NE	not estimated
NIR	national inventory report
NMVOC	non-methane volatile organic compound
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
NO_X	nitrogen oxides
OBPE	Burundian Office for Environmental Protection
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	*Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*
SF_6	sulfur hexafluoride
TTE	team of technical experts
UNEP	United Nations Environment Programme

UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	"Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention"
UNFCCC reporting guidelines on BURs	"UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention"

I. Introduction and process overview

A. Introduction

1. The process of ICA consists of two steps: a technical analysis of the submitted BUR and a facilitative sharing of views under the Subsidiary Body for Implementation, resulting in a summary report and a record respectively.

2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. The least developed countries and small island developing States may submit at their discretion.

3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.

4. This summary report presents the results of the technical analysis of the first BUR of Burundi, undertaken by a TTE in accordance with the provisions on the composition, modalities and procedures of the TTE under ICA contained in the annex to decision 20/CP.19.

B. Process overview

5. In accordance with the mandate referred to in paragraph 2 above, Burundi submitted its first BUR on 30 August 2022 as a stand-alone update report.

6. The technical analysis of Burundi's BUR was conducted remotely from 30 January to 3 February 2023 in Bonn and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Rana Humbatova (Azerbaijan), Said Kaddour (Algeria), Flora da Silva Ramos Vieira Martins (Brazil), Benoit Pierre Marie Mayer (France), Liz Silva (Philippines), Anand Sookun (Mauritius) and Verica Taseska Gjorgievska (North Macedonia). Rana Humbatova and Benoit Pierre Marie Mayer were the co-leads. The technical analysis was coordinated by Mirana Andriarisoa and Sohel Pasha (secretariat).

7. During the technical analysis, in addition to the written exchange, in the virtual team room, to provide technical clarifications on the information reported in the BUR, the TTE and Burundi engaged in consultation[1] on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Burundi's first BUR, the TTE prepared and shared a draft summary report with Burundi on 17 July 2023 for its review and comment. Burundi, in turn, provided its feedback on the draft summary report on 3 August 2023.

8. The TTE responded to and incorporated Burundi's comments referred to in paragraph 7 above and finalized the summary report in consultation with the Party on 7 September 2023.

II. Technical analysis of the biennial update report

A. Scope of the technical analysis

9. 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

[1] The consultation was conducted via videoconferencing.

discussion on the appropriateness of the actions, increase the transparency of mitigation actions and their effects and shall entail the following:

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

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

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

10. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Burundi's BUR outlined in paragraph 9 above.

B. Extent of the information reported

11. The elements of information referred to in paragraph 9(a) above include the national GHG inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and information on progress in their implementation; information on domestic MRV; and information on support needed and received.

12. 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 11 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is partially consistent with the UNFCCC reporting guidelines on BURs. Specific details on the extent of the information reported for each of the required elements are provided in the tables included in annex I.

C. Technical analysis of the information reported

13. The technical analysis referred to in paragraph 9(b) above aims to increase the transparency of information reported by the Parties on mitigation actions and their effects, without engaging in a discussion on the appropriateness of those actions. Accordingly, the focus of the technical analysis was on the transparency of the information reported in the BUR.

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

15. 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

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

17. Burundi reported in its first BUR information on its national circumstances, including a description of its rapid population growth (2.4 per cent/year), which is putting pressure on the environment and the country's natural resources and increasing its vulnerability to climate change. The Party also provided information on its geography, climate, economy, energy sources, economic development priorities, climate change mitigation priorities and adaptation actions for addressing climate change.

18. In addition, Burundi provided a summary of relevant information regarding its national circumstances in tabular format.

19. Burundi transparently reported in its first BUR information on its existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, including the role of IGEBU and OBPE, which are the national and deputy national focal points respectively for the UNFCCC. IGEBU is responsible for the collection and monitoring of climate data, while OBPE is the overall coordinating entity responsible for the development of NCs and BURs in collaboration with other institutions in relevant sectors. Burundi reported that the Environment and Climate Change Directorate of OBPE is the institution responsible for preparing the GHG inventory, coordinating activities related to data collection, identifying relevant stakeholders involved in GHG inventory preparation and identifying and reporting capacity-building activities. It also reported on the involvement and roles of other institutions in the areas of GHG inventory preparation, mitigation and adaptation actions, monitoring of climate change impacts and climate finance flows.

20. Information on mechanisms for information and data exchange was not reported in Burundi's BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that the data were collected from all relevant sectors and an executive entity gathered all the data and produced the report. The Party also clarified that the established MRV system for the GHG inventory will facilitate data collection and transfer and improvements to the MRV system will lead to an information exchange platform for all stakeholders through an ongoing CBIT project in Burundi (see para. 22 below).

21. The TTE noted that the transparency of the information reported on institutional arrangements could be further enhanced by addressing the area noted in paragraph 20 above, which could facilitate a better understanding of the information reported on institutional arrangements.

22. Burundi reported in its first BUR information on its domestic MRV arrangements. The description covers key aspects of the institutional arrangements, including an organizational chart showing the stakeholders involved in the preparation of national reports. The MRV arrangements are designed at the national level and cover three main areas: the GHG inventory system and mitigation, the adaptation actions, and support needed and received. The MRV system for the GHG inventory was institutionalized by the adoption of decree 100/206. Data collection in Burundi is performed by OBPE through the Environment and Climate Change Directorate, which has established GHG inventory teams to collect data and compile the inventories on the basis of data entered into the IPCC software. The Party also provided information on the institutions responsible for reporting mitigation and adaptation by sector, but did not report on whether there are formal institutional arrangements in place for the MRV of mitigation and adaptation actions and of climate finance flows. It reported on the constraints and gaps pertaining to the current MRV system and proposed a list of improvements for strengthening it. During the technical analysis, the Party noted that it began the process of formalizing the MRV system for the GHG inventory and for monitoring the progress of implementation of NDCs by launching a CBIT project on 28 March 2023.

23. Burundi reported in its BUR (section 4.2) information on its areas for improvement for future BURs and its current initiatives for enhancing its institutional arrangements and existing MRV system for compliance with requirements under the ETF. The initiatives include the adoption of decree 100/206 on the institutionalization of a national GHG inventory system and improvements to reporting (the next report due is the biennial transparency report) through appropriate capacity-building. The TTE commends the Party

for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

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

25. Burundi submitted its first BUR in 2022 and the GHG inventory reported is for 2005–2019. The GHG inventory is consistent with the requirements for the reporting time frame.

26. Burundi submitted an NIR as an additional document during the technical analysis but did not include the relevant references in the BUR and the NIR was not made publicly available on the UNFCCC website. During the technical analysis, Burundi clarified that the references to the NIR were missing because it followed a BUR template developed by GIZ that did not include this information. The Party stated that this will be addressed in its biennial transparency report submission.

27. GHG emissions and removals for the BUR covering the 2005–2019 inventories were estimated using tier 1 methodology from the 2006 IPCC Guidelines. The TTE commends the Party for using the 2006 IPCC Guidelines.

28. Information on AD and EFs used and their sources was partially reported in the BUR. Burundi reported that it relied on default EFs for all sectors and that AD originated from national databases or, if those were not available, international databases, but did not provide detailed information on the actual values of the EFs and AD used. The NIR it submitted during the technical analysis included such information on the AD used, and although it was missing details on the source of the AD for each category, the Party subsequently provided the TTE with additional relevant information.

29. Information on the Party's total GHG emissions by gas for 2005–2019 is outlined in table 1 in Gg CO_2 eq. It shows an increase in emissions of 98 per cent without land and HWP since 2005 (2,120.2 Gg CO_2 eq).

Table 1
Greenhouse gas emissions by gas of Burundi for 2005–2019

Gas	*GHG emissions (Gg CO_2 eq) including land and HWP*[a]	*% change 2005–2019*	*GHG emissions (Gg CO_2 eq) excluding land and HWP*[a]	*% change 2005–2019*
CO_2	–15 073.9	1 108.0	343.6	117.2
CH_4	2 947.1	94.3	2 947.1	94.3
N_2O	907.6	103.9	907.6	103.9
HFCs	NE	NA	NE	NA
PFCs	NE	NA	NE	NA
SF_6	NE	NA	NE	NA
Other	NE	NA	NE	NA
Total	–11 219.2	–1 670.9	4 198.3	98.0

[a] 2006 IPCC Guidelines AFOLU category 3.B (land) and, if reported, 3.D (HWP (3.D.1) and other emissions (3.D.2)).

30. Information on other emissions was reported, including 0.05 Gg NO_X and 1.99 Gg CO in 2019.

31. Information on NMVOC emissions was not reported in Burundi's BUR. During the technical analysis, the Party informed the TTE that it did not estimate emissions of NMVOCs on the grounds that there are no GWP values for these gases. The TTE reminded the Party that these emissions can be reported in units of mass despite the absence of applicable GWP values.

32. Estimates of net CO_2 emissions were provided in summary tables in Burundi's BUR for all sectors reported. However, the Party did not report CO_2 emissions by sources separately from CO_2 removals by sinks for all categories. During the technical analysis, the Party acknowledged that it needs to strengthen its capacity to provide disaggregated estimates for CO_2 emissions and removals.

33. HFC, PFC and SF_6 emissions were reported as "NE" for some categories. In its BUR, Burundi clarified that this was due to capacity constraints and that investments will be made to enable the collection of AD for all estimates currently reported as "NE" under its national inventory improvement plan.

34. Burundi applied notation keys in some tables where numerical data were not provided. The use of notation keys was mostly consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties.

35. The TTE noted that notation keys were not used consistently in some parts of Burundi's BUR. During the technical analysis, the Party acknowledged that it needs to strengthen its national capacity to perform QA/QC checks of the information reported in its BUR to improve clarity, including as regards the use of notation keys.

36. Burundi did not report comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF or the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines. The summary tables included in the BUR (annexes 2–3) include net CO_2 emissions, but do not provide disaggregated estimates of gross emissions and removals of CO_2. Moreover, the disaggregation level of subcategories presented in the tables is not consistent with the outcomes of the key category analysis. For example, emissions for key categories 3.B.1.a (forest land remaining forest land) and 3.B.1.b (land converted to forest land) were not reported separately in the tables presented in annex 3 to the BUR. The NIR submitted by the Party during the technical analysis contained emission estimates disaggregated by subcategory, but only for 2019. During the technical analysis, the Party clarified that it used the 2019 inventory as a reference year and did not have enough time to replicate the information for all other years. The Party clarified that the inconsistencies in the disaggregation level of subcategories were due to two different versions of the IPCC inventory software being used (2.69 and 2.86). The use of version 2.86 led to the omission of some AD.

37. Information on changes in emissions by land-use category was not clearly reported in Burundi's BUR. The NIR submitted by the Party during the technical analysis provided additional information showing that the Party estimated emissions for a few land-use change categories (categories 3.B.1.a (forest land remaining forest land), 3.B.1.b (land converted to forest land), 3.B.1.b.i (cropland converted to forest land), 3.B.1.b.ii (grassland converted to forest land) and 3.B.4.a (wetlands remaining wetlands)). During the technical analysis, Burundi explained that it lacks the capacity to collect the AD necessary for estimating emissions for all sectors. Moreover, two different versions of the IPCC inventory software were used, leading to the omission of some AD.

38. The shares of emissions that different sectors contributed to the Party's total GHG emissions excluding land and HWP (category 3.B and 3.D) in 2019 are reflected in table 2.

Table 2
Shares of greenhouse gas emissions by sector of Burundi for 2019

Sector	*GHG emissions (Gg CO_2 eq)*	*% share*[a]	*% change 2005–2019*
Energy	2 018.3	48.1	89.1
IPPU	3.4	0.1	126.7
AFOLU	–13 276.3	NA	–3 481.4
Livestock (category 3.A)	1 462.1	34.8	117.9
Land (category 3.B)	–15 401.5	NA	1 103.7
Aggregate and non-CO_2 emissions sources on land (category 3.C)	679.1	16.2	86.5
HWP and other emissions (category 3.D)	–16	NA	–87.4

Sector	*GHG emissions (Gg CO_2 eq)*	*% share*[a]	*% change 2005–2019*
Waste	35.5	0.8	119.1

[a] Share of total without 2006 IPCC Guidelines AFOLU category 3.B (land) and, if reported, 3.D (HWP (3.D.1) and other emissions (3.D.2)).

39. Burundi reported information on its use of GWP values consistent with those provided by the IPCC in its AR5 based on the effects over a 100-year time-horizon of GHGs.

40. For the energy sector, information was clearly reported on GHG emissions, methodological tier levels, key categories, notation keys used and other information specific to the sector. Emissions from the energy sector increased from 1,067 Gg CO_2 eq in 2005 to 2,018 Gg CO_2 eq in 2019 owing in particular to an increase in emissions from biomass combustion.

41. Information on emissions for category 1.A.4 (other sectors) was not clearly reported in Burundi's BUR. The NIR provided by the Party during the technical analysis included these emissions in a disaggregated format, which fell mainly under category 1.A.4.b (residential fuel combustion).

42. For the IPPU sector, information was clearly reported on GHG emissions, methodological tier levels, key categories, notation keys used and other information specific to the sector. As reported in the BUR and detailed in the NIR provided by the Party during the technical analysis, emissions from the IPPU sector increased from 2 Gg CO_2 eq in 2005 to 3 Gg CO_2 eq in 2019. For solvents and other product use, the Party reported quantitative emission estimates for category 2.D.1 (lubricants) and "NE" and "NO" for several other categories. During the technical analysis, the Party clarified that it will make efforts to include estimates for all relevant categories in its next inventory.

43. Notation keys were not clearly reported for emissions by IPPU subcategory. In the calculation sheets in annex 3 to the BUR, emissions for all mineral industry subcategories other than lime production were reported as "0", whereas in the relevant summary table, they were reported as "NO". In the NIR provided during the technical analysis, emissions for subcategory 2.A.4 (glass production) were reported as "NE" and emissions for other mineral industry subcategories as "NO". The reason for not estimating emissions for subcategory 2.A.4 was not clearly reported in the NIR. During the technical analysis, Burundi clarified that the glass production industry is no longer active in the country and it lacked the capacity to ensure the consistent use of notation keys.

44. For 2006 IPCC Guidelines AFOLU categories 3.A and 3.C, enteric fermentation (CH_4), manure management (N_2O), agricultural soils (N_2O) and rice cultivation (CH_4) were identified as key categories and the most relevant emissions sources in the sector. Burundi used default EFs from the 2006 IPCC Guidelines. Information was not reported on the number of livestock or the amount of fertilizer used. During the technical analysis, Burundi provided these AD to the TTE as part of its NIR.

45. For land and HWP (categories 3.B and 3.D), Burundi reported annual GHG emissions and removals for 2005–2019. Overall, the net removals from the AFOLU sector increased from 1,406 Gg CO_2 in 2005 to 15,417 Gg CO_2 in 2019. The NIR provided by the Party during the technical analysis helped the TTE to understand this increase in removals, which is mainly attributed to subcategories 3.B.1.b (land converted to forest land) and 3.B.1.a (forest land remaining forest land), which saw total woodland area increase from 36,129 ha in 2005 to 403,601 ha in 2019 and total forest land area increase from 175,735 ha to 201,564 ha in the same period. Information on the methodologies used to estimate these areas was not reported in the BUR or the NIR owing to a lack of capacity to provide detailed information on AD. During the technical analysis, the Party added that the areas were estimated on the basis of data provided by accredited institutions.

46. For the land sector, Burundi clearly reported emissions and removals for forest land and wetlands, but not for other land-use category changes, for example forest land converted to other land uses, emissions from which were reported as "0" in the calculation sheets in annex 3 to the BUR. The NIR provided by the Party during the technical analysis clarified that emissions for these subcategories were not estimated owing to a lack of data.

47. For the waste sector, information was clearly reported on GHG emissions, methodological tier levels and key categories. Emissions from the waste sector increased from 16 Gg CO_2 eq in 2005 to 36 Gg CO_2 eq in 2019. N_2O and CH_4 emissions from wastewater accounted for more than 90 per cent of total sectoral emissions in 2019.

48. The BUR provides estimates of CO_2 emissions from the incineration and open burning of waste, whereas CH_4 and N_2O emissions from the same were reported as "NE" and the Party did not explain why. The TTE noted that the NIR provided by the Party during the technical analysis contained AD (such as the amount of waste subject to open burning and its composition) that could have been used to estimate such CH_4 and N_2O emissions. During the technical analysis, the Party clarified that such emissions were not estimated owing to a lack of capacity to use the relevant methodology in the 2006 IPCC Guidelines.

49. The BUR provides an update to the emission estimates reported in the Party's NC2 and NC3, which address anthropogenic emissions and removals for 2005–2015. The update was carried out for 2005–2019 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 15-year time series. The Party reported that it recalculated emissions for all sectors for the entire 2005–2015 time series owing to changes in its AD, in particular as a result of filtering out outlying data. For 2005, the recalculation resulted in an increase in estimated emissions from –2,864 Gg CO_2 eq in the NC3 to 714 Gg CO_2 eq in the BUR, whereas for 2015, it resulted in a decrease in estimated emissions from 423 Gg CO_2 eq in the NC3 to –9,872 Gg CO_2 eq in the BUR. The Party reported that these differences were due to emission estimation changes in multiple categories, in particular conversion of land to forest land.

50. Information on the Party's 1998 emissions as reported in the NC1 was not reported in Burundi's BUR. In addition, the Party did not clearly report on the changes in its AD mentioned in paragraph 48 above or on the specific categories impacted. During the technical analysis, the Party clarified that the use of a different methodology for estimating GHGs and a lack of complete archived data prevented it from reporting emissions for 1998, noting additionally that it lacks the AD and capacity needed to perform recalculations for the entire time series back to the years reported in the NC1. The Party added that a recalculation of 1998 emissions will be performed for the NC4 and biennial transparency report.

51. Burundi described in its BUR the institutional framework for the preparation of its 2019 GHG inventory. The Party reported that the Ministry of Environment, Agriculture and Livestock is the governmental body responsible for its climate change policy and GHG inventory, which is coordinated by OBPE. The BUR was prepared with the support of the United Nations Development Programme, which assisted Burundi in designing its GHG inventory system. The Party reported that it adopted decree 100/206 on the institutionalization of a national GHG inventory system. In its BUR the Party clearly reported information on the absence of procedures and arrangements for collecting and archiving data for the preparation of the GHG inventory. During the technical analysis, the Party stated that it plans to improve its MRV system, including the MRV of its GHG inventory, under the framework of a CBIT project (see paras. 20 and 22 above).

52. Burundi reported that a key category analysis was performed for the level of and the trend in emissions. Twelve key categories were identified, all within the energy and AFOLU sectors.

53. Information on how the key category analysis was conducted was not clearly reported in Burundi's BUR. The TTE noted some discrepancies in the Party's reporting on emissions for individual categories and the total absolute value of emissions and removals. Moreover, the key category analysis was not conducted separately for emissions excluding the AFOLU sector, and special considerations regarding the AFOLU sector (see the 2006 IPCC Guidelines, vol. 1, chap. 4, table 4.1) were not taken into account when, for example, determining which carbon pools are significant when forest land remaining forest land is a key category. During the technical analysis, the Party clarified that these discrepancies were related to a lack of capacity to report key categories.

54. The BUR provides some information on QA/QC measures, including the Party's efforts to verify the quality and reliability of AD used. Although the Party reported that it

was not able to follow IPCC guidelines entirely because of capacity constraints, the TTE commends the Party for the information reported on QA/QC.

55. Burundi reported information on CO_2 fuel combustion emissions using both the sectoral and the reference approach. The information reported indicates that the combustion emissions estimated under the sectoral and the reference approach are 328 and 332 Gg CO_2 respectively for 2019. The difference between the estimates calculated using the two approaches was reported as 1.3 per cent. However, in other years, differences of up to 23.1 per cent (as reported for 2015) were reported, and the reason for this was not clearly reported in Burundi's BUR. The NIR provided by the Party during the technical analysis clarified that these differences relate to inconsistent AD being used when performing calculations under the reference approach.

56. Information was clearly reported on international aviation and marine bunker fuels.

57. Burundi reported that it did not carry out an uncertainty assessment of its national GHG inventory because of capacity constraints.

58. The TTE noted that the transparency of the information reported on GHG inventories could be enhanced by addressing the areas noted in paragraphs 28, 31–33, 35–37, 41–46, 48–50, 53 and 55 above, which could facilitate a better understanding of the information reported on GHG inventories.

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

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

60. The information reported provides a clear and comprehensive overview of the Party's mitigation actions and their effects. In its BUR, Burundi reported information on its national context and framed its national mitigation planning and actions in the context of its National Development Plan 2018–2027, National Strategy and Action Plan on Climate Change, National Sanitation Policy, Horizon 2025 Operational Strategy, NDC, National Policy on Climate Change, National Action Plan on Adaptation to Climate Change and NCs. Most of the mitigation actions are in the energy and AFOLU sectors (six mitigation actions each). Burundi reported that climate change has been mainstreamed in and integrated into its development plans, including mitigation.

61. The Party reported information on emission reduction targets and baseline and mitigation scenarios for 2019–2050 based on its NDC, which targets a 3 per cent emission reduction under the unconditional scenario and a 20 per cent reduction under the conditional scenario. The TTE acknowledged the information, which is presented in this summary report as contextual, without assessing the completeness and transparency of the information.

62. The Party reported a summary of its sectoral mitigation actions in tabular format, on BUR pages 119–129, in accordance with decision 2/CP.17, annex III, paragraph 11. It also reported information on its mitigation actions in narrative format, including a short description of each action by sector, in BUR section 5.5.

63. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Burundi reported the names of mitigation actions or groups of actions, coverage (sector and gases) and information on quantitative goals for most mitigation actions in the BUR.

64. Information on progress indicators was not reported in Burundi's BUR for any of the mitigation actions. During the technical analysis, the Party clarified that this was due to a lack of capacity at the national level to identify and report progress indicators.

65. Burundi reported information on assumptions, the objectives of the actions and steps taken or envisaged to achieve those actions for all mitigation actions.

66. Information on methodologies, especially for implementing and recording the progress of mitigation actions, was not clearly reported in Burundi's BUR. During the technical analysis, the Party clarified that this was due to a lack of capacity of the sectoral

experts to understand and follow some of the reporting guidelines. The Party also clarified that since the BUR was prepared during the coronavirus disease 2019 pandemic, it did not receive on-site support from any international experts in relation to developing an appropriate methodology.

67. The mitigation actions for the energy sector focus mainly on promoting renewable energy sources, especially hydropower and solar power, and on improving energy efficiency in the transport sector and were reported as implemented, ongoing or planned. The Party also reported the results achieved, such as estimated outcomes and estimated emission reductions. For example, its solar project aims to reduce GHG emissions from cooking and lighting and is estimated to reduce emissions cumulatively by 29,118.6 Gg CO_2 eq between 2019 and 2030, while its actions to develop hydroelectric power plants are estimated cumulatively to reduce emissions by 6,162.2 Gg CO_2 eq between 2019 and 2030. Burundi reported actions with mitigation co-benefits, including job creation and economic development.

68. Information on the expected outcomes of one of its mitigation actions in the energy sector, related to the improvement of energy efficiency through promoted use of public transport and development of the road network, was not reported in Burundi's BUR. During the technical analysis, the Party clarified that it is working to estimate current emissions from the transport sector and the quantity of avoided emissions if this action were implemented.

69. The mitigation action for the IPPU sector is aimed at supporting sector-specific research and innovation by creating high-quality, sustainable and climate-resilient infrastructure through strengthened financial, technological and technical support. This action, which is currently a project idea, is expected to reduce emissions by 0.41 Gg CO_2 by 2050 compared with 2019.

70. Six mitigation actions were reported in Burundi's BUR for the AFOLU sector. One of the main actions is the ongoing reforestation programme, which was launched in 2010 with a view to increasing forest cover (target increase of 20 per cent), absorbing CO_2 emissions (target of 17,113.56 Gg) and contributing to increased gross domestic product (target increase of 15 per cent). Another involves developing soil conservation systems through the implementation of vegetated erosion control systems on all hills in the country with a view to reducing CO_2 emissions (target reduction of 0.10 Gg CO_2 eq between 2014 and 2030), increasing crop production and increasing the amount of feed for livestock. The other actions are on promoting irrigated rice production, which is carried out by the Environmental Systems Research Institute; promoting the production of organo-mineral fertilizers, expected to lead to the production of some 133,704 t locally produced fertilizer between 2018 and 2030; promoting efficient techniques for the valorization of wood and its by-products, expected to create 91,000 new jobs; and improving domestic animal husbandry systems by migrating from an agro-silvo-zootechnical intensification system to a permanent stalling system.

71. The proposed mitigation action for the waste sector focuses on the recovery of urban and rural waste. It was presented in the form of a "project idea" that would be implemented from 2022 to 2032. If implemented, the avoided emissions are estimated to be 2.32 Gg CO_2 eq for N_2O and 1.21 Gg CO_2 eq for CH_4 by 2050. The co-benefits reported include the production of compost from household waste, the recycling of plastic and metal waste and the pre-treatment of domestic and industrial wastewater.

72. Information on the underlying steps taken or envisaged was not reported for some mitigation actions in the Party's BUR. For instance, for some actions, the Party reported only the start and end dates of the project without specifying the underlying steps taken or envisaged to implement it. During the technical analysis, the Party clarified that the reported mitigation actions are ongoing but it lacks capacity for monitoring and reporting, mainly in terms of budget and technology. The Party also clarified that its future reporting will provide more detail on the mitigation actions.

73. Burundi provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. It documented three CDM projects under the UNFCCC CDM process. The statistics include information on the total projects. The Party stated during the technical analysis that more capacity-building would be required for national experts to understand and document projects on market and non-market mechanisms, particularly with

regard to reporting the sectors covered and the quantity of certified emission reductions issued.

74. Burundi reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported in BUR section 3 indicates that there is an MRV system in place but the Party lacks an efficient and complete system for tracking mitigation actions and reporting on the status and progress of mitigation actions that have been implemented. Burundi reported that it is in the process of enhancing the design of a framework for applying MRV approaches to individual mitigation actions and their effects and tracking the support received for their implementation. Further, it outlined the steps towards a proposed pathway to establishing an enhanced MRV system, including establishing institutional arrangements, defining mitigation accounting standards, monitoring data-collection responsibilities, defining reporting obligations and defining verification approaches and roles.

75. The TTE noted that the transparency of the information reported on mitigation actions could be further enhanced by addressing the areas noted in paragraphs 64, 66, 68 and 72 above, which could facilitate a better understanding of the information reported on mitigation actions.

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

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

77. Burundi clearly reported information on constraints and gaps, and related financial, technical and capacity-building needs in accordance with decision 2/CP.17, annex III, paragraph 14. In its BUR, Burundi identified its institutional arrangements, availability of data and information, and lack of financial and technical resources as its main constraints. These constraints mainly result from a lack of trained climate change experts, a lack of updated sectoral databases for GHG inventories, a lack of national EFs for all sectors, insufficient technical means to implement mitigation actions identified, insufficient capacity to mobilize funding for mitigation actions, a lack of expertise in the use of mitigation assessment tools and a lack of comprehensive thematic studies containing necessary information on technology transfer, research and systematic observation, and education, training and public awareness. Burundi reported that its financial, technical and capacity-building needs are primarily in the areas of institutional arrangements, preparing its GHG inventory and reporting on mitigation actions.

78. Information on financial, technical and capacity-building needs related to mitigation actions and their effects was not reported in Burundi's BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that the MRV system related to needs and support received has not yet been fully implemented, which prevented it from reporting such information in the BUR.

79. The Party reported information on financial resources, technology transfer, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15 (BUR table 7.1). In its BUR, Burundi reported that it received USD 352,000 from the Global Environment Facility through UNEP, which included allocation for preparing its first BUR. The information reported indicates that Burundi also received non-financial support under the framework of bilateral cooperation with Germany through GIZ for (1) GHG inventory preparation; (2) the assessment of mitigation actions and their effects; (3) the design of the MRV system; and (4) the acquisition of computer equipment and materials and establishment of means of communication (i.e. a permanent Internet connection). The Party also reported that it received significant funding from multilateral institutions for implementing its NDC (BUR table 6.3), but did not report the amount of support received.

80. Information on support received from Annex II Parties, other developed country Parties and the Green Climate Fund was not reported in Burundi's BUR and the reason for

this was not clear to the TTE. During the technical analysis, the Party clarified that it needs to carry out an assessment to identify whether such support has been received.

81. Burundi reported information on nationally determined technology needs with regard to the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16. In its BUR, the Party identified technology needs for seven sectors (agriculture, energy, forest, health, infrastructure and transport, water resources and waste management).

82. Information on whether the technology needs assessment was nationally determined was not reported in Burundi's BUR and the reason for this was not clear to the TTE. It was also not clear whether the Party did not receive any technology support or whether such support was received but included with the financial support. During the technical analysis, the Party shared a document with the TTE indicating that the technology needs assessment was undertaken in Burundi in 2015. This assessment was implemented by the UNEP Copenhagen Climate Centre[2] and financed by the World Environment Fund. The process took place in three phases: assessing technological needs; identifying and analysing barriers to technology transfer and dissemination; and developing the technology action plan and selecting project ideas for implementation. The results of this assessment led to three technologies being prioritized in the energy and waste sectors. The Party also reported during the technical analysis on its lack of capacity to report technology support received.

83. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the areas noted in paragraph 78, 80 and 82 above, which could facilitate a better understanding of the information reported on needs and support received.

5. Any other information

84. Burundi reported that that it conducted an analysis of whether gender aspects were mainstreamed in its adaptation and mitigation actions as part of the preparation of its first BUR. The analysis found that women, youth, internally displaced people and other vulnerable people are or were considered in actions either under implementation or recently implemented.

D. Identification of capacity-building needs

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

(a) In relation to GHG inventory preparation:

(i) Reinforcing the capacity to provide clear and complete information, including AD and estimates disaggregated by category and by emissions and removals;

(ii) Reinforcing the capacity to prepare and report estimates of emissions and removals in all sectors and for all gases, including HFCs, PFCs, SF_6 and the precursor gases;

(iii) Enhancing national capacity to present detailed assumptions, definitions and methodologies used in the AFOLU sector;

(iv) Enhancing national capacity to collect and describe in detail externally available and/or internally produced AD for all subcategories in the LULUCF sector indicated in the 2006 IPCC Guidelines, including by using historical spatially explicit land-use maps and the resulting land-use change matrix;

(v) Enhancing the capacity to include information comparable to the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines and the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;

[2] Formerly UNEP DTU Partnership.

(vi) Developing national capacity to conduct tier 2 and 3 analyses for some sectors and categories, especially key categories;

(vii) Developing national capacity to estimate uncertainties;

(viii) Strengthening the capacity to conduct the key category analysis;

(ix) Establishing a mechanism for data archiving;

(x) Training relevant national stakeholders on conducting QA/QC procedures to ensure the production of high-quality GHG inventories on a continuous basis;

(xi) Enhancing the mechanisms for data collection and exchange between the national entity responsible for the GHG inventory and data providers through appropriate instruments (e.g. legal contracts and memorandums of understanding);

(b) In relation to mitigation actions and their effects:

(i) Strengthening national capacity to report on methodologies for implementing and recording the progress of mitigation actions using progress indicators;

(ii) Strengthening national capacity to report time series of global and sectoral emission reductions;

(iii) Strengthening the capacity of national experts to evaluate mitigation actions and use progress indicators;

(iv) Building the capacity of national experts to understand the procedures for using international market mechanisms, such as the CDM, and report on them appropriately;

(v) Strengthening national capacity to implement the improved MRV system envisaged by the Party;

(c) In relation to cross-cutting areas:

(i) Enhancing the institutional capacity and technical skills of sectoral experts in charge of the MRV system related to mitigation actions and support received;

(ii) Enhancing the capacity of national experts to independently prepare BURs and NCs;

(d) In relation to support received, enhancing the institutional capacity and technical skills of the national experts to report on support received from Annex II Parties, other developed countries and the Green Climate Fund on a disaggregated basis.

86. The TTE noted that, in addition to those identified during the technical analysis, Burundi reported several capacity-building needs covering the following areas:

(a) GHG inventory preparation (BUR pp.69, 70 and 77);

(b) Defining the forest reference emission level, including the definition of emission reduction objectives and the creation of a database on forests;

(c) Institutionalizing the national MRV system;

(d) Creating a database for documenting technology transfer and public awareness.

III. Conclusions

87. The TTE conducted a technical analysis of the information reported in the first BUR of Burundi in accordance with the UNFCCC reporting guidelines on BURs and concludes that the information reported is partially consistent. It provides an overview of national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis; the national inventory of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, including an NIR; mitigation actions and their effects, including associated assumptions; constraints and gaps, and related financial, technical and capacity-building needs, including a description of support needed

and received; the level of support received to enable the preparation and submission of BURs; and domestic MRV. During the technical analysis, additional information was provided by Burundi on difficulties encountered in following some of the reporting guidelines owing to a lack of capacity. The TTE concluded that the information analysed is partially transparent.

88. Burundi reported information on the institutional arrangements relevant to the preparation of its BUR. The description covers key aspects of the institutional arrangements, including the role of IGEBU and OBPE, which are the national and the deputy national focal point respectively for the UNFCCC. It also reported on the involvement and roles of other institutions in the areas of GHG inventory preparation, mitigation and adaptation actions, the monitoring of climate change impacts and climate finance flows. The Party reported that it adopted decree 100/206 to institutionalize its GHG inventory system. It also reported in its BUR on its domestic MRV arrangements, which are designed at the national level and cover three main areas: the GHG inventory system, mitigation and adaptation actions, and support needed and received.

89. In its first BUR, submitted in 2022, Burundi reported information on its national GHG inventory for 2005–2019. This included GHG emissions and removals of CO_2, CH_4 and N_2O for many relevant sources and sinks. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2019 were reported as 4,198.3 Gg CO_2 eq (excluding land and HWP) and –11,219.2 Gg CO_2 eq (including land and HWP). Twelve key categories were identified in the AFOLU and energy sectors. Estimates of fluorinated gases, NMVOCs and sulfur dioxide were not provided owing to difficulties in obtaining the necessary data, as clarified by the Party in the BUR and during the technical analysis.

90. Burundi reported information on mitigation actions and their effects in both tabular and narrative format, including emission reduction targets and the baseline and mitigation scenarios for 2019–2050 from its NDC, and framed its national mitigation planning and actions mostly in the context of its National Development Plan 2018–2027. It reported planned, implemented, ongoing and/or completed actions in the energy, IPPU, AFOLU and waste sectors. The mitigation actions focus on technologies, policies and practices that meet the country's socioeconomic development needs while reducing the rate of increase in GHG emissions. The Party reported the progress of implementation and expected outcomes for each mitigation action. Burundi reported actions with mitigation co-benefits, including job creation and economic development. It also reported information on its involvement in international market mechanisms and on MRV arrangements. Information on methodologies was not clearly provided owing to a lack of capacity of national experts, as clarified by the Party during the technical analysis and in the BUR.

91. Burundi reported information on key constraints, gaps and related needs, including national circumstances and institutional arrangements relevant to the preparation of NCs, the GHG inventory, mitigation actions and their effects, the development and transfer of technologies, support received and the MRV system. The identified constraints and gaps are grouped into three categories (institutional, data and information, and technical and financial resources). The Party also identified constraints and gaps with related solutions in the areas of education, training and public awareness for each sector, and indicated that it received non-financial support under the framework of bilateral cooperation with Germany through GIZ. BUR table 7.1 presents financial, capacity-building and technical support receive for the preparation of the Party's NCs and first BUR. The Party also reported that it received significant funding from multilateral institutions for implementing its NDC (BUR table 6.3), but did not report the amount of support received. It further reported that it received financial support of approximately USD 352,000 from the Global Environment Facility for preparing its first BUR.

92. The TTE, in consultation with Burundi, identified the 19 capacity-building needs listed in chapter II.D above and needs for capacity-building that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. The Party, in consultation with the TTE, also identified needs for capacity-building for four areas for reporting in future BURs, as listed in paragraph 86 above. Burundi prioritized all the capacity-building needs.

Annex I

Extent of the information reported by Burundi in its first biennial update report

Table I.1
Identification of the extent to which the elements of information on greenhouse gases are included in the first biennial update report of Burundi

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Burundi submitted its first BUR in August 2022; the GHG inventory reported is for 2005–2019.
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established in the latest UNFCCC guidelines for the preparation of NCs from non-Annex I Parties approved by the Conference of the Parties or those determined by any future decision of the Conference of the Parties on this matter.	Yes	Burundi used the 2006 IPCC Guidelines for all sectors.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	No	Burundi did not report the AD used to estimate GHG emissions and removals.
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;	No	Burundi did not include the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF or any comparable tables.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	No	Burundi did not provide sectoral report tables comparable with those annexed to the Revised 1996 IPCC Guidelines.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Partly	The time series reported in the BUR was for 2005–2015, which is consistent with that reported in its NC2 and NC3. However, Burundi did not report emissions for 1998 as reported in its NC1.
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).	Partly	This information was not reported for 1998.

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of an NIR 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 sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);	Partly	Comparable information was generally included in the BUR (annex 2, table 3.9), but the table included net CO_2 emissions only instead of two separate columns for CO_2 emissions and removals and did not include emissions by subcategory.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF_6).	Partly	Comparable information was generally reported in the BUR (annex 2, table 3.9). SF_6 emissions were reported on a disaggregated basis, but HFC and PFC emissions were not, and emissions were not reported by subcategory.
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	NA	
Decision 17/CP.8, annex, paragraph 12	Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.	Yes	Burundi undertook a key source analysis by level and trend.
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	
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:		
	(a) CO_2;	Partly	CO_2 emissions and removals were not estimated for categories 2.D.2, 2.H.1, 2.H.2, 3.B.2, 3.B.3, 3.B.5 or 3.B.6, or for any subcategories. Further, disaggregated CO_2 emission and removal data were not provided for categories and sectors for which both CO_2 emissions and removals could occur.
	(b) CH_4;	Partly	CH_4 emissions were not estimated for categories 2.H.1, 2.H.2 or 4.C or for any subcategories.
	(c) N_2O.	Partly	N_2O emissions were not estimated for categories 2.G.3,

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
			4.C or 5.A or for any subcategories.
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:		
	(a) HFCs;	Yes	
	(b) PFCs;	Yes	
	(c) SF_6.	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;	Yes	CO emissions were reported using notation keys for all categories except category 3.C.1, for which an estimate was provided.
	(b) NO_X;	Yes	NO_X emissions were reported using notation keys for all categories except category 3.C.1, for which an estimate was provided.
	(c) NMVOCs.	Yes	NMVOC emissions were reported using notation keys.
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as sulfur oxides, and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	Yes	Sulfur dioxide emissions were reported using notation keys.
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible, and if disaggregated data are available, to estimate and report CO_2 fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	Partly	Burundi provided CO_2 fuel combustion emissions using both the sectoral and the reference approach. However, it did not explain the significant difference in the emissions calculated under these two approaches.
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 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO_2 eq should use the GWP provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	Yes	The Party used the GWP provided in the AR5.
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or		

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Burundi used the 2006 IPCC Guidelines. Tier 1 methodology was used for all sectors.
	(b) Explanation of the sources of EFs;	Yes	Default EFs were used for all sectors.
	(c) Explanation of the sources of AD;	Partly	AD were generally retrieved from national and international databases, but the Party did not specify the source of AD for each sector and category.
	(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	
	(i) Source and/or sink categories;		
	(ii) Methodologies;		
	(iii) EFs;		
	(iv) AD;		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1–2 of the guidelines annexed to decision 17/CP.8 in reporting its national GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information that is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated.	Partly	Notation keys were used in some instances, but were not used in the calculation sheets in annex 3 to the BUR, or in BUR tables 4.8–4.9.
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:		
	(a) Level of uncertainty associated with inventory data;	No	
	(b) Underlying assumptions;	No	
	(c) Methodologies used, if any, for estimating these uncertainties.	No	

Note: The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paras. 3–10 and 41(g). Further, as per para. 3 of those guidelines, non-Annex I Parties are to submit updates of their national GHG inventories in accordance with paras. 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8. The scope of such updates should

be consistent with the non-Annex I Party's capacity and time constraints and the availability of its data, as well as the level of support provided by developed country Parties for biennial update reporting.

Table I.2
Identification of the extent to which the elements of information on mitigation actions are included in the first biennial update report of Burundi

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Yes	Burundi provided information on mitigation actions by sector in tabular format (BUR pp.119–129).
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Partly	Information on quantitative goals and progress indicators was not reported for some actions.
	(b) Information on:		
	(i) Methodologies;	Partly	Information on the methodologies for implementing and recording the progress of the mitigation actions was not reported in the BUR.
	(ii) Assumptions;	Yes	Assumptions by sector were reported in BUR section 5.4.
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Yes	
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Yes	
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Partly	Information on progress of implementation of the underlying steps taken or envisaged was not reported for some mitigation actions.
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	The Party reported results achieved as expected outcomes for all mitigation actions but one in the energy sector.
	(e) Information on international market mechanisms.	Yes	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	

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

Table I.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 Burundi

Decision	*Provision of the reporting requirements*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on:		
	(a) Constraints and gaps;	Yes	
	(b) Related financial, technical and capacity-building needs.	Partly	The Party did not report on financial, technical and capacity-building needs for implementing mitigation actions.
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide:		
	(a) Information on financial resources received, technology transfer and capacity-building received from the Global Environment Facility, Annex II Parties and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR;	Partly	The Party did not report any support received from Annex II Parties, other developed country Parties and the Green Climate Fund.
	(b) Information on technical support received from the Global Environment Facility, Annex II Parties and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.	Partly	The Party did not report the technical support received from Annex II Parties, other developed country Parties and the Green Climate Fund.
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on:		
	(a) Nationally determined technology needs;	Partly	The Party provided information on technology needs by sector (BUR table 6.2). However, no information on the process for identifying these needs was reported.
	(b) Technology support received.	Yes	Technology support received was summarized in BUR table 6.3.

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

Annex II

Reference documents

A. Reports of the Intergovernmental Panel on Climate Change

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