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Technical analysis of the first biennial update report of Gabon submitted on 29 December 2021

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 Gabon, 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*
2019 Refinement to the 2006 IPCC Guidelines	*2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*
AD	activity data
AFOLU	agriculture, forestry and other land use
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CDM	clean development mechanism
CH_4	methane
CO_2	carbon dioxide
CO_2 eq	carbon dioxide equivalent
EF	emission factor
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HWP	harvested wood products
ICA	international consultation and analysis
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
NIR	national inventory report
non-Annex I Party	Party not included in Annex I to the Convention
PFC	perfluorocarbon
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
Revised 1996 IPCC Guidelines	*Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*
SF_6	sulfur hexafluoride
TTE	team of technical experts
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	"Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention"
UNFCCC reporting guidelines on BURs	"UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention"
Wetlands Supplement	*2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands*

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. Decision 14/CP.19, paragraph 7, outlines that developing country Parties seeking to obtain and receive payments for results-based actions can submit relevant information and data through the BUR in the form of a technical annex as per decision 2/CP.17, annex III, paragraph 19.[1] Decision 14/CP.19, paragraph 8, outlines that the submission of the technical annex is voluntary and in the context of results-based payments. As mandated by decision 14/CP.19, paragraphs 10–14, the technical annex submitted by Gabon has been subject to technical analysis by two LULUCF experts who are included as members of a TTE. The results of the technical analysis are captured in a separate technical report.[2]

5. This summary report presents the results of the technical analysis of the first BUR of Gabon, 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

6. In accordance with the mandate referred to in paragraph 2 above, Gabon submitted its first BUR on 29 December 2021 as a stand-alone update report.

7. In its BUR, the Party clarified that it did not comply with the mandated submission deadline of December 2014 outlined in paragraph 2 above owing to funds from international donors for the project not being allocated until 2017.

8. A desk analysis of Gabon's BUR was conducted remotely from 4 to 8 April 2022 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: Oluseyi Adefisan (Nigeria), Kwame Agyei (Ghana), Amadou Ba (Senegal), Meriem Bouali (Algeria), Florian Claeys (France), Kenel Delusca (member of the Consultative Group of Experts from Haiti), Danielly Godiva Santana Molleta (Brazil), Rana Humbatova (Azerbaijan), Inge G.C. Jonckheere (Belgium), Jean Claude Kabamba Lungenyi (Democratic Republic of the Congo), B. Jacques Kouazounde (Benin), Benoit Pierre Marie Mayer (France), Aperr Naadzenga (Nigeria), Mayra Rocha (Brazil), Carmen Schmid (Austria) and Arda Uludag (Türkiye). Kenel Delusca and Arda Uludag were the co-leads. The technical analysis was coordinated by Martina Kuehner, Luca Birigazzi and Mirana Andriarisoa (secretariat).

9. 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

[1] The technical annex on the results of implementing REDD+ activities.

[2] FCCC/SBI/ICA/2022/TATR.1/GAB.

and Gabon engaged in consultation[3] on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Gabon's first BUR, the TTE prepared and shared a draft summary report with Gabon on 26 August 2022 for its review and comment. Gabon, in turn, provided its feedback on the draft summary report on 9 February 2023.

10. The TTE responded to and incorporated Gabon's comments referred to in paragraph 9 above and finalized the summary report in consultation with the Party on 14 April 2023.

II. Technical analysis of the biennial update report

A. Scope of the technical analysis

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

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

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

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

12. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Gabon's BUR outlined in paragraph 11 above.

B. Extent of the information reported

13. The elements of information referred to in paragraph 11(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.

14. 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 13 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is mostly 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

15. The technical analysis referred to in paragraph 11(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.

[3] The consultation was conducted via videoconferencing.

16. 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. Gabon submitted an NIR as a stand-alone document and, further to consultations with the TTE, requested a more detailed analysis and documentation of the findings contained in the NIR to be undertaken using the agreed GHG inventory tool.

17. 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

18. 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.

19. Gabon reported in its first BUR information on its national circumstances, including a description of features of geography, climate, ecological conditions and economy that might affect the Party's ability to deal with mitigating and adapting to climate change, as well as information regarding national circumstances and constraints on the specific sectors related to the Party's response to climate change.

20. Gabon 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 legal status and roles and responsibilities of the overall coordinating entity and the involvement and roles of other institutions and experts. The National Climate Council is the national focal point for UNFCCC processes and supervises the preparation of NCs, biennial reports and GHG inventories for all IPCC sectors.

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

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

22. Gabon submitted its first BUR in 2021 and the GHG inventory reported is for 1994, 2000, 2005 and 2010–2017. The GHG inventory is consistent with the requirements for the reporting time frame.

23. Gabon submitted an NIR in conjunction with its first BUR. The relevant sections of the NIR were referenced in the BUR and the document was made publicly available on the UNFCCC website.[4]

24. GHG emissions and removals for the BUR covering the 1994, 2000, 2005 and 2010–2017 inventories were estimated using the tier 1 methodology from the 2006 IPCC Guidelines for the energy, agriculture and waste sectors and a combination of tier 1 and 2 methodologies for the IPPU sector. A combination of tier 1, 2 and 3 methodologies from the 2006 IPCC Guidelines, the 2019 Refinement to the 2006 IPCC Guidelines and the Wetlands Supplement was used for the LULUCF sector. The TTE commends Gabon for using the 2006 IPCC Guidelines or more recent guidelines for all categories.

25. Information on EFs used was summarized for all sectors and gases in the BUR (table 13). Information on AD used and their sources was clearly reported in the relevant sections of the NIR for all sectors except the energy sector, for which only partial information was provided (see para. 33 below). For some AFOLU categories, EFs from the 2019 Refinement

[4] https://unfccc.int/documents/414959.

to the 2006 IPCC Guidelines and the Wetlands Supplement were used. The TTE commends Gabon for using these new EFs.

26. Information on the Party's total GHG emissions by gas for 1994–2017 is outlined in table 1 in Gg CO_2 eq. It shows an increase in emissions of 38.2 per cent without LULUCF since 1994 (3,426 Gg CO_2 eq).

Table 1
Greenhouse gas emissions by gas of Gabon for 2017

Gas	*GHG emissions (Gg) including land and HWP[a]*	*% change 1994–2017*	*GHG emissions (Gg) excluding land and HWP[a]*	*% change 1994–2017*
CO_2	–104 991	–4.5	3 805	47.1
CH_4	400	2.9	400	–2.9
N_2O	441	3.0	441	3
HFCs	88	NA	88	NA
PFCs	NA	NA	NA	NA
SF_6	NA	NA	NA	NA
Other	NA	NA	NA	NA
Total (Gg CO_2 eq)	**–103 085**	**4.7**	**5 714**	**–18.9**

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

27. Information on other emissions was clearly reported, including 32 Gg nitrogen oxides, 273 Gg carbon monoxide and 4 Gg non-methane volatile organic compounds.

28. Gabon applied notation keys (partly in French, partly in English) in some tables where numerical data were not provided (e.g. BUR table 4), but not in other tables (e.g. BUR tables 18–19). The use of notation keys was not consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. During the technical analysis, Gabon clarified that it plans to improve its use of notation keys for future submissions and identified a capacity-building need in relation to using the IPCC inventory software. In addition, some GHG emissions were reported as "0" in the BUR tables and it was not clear to the TTE whether these emissions were not estimated or do not occur. During the technical analysis, Gabon clarified that these emissions do occur but were rounded down to "0" owing to their very small quantities.

29. Gabon reported partially comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF and the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines. For example, NIR table 53 provides information on emissions and removals by LULUCF category in CO_2 eq and the annex to the NIR contains information on land-use change subcategory and carbon pool, but detailed information on CH_4 and N_2O emissions and removals was not provided by subcategory, with the corresponding tables often containing "0" instead of the appropriate notation keys. During the technical analysis, the Party shared with the TTE Excel calculation sheets containing complete information on emissions and removals from LULUCF. Regarding the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines, the Party explained that these are included in the annex to the NIR. However, the TTE noted that, while the sectoral reporting tables in the annex to the NIR contain information by sector, main subcategory and gas, they do not provide a level of disaggregation comparable with the one in the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines or in the sectoral tables in annex 8A.2 to the 2006 IPCC Guidelines (e.g. no information is provided for some energy subcategories, such as subcategories 1.A.1.a–1.A.1.c).

30. The shares of emissions that different sectors contributed to the Party's total GHG emissions excluding land and HWP (category 3.B and, if reported, 3.D), as calculated by the TTE using information from the BUR, in 2017 are reflected in table 2.

Table 2
Shares of greenhouse gas emissions by sector of Gabon for 2017

Sector	*GHG emissions (Gg CO_2 eq)*	*% share*[a]	*% change 1994–2017*
Energy	4 827	84.4	27.4
IPPU[b]	88	1.5	NA
AFOLU	–108 004	NA	–5.6
Livestock (category 3.A)	96	1.7	12.9
Land (category 3.B)	–108 800	NA	–5.6
Aggregate sources and non-CO_2 emissions sources on land (category 3.C)	701	12.3	0.4
HWP and other emissions (category 3.D)	NE	NA	NA
Waste	3	0.1	455.6

[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)).
[b] Gabon did not report estimates of emissions of CO_2, CH_4 and N_2O from the IPPU sector for 2017 owing to a lack of data for that year, as explained during the technical analysis. The time series is therefore not consistent for this sector.

31. Gabon reported information on its use of GWP values consistent with those provided by the IPCC in its AR2 based on the effects over a 100-year time-horizon of GHGs.

32. For the energy sector, information was clearly reported on methodological tier levels and EFs. The energy sector is the main source of GHG emissions in Gabon. Fugitive emissions (category 1.B), energy industries (category 1.A1) and transport (category 1.A3) are the most significant categories, representing 37.7, 25.3 and 20.2 per cent respectively of total emissions from the energy sector. Between 1994 and 2017, emissions from the sector increased owing to the increase in the flaring of natural gas and in the number of vehicles in the country, with more than 100,000 new vehicles purchased between 2012 and 2017.

33. AD for the energy sector were only provided for oil and gas production and notation keys were not used where numerical data were not provided, thus hindering the ability of the TTE to assess the clarity of the information reported. In addition, emission estimates for all subcategories under category 1.A (fuel combustion activities) were provided at a high level of aggregation (information on total amounts was only provided for the energy industries; manufacturing industry and construction; transport and other sectors). During the technical analysis, the Party clarified that all missing information will be provided in its next submission.

34. For the IPPU sector, information on emissions of non-methane volatile organic compounds and HFCs was reported for each year in the time series, whereas information on emissions of CO_2 was reported only for 1994, 2000, 2005 and 2010–2014. The most important category for 1994–2013 is A.1 (cement production), and for 2013 onward it is 2.F.1 (refrigeration and air conditioning), which accounts for 98.3 per cent of the total sectoral emissions in 2017.

35. Gabon did not report estimates of emissions of CO_2 for 2014–2017 or of CH_4 or N_2O from IPPU for any years and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that it lacks the necessary data.

36. Gabon reported on emissions from cement production for 1994, 2000 and 2010–2014, but not for 2015–2017 and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that this was due to the closure of the national CimGabon cement production plant. In addition, for category 2.F.1 (refrigeration and air conditioning), estimates of HFC emissions were reported for 2010–2016 only. During the technical analysis, Gabon clarified that such chemical substances were not in use in the country in 1994 and 2000.

37. In the NIR (table 38), Gabon reported emissions for category 2.H.2 (other – food and beverages industry) for 1994, 2000 and 2010–2017 in Gg CO_2 eq. However, no information

on AD, EFs or the methodology used for this category was reported. During the technical analysis, the Party clarified that it plans to provide this information in future submissions.

38. From AFOLU sector categories 3.A and 3.C, 3.C.1.a (biomass burning) (N_2O, CH_4) and 3.A.1 (enteric fermentation) (CH_4) were identified as key categories and the most relevant emissions sources in the sector. The Party reported in the BUR that emissions for the two categories have been fairly stable for 1994–2017, increasing from 783 to 797 Gg CO_2.

39. For land (category 3.B), Gabon reported annual GHG emissions and removals for 1990–2018. Overall, the net removals from land fluctuated between a minimum of –91,974 Gg CO_2 eq in 2000 and a maximum of –121,383 Gg CO_2 eq in 2010. Categories 3.B.1.a (forest land remaining forest land) (CO_2), 3.B.2.b (land converted to cropland) (CO_2) and 3.B.5.b (land converted to settlements) (CO_2) were identified as key categories and the most relevant emissions sources in this sector.

40. Information on HWP (category 3.D) was not reported in Gabon's BUR and the TTE asked for clarification on the reason for this exclusion. During the technical analysis, the Party clarified that emissions and removals for this category were not estimated owing to a lack of time and technical capacity and explained that it plans to include these emissions and removals in future submissions.

41. Information on the AD for the main land use and land-use change categories for 1990–2018, and on the non-forest land subcategories for 1990–2000, was not clearly reported in Gabon's BUR or NIR. During the technical analysis, the Party shared with the TTE its Excel calculation sheet containing all AD on land use; however, the TTE noted that Gabon did not correctly apply the transition period for areas converted to another land-use category in line with the 2006 IPCC Guidelines, which implies that the areas of land remaining in the same land-use category were not estimated correctly. This issue may have substantial implications for the estimation of emissions and removals. During the technical analysis, Gabon explained that it could not apply the transition period as the matrices of land-use change were not consistent from one period to the other but plans to correct these inconsistencies in future submissions. During the review of the draft report, Gabon further informed that this issue is likely to have limited implications for the estimation of emissions and removals, since the correct estimation methods were already partially applied to forests in transition, and croplands and grasslands are assumed to reach biomass stability the year after conversion.

42. For the waste sector, information was reported on methodological tier levels, data-collection procedures and emission estimates in Gg CO_2 eq for subcategories 5.A (solid waste disposal (at an aggregated level)), 5.C.2 (incineration and open burning of waste) and 5.D (wastewater treatment and discharge), as well as on a gas-by-gas basis (CO_2, CH_4 and N_2O). The most important subcategories in this sector are 5.C.2 and 5.D, representing 64.0 and 36.0 per cent respectively of total sectoral emissions.

43. Information on the total amount of waste for 1994 and 2005 was not clearly reported in Gabon's BUR. In the annexes to the NIR, the Party only provided information on total emissions from the waste sector for these two years, without providing any estimates at the category level. Moreover, the overall emission estimates reported for the waste sector on a gas-by-gas basis in the NIR differ significantly from the total emissions for this sector in CO_2 eq reported in BUR table 1 for 1994, 2000 and 2005. During the technical analysis, Gabon clarified that this inconsistency is due to a technical error and it plans to resolve this error in future submissions.

44. The NIR provides an update to all GHG inventories reported in the Party's previous NCs. The information reported provides an update of Gabon's NC2, which addresses anthropogenic emissions and removals for 1994 and 2000. The update was carried out for 1994, 2000, 2005 and 2010–2017 for all sectors using the methodologies contained in the 2006 IPCC Guidelines, with the exception of AFOLU, for which the update was carried out for 1990–2018 using the methodologies contained in the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines. Gabon reported that it recalculated emissions and removals for all main categories for 2000 owing to a switch from using the Revised 1996 IPCC Guidelines to the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines, as well as owing to the use of new AD and new EFs and the inclusion of more

subcategories. These recalculations resulted in an increase of estimated net removals by 51 per cent.

45. CO_2, CH_4 and N_2O emissions from the IPPU and waste sectors for 2005 were reported as the average of the values for 2000 and 2010 in Gabon's BUR. The Party clarified in its BUR that the use of average values was due to a lack of information for 2005.

46. Gabon described in its BUR the institutional framework for the preparation of its GHG inventory. The Party reported that the National Climate Council is the governmental body responsible for compiling its GHG inventories and the Directorate General for the Environment and Nature Protection is the coordinating body for this process, tasked in particular with recruiting consultants for supporting the inventory compilation and drafting the terms of reference for their work. Its GHG inventories are prepared with the support of the United Nations Environment Programme, the GEF and the Gabonese Agency for Space Studies and Observation. Gabon identified improvements in BUR table 17, including the establishment of a regulatory framework for GHG data collection for the IPPU sector.

47. Gabon reported that a key category analysis was performed for the level of and trend in emissions, including and excluding LULUCF, using approach 1 from the 2006 IPCC Guidelines, for 2017 only. The analysis including LULUCF resulted in 4 key categories, while the analysis excluding LULUCF resulted in 12. With respect to the level of emissions, the key categories excluding LULUCF are 1.A.1 (energy industries) (CO_2), 1.B.2 (fugitive emissions from oil and natural gas) (CO_2 and CH_4), 1.A.3.b (road transportation) (CO_2), 1.A.4 (fuel combustion activities from other sectors) (CO_2), 1.A.2 (fuel combustion activities from manufacturing industries and construction) (CO_2), 3.C.1.b (biomass burning) (CO_2 and CH_4), 3.A.1 (enteric fermentation) (CH_4) and 2.F.1 (refrigeration and air conditioning) (HFCs). The key categories including LULUCF are 3.B.1.a (forest land remaining forest land) (CO_2), 3.B.2.b (land converted to cropland) (CO_2), 3.B.5.b (land converted to settlements) (CO_2) and 1.A.1 (energy industries) (CO_2).

48. The BUR provides information on quality assurance/quality control measures for all sectors, which were carried out on the basis of the 2006 IPCC Guidelines for all AD and EFs. The TTE commends Gabon for providing information in its BUR in accordance with the 2006 IPCC Guidelines.

49. Gabon reported information on CO_2 fuel combustion emissions using both the sectoral and the reference approach. The Party explained in its NIR that the difference between the estimates calculated using the two approaches is due to the use of diesel and heavy fuel oil for marine bunkers.

50. The difference between the estimates calculated using the two approaches was reported only for 1994 and 2000, as –12.6 and +7.18 per cent respectively. During the technical analysis, Gabon clarified that it plans to calculate the differences between estimates made under the two approaches for the remaining years of the time series for its next submission.

51. Information was reported on international aviation and marine bunker fuels for 1994, 2000 and 2005–2017. For reasons of confidentiality, marine bunker fuels do not include emissions from military operations. The Party reported that emissions from international aviation and marine bunker fuels had increased by 35 and 39 per cent respectively in 2017 compared with 2005.

52. It was not clear to the TTE whether emissions from international aviation and marine bunker fuels include emissions from domestic aviation and navigation, because no AD or separate estimates for domestic emissions were provided. During the technical analysis, Gabon clarified that the figures provided include both domestic and international emissions, and that it plans to include separate estimates for domestic aviation and navigation in future submissions. The Party further explained that data on fuel consumption by ships are collected directly from the country's sole importer and exporter of heavy fuel oil and diesel used by ships in Gabon.

53. Gabon reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and covers the source categories under the energy sector for CO_2, CH_4 and N_2O. The Party also provided some

basic information on uncertainties for the IPPU and waste sectors. The results obtained, as reported in the BUR, reveal that the level uncertainty for emissions from the energy sector is 18.33 per cent and the trend uncertainty is 13.40 per cent.

54. Quantitative information on uncertainties for the AFOLU sector was not reported in Gabon's BUR. However, the Party provided relevant clarification in its BUR and during the technical analysis, namely that it could benefit from capacity-building on the IPCC approaches to conducting the uncertainty analysis.

55. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 25, 28, 29, 33, 35, 36, 37, 40, 41, 43, 50, 52 and 54 above, which could facilitate a better understanding of the information reported on GHG inventories.

56. Gabon reported in its BUR and NIR (section 8 and chap. 11 respectively) detailed information on its areas for improvement for future GHG inventories for compliance with requirements under the enhanced transparency framework under the Paris Agreement. The initiatives relate to strengthening coordination on data collection at the national level and improving AD, EFs and the application of methodologies for all sectors. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for implementation of the enhanced transparency framework.

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

57. As indicated in table I.2, Gabon 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.

58. In its BUR, Gabon reported information on its national context and framed its national mitigation planning and actions in the context of its nationally determined contribution, national climate change strategy and policy, and national emission reduction targets for 2020, 2030, 2040 and 2050. The Party reported that climate change has been mainstreamed in and integrated into its development plans, including mitigation. The mitigation actions are in the energy, agriculture and LULUCF sectors. Further, the implemented mitigation actions for the energy and agriculture sectors will contribute to estimated emission reductions of 2,265 Gg CO_2 eq from 2005 to 2050, with the energy sector being the main source of emission reductions. Gabon also reported that, if the mitigation actions in the LULUCF sector are taken into account, all GHG emissions will be sequestered and the national carbon sink capacity enhanced (from –103,843 Gg CO_2 eq in 2005 to –116,348 Gg CO_2 eq in 2050), corresponding to an 11 per cent increase in GHG removals. In its nationally determined contribution, Gabon has committed to remaining carbon neutral up to and beyond 2050 unconditionally and to maintaining its net carbon absorption at a minimum of 100 Mt CO_2 eq/year beyond 2050, on the condition that financial, technical and capacity-building support are provided.

59. Gabon reported sectoral GHG emission projections under the 'business as usual' and mitigation scenarios (see paras. 63–65 below). The Greenhouse Gas Abatement Cost Model was used to develop projections for the energy and agriculture sectors. Projections for the LULUCF sector were developed using data from the Party's forest reference emission level in combination with the Long-range Energy Alternatives Planning system and the Ex-Ante Carbon-balance Tool.

60. The Party reported a summary of its mitigation actions in the energy and agriculture sectors in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. In addition, Gabon reported information on its mitigation actions in the energy, agriculture and LULUCF sectors in narrative format.

61. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Gabon reported the names of mitigation actions, coverage (sector and gases) and progress indicators in the BUR (tables 24–25 and 32–33). A description of mitigation actions, as well as information on quantitative goals, was provided in the BUR.

62. Gabon clearly reported information on the objectives of the actions, the steps taken or envisaged to achieve them and the results achieved for all mitigation actions in the energy, agriculture and LULUCF sectors.

63. The mitigation actions in the energy sector focus mainly on improving energy efficiency and promoting use of renewable energy sources. Gabon reported the results of implementing the mitigation actions as estimated emission reductions. The Party estimates that its cumulative commitments in the energy sector will result in relative GHG emission reductions of more than 28,000 Gg CO_2 eq, or 43 per cent, by 2050 compared with the 'business as usual' scenario on the basis of macroeconomic, social and infrastructure development assumptions. This estimated emission reduction is based on the anticipated results of seven main actions: developing and interconnecting transport networks (reduction of 4,600 Gg CO_2 eq); implementing a zero gas flaring plan in the oil and gas industries (reduction of 4,000 Gg CO_2 eq); improving energy efficiency in the transport subsector (reduction of 4,000 Gg CO_2 eq); improving energy efficiency in households (reduction of 2,900 Gg CO_2 eq); developing hydroelectricity (reduction of 2,300 Gg CO_2 eq); substituting heavy fuel oil and diesel power plants with natural gas and natural gas power plants (reduction of 1,200 Gg CO_2 eq); and introducing solar photovoltaic energy into the energy mix (reduction of 900 Gg CO_2 eq).

64. The mitigation actions in the agriculture sector focus mainly on promoting no-till farming, increasing crop cover and increasing the number of high conservation value areas of land used for agriculture and were reported as ongoing. Gabon also reported on actions such as inhibiting nitrification and promoting covers for manure deposits, which were reported as planned. BUR tables 28–29 summarize the progress of implementing the mitigation actions in this sector and show that they are expected to reduce emissions by about 50 per cent by 2050 compared with the 'business as usual' level.

65. The mitigation actions in the LULUCF sector include preventing the deforestation of native forests and promoting the sustainable management of forests, and were reported as ongoing. Gabon reported information on results achieved, such as emission reductions for different mitigation scenarios compared with 'business as usual' emission levels. The anticipated increase in the carbon sink capacity resulting from the mitigation actions amounts to 122,108 Gg CO_2 eq in 2030 and 118,612 Gg CO_2 eq in 2050 compared with the 'business as usual' scenario.

66. Gabon reported information on methodologies and assumptions for all mitigation actions, including the assumptions used for developing its emission reduction scenarios. To estimate the expected emission reduction of its actions, the Party assumed an average annual economic growth of 3.5 per cent since 2005. However, the contribution of the oil sector to economic growth was not considered for the estimation of the growth rate and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that the growth rate of the oil sector was not considered because 80 per cent of oil produced is exported and sold abroad and because including this rate, which varies between 6 and 15 per cent, would distort the results of the Greenhouse Gas Abatement Cost Model and thus the mitigation scenarios.

67. Information on the progress of implementation and the underlying steps taken or envisaged was not clearly reported in Gabon's BUR for the mitigation actions in all sectors. During the technical analysis, Gabon clarified that some actions are ongoing and several are planned, and noted that it will amend and supplement the information provided in its BUR figures and tables (e.g. figure 27 and table 25) to enhance understanding in this regard.

68. Gabon provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. It documented one CDM project in the energy sector and mentioned other projects in the AFOLU sector, but did not provide further information, such as on type of project or quantity of certified emission reductions issued. During the technical analysis, Gabon clarified that it lacks the capacity to report this information.

69. Gabon reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Gabon is in the process of designing and developing a domestic MRV system for mitigation actions. The Party reported that the system involves coordinating, at the national level, the three

subsystems of preparation of GHG inventories, planning and implementation of policies and measures, and documentation of support received and steps taken to achieve the Sustainable Development Goals. Gabon outlined the steps on a proposed pathway to establishing this MRV system, including establishing institutional arrangements, data management processes, data-collection responsibilities and a legal framework. During the technical analysis, the Party stated that the MRV system will be integrated into the responsibilities of its National Climate Council.

70. The TTE noted that the transparency of the information reported on mitigation actions could be enhanced by addressing the areas noted in paragraphs 67–68 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

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

72. Gabon 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, Gabon identified difficulties in collecting data, unavailability of data and lack of institutional capacity as constraints. It reported that its financial, technical and capacity-building needs are primarily in the areas of (1) conducting research related to renewable energy, energy efficiency, green buildings, the environment and forestry and (2) preparing proposals for climate-related projects. Gabon also reported a need to strengthen national capacities, especially to monitor emissions, manage climate risks and access climate finance.

73. Gabon reported information on financial resources, technology transfer, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, it reported that it received USD 377,200 for preparing its first BUR (USD 342,000 from the GEF and USD 35,200 from Parties included in Annex II to the Convention). The information reported indicates that Gabon received USD 624,000 in financial support, USD 169,595,953 in capacity-building support, USD 23,437,415 in technical support and USD 173,913 in technology transfer support from the GCF, multilateral institutions, Parties included in Annex II to the Convention, developed country Parties and other international donors.

74. Gabon 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, Gabon reported that the technology needs assessment was nationally determined. The Party provided comprehensive information on provisional budgets for these needs, but only for those projects where data are available.

5. Any other information

75. Gabon reported some information on adaptation actions that may lead to GHG emission reductions, without providing estimations of such reductions. During the technical analysis, the Party clarified that no efforts have previously been made to quantify the mitigation effects of the adaptation measures because they were implemented via programmes developed with the intention of enhancing adaptive capacity. Gabon is establishing a process for quantifying on an ongoing basis the emission impacts of such measures.

D. Identification of capacity-building needs

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

(a) Collecting data with a view to monitoring quantified emission reductions related to mitigation actions by sector;

(b) Formalizing the institutional arrangements for the MRV system;

(c) Improving access to data on CDM projects and related carbon credits for emission reductions;

(d) Strengthening the institutional capacity to track and monitor support received and keep this information up to date;

(e) Developing a methodology for or systemic approach to identifying and categorizing support received as financial, technical or capacity-building support;

(f) Applying notation keys using the IPCC inventory software;

(g) Preparing estimates of emissions for category 3.D (HWP);

(h) Conducting an uncertainty analysis for the GHG inventory;

(i) Improving the methodology for estimating carbon stock changes in mineral soils in line with the 2006 IPCC Guidelines;

(j) Applying a transition period for land-use changes and, in relation to this, determining the area of remaining land so as to obtain consistent area information in line with the 2006 IPCC Guidelines;

(k) Improving the time series for land-use change areas;

(l) Collecting data to enable the reporting of separate emissions for domestic aviation and international aviation bunkers across the entire time series in order to improve the accuracy of the estimates for the energy sector;

(m) Enhancing the technical capacity to collect data across the entire time series in order to improve the consistency and the quality of the estimates for the IPPU and waste sectors;

(n) Developing a methodology for or systemic approach to providing budgetary estimations for technology needs.

77. The TTE noted that, in addition to those identified during the technical analysis, Gabon reported the following capacity-building needs in its BUR:

(a) Enhancing the capacity of the entities or individuals in charge of collecting qualitative and quantitative data related to climate change and developing tools to facilitate the collection of such data;

(b) Improving the state of knowledge of relevant stakeholders on climate change;

(c) Conducting training for stakeholders involved in developing activities aimed at significantly reducing GHG emissions;

(d) Strengthening institutional and individual capacity to develop institutional, legislative and regulatory frameworks;

(e) Building capacity to establish innovative finance mechanisms;

(f) Building capacity to develop market mechanisms;

(g) Building capacity to develop information, education and communication tools and quality control systems.

III. Conclusions

78. The TTE conducted a technical analysis of the information reported in the first BUR of Gabon in accordance with the UNFCCC reporting guidelines on BURs and concluded that the information reported is mostly 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 methodologies and 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 on all of these areas was provided by Gabon. The TTE concluded that the information analysed is mostly transparent.

79. Gabon reported information on the institutional arrangements relevant to the preparation of its BURs. The information covers its national circumstances, including a description of features of geography, climate, ecological conditions and economy. The Party also provided information on its institutional arrangements, including the legal status and roles and responsibilities of the overall coordinating entity and the involvement and roles of other institutions and experts.

80. In its first BUR, submitted in 2021, Gabon reported information on its national GHG inventory for 1994, 2000 and 2005–2017 for the energy, waste and IPPU sectors and for 1990–2018 for the AFOLU sector. This included GHG emissions and removals of CO_2, CH_4 and N_2O for all relevant sources and sinks as well as the precursor gases. The inventory was developed on the basis of the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines, as well as the Wetlands Supplement for category 3.D (land). The total GHG emissions for 2017 were reported as 5,714 Gg CO_2 eq (excluding land and HWP) and –103,085 Gg CO_2 eq (including land and HWP). Four key categories including LULUCF were identified: 3.B.1.a (forest land remaining forest land) (CO_2), 3.B.2.b (land converted to cropland) (CO_2), 3.B.5.b (land converted to settlements) (CO_2) and 1.A.1 (energy industries) (CO_2). Information on AD used and their sources was clearly reported in the relevant sections of the NIR for all sectors except the energy sector. For some AFOLU categories, EFs from the 2019 Refinement to the 2006 IPCC Guidelines and the Wetlands Supplement were used.

81. Gabon reported information on mitigation actions and their effects in narrative and, in some cases, tabular format, including emission reduction targets and the baseline and mitigation scenarios for 2005–2050, and framed its national mitigation planning and actions in the context of its nationally determined contribution, national climate change strategy and policy, and national emission reduction targets for 2020, 2030, 2040 and 2050. Gabon reported planned and ongoing actions in the energy, agriculture and LULUCF sectors. The mitigation actions focus on improving energy efficiency, promoting the use of renewable energy sources, promoting the sustainable management of forests and increasing the number of high conservation value areas of land used for agriculture.

82. Gabon reported results achieved, including emission reductions. It reported that, if the mitigation actions for the energy and agriculture sectors are implemented, the estimated emission reductions will be 2,265 Gg CO_2 eq by 2050 compared with the 2005 level, with the energy sector accounting for most of these reductions (1,697 Gg CO_2 eq, or 75 per cent). If the mitigation actions in the LULUCF sector are also taken into account, Gabon estimates an increase in its carbon sink capacity, corresponding to an 11 per cent increase in GHG removals over the same period. Gabon also reported information on its involvement in international market mechanisms, including CDM projects under the Kyoto Protocol, and on MRV arrangements. Information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged was not provided clearly. During the technical analysis, the Party clarified that it will amend and supplement the information provided in its BUR in future submissions.

83. Gabon reported information on key constraints, gaps and related needs, including difficulties in collecting data, the unavailability of data and lack of institutional capacity. Its financial, technical and capacity-building needs are in the areas of conducting research related to renewable energy, energy efficiency, green buildings, the environment and forestry, and preparing proposals for climate-related projects. Gabon also reported a need to strengthen national capacities, especially to monitor emissions, manage climate risks and access climate finance. Information was reported on the financial, technical, technology transfer and capacity-building support received. Gabon also reported that it received USD 342,000 from the GEF and USD 35,200 from Parties included in Annex II to the Convention for preparing its first BUR. The Party reported that its technology needs are nationally determined, providing information on provisional budgets for these needs, but only for some projects.

84. The TTE, in consultation with Gabon, identified the 14 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. Gabon prioritized the capacity-building needs referred to in paragraph 76(h)–(i), (l) and (n) above.

Annex I

Extent of the information reported by Gabon 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 Gabon

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	Gabon submitted its first BUR in December 2021; the GHG inventory reported is for 1994, 2000 and 2005–2017.
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	Gabon used the 2006 IPCC Guidelines and, where applicable, EFs from the 2019 Refinement to the 2006 IPCC Guidelines and the Wetlands Supplement.
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.	Partly	Information on AD used and their sources was provided for all sectors except the energy sector, for which only partial information was provided.
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;	Partly	Some comparable information was reported in the NIR for the AFOLU sector.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Partly	Some comparable information was reported in the NIR for the sectors other than AFOLU.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Yes	The time series reported in the BUR includes 1994, 2000 and 2005–2017.
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).	Yes	This information was reported for 1994, 2000 and 2005–2017 for sectors other than AFOLU and for 1990–2018 for the AFOLU sector.
	The inventory section of the BUR should consist of an NIR as a summary or as an update of the information contained in decision	Yes	

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	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);	Yes	Comparable information was reported in BUR tables 18–19 and the annex to the NIR.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF_6).	Yes	
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	Yes	Gabon submitted an NIR and a REDD+ technical annex to its BUR.
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	
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	Emissions were not estimated for some categories, including all IPPU categories.
	(b) CH_4;	Partly	Emissions were not estimated for some categories, including all IPPU categories.
	(c) N_2O.	Partly	Emissions were not estimated for some categories, including all IPPU categories.
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.	No	Information on SF_6 was not reported.
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) Carbon monoxide;	Yes	
	(b) Nitrogen oxides;	Yes	

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	(c) Non-methane volatile organic compounds.	Yes	
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	
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	The difference between the estimates calculated using the two approaches was reported only for 1994 and 2000.
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	Gabon used the GWP provided in the AR2.
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Gabon used the 2006 IPCC Guidelines and the 2019 Refinement to the 2006 IPCC Guidelines, as well as the Wetlands Supplement. Tier 1 methodology was used for the energy, IPPU and waste sectors, and tier 1, 2 and 3 methodologies were used for the AFOLU sector.
	(b) Explanation of the sources of EFs;	Yes	
	(c) Explanation of the sources of AD;	Yes	
	(d) If non-Annex I Parties estimate anthropogenic emissions and removals from	Yes	The Party reported information for the category “non-forested

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:		land" for 1994 and 2000, which is not an IPCC category.
	(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.	No	Notation keys were not used in the comparable tables in the BUR (tables 18–19).
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;	Partly	Gabon provided complete information on the level of uncertainty for the energy sector, but no quantitative information for the AFOLU sector and only partial information for the IPPU and waste sectors.
	(b) Underlying assumptions;	Yes	
	(c) Methodologies used, if any, for estimating these uncertainties.	Yes	

Note: The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, 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 Gabon

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	Partly	Gabon presented some information on mitigation actions in the energy and agriculture sectors in tabular format, such as the associated

Decision	*Provision of the reporting guidelines*	*Assessment of whether the information was reported*	*Comments on the extent of the information provided*
	removals by sinks of all GHGs not controlled by the Montreal Protocol.		gases and the reduction potential of these actions for 2030 and 2050.
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;	Yes	
	(b) Information on:		
	(i) Methodologies;	Yes	
	(ii) Assumptions;	Yes	
	(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;	Yes	
	(iii) 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.	Partly	The Party provided limited information on its CDM projects.
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	Gabon provided information on domestic MRV arrangements.

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 Gabon

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.	Yes	
	Non-Annex I Parties should provide:		

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 15	(a) Information on financial resources received, technology transfer and capacity-building received;	Yes	
	(b) Information on technical support received from the GEF, Parties included in Annex II to the Convention and other developed country Parties, the GCF and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.	Yes	
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on:		
	(a) Nationally determined technology needs;	Yes	
	(b) Technology support received.	Yes	

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

Annex II

Reference documents

A. Reports of the Intergovernmental Panel on Climate Change

IPCC. 1997. *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. JL Houghton, LG Meira Filho, B Lim, et al. (eds.). Paris: IPCC/Organisation for Economic Co-operation and Development/International Energy Agency. Available at https://www.ipcc-nggip.iges.or.jp/public/gl/invs1.html.

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IPCC. 2019. *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*. E Calvo Buendia, K Tanabe, A Kranjc, et al. (eds.). Geneva: IPCC. Available at https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html.

B. UNFCCC documents

First BUR of Gabon. Available at https://unfccc.int/BURs.

NC3 of Gabon. Available at https://unfccc.int/non-annex-I-NCs.

C. Other documents

The following references may not conform to UNFCCC editorial style as some have been reproduced as received:

Excel calculation sheet containing all AD on land use.