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## **Technical analysis of the second biennial update report of Togo submitted on 13 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. Further, paragraph 41(f) of that decision states that Parties not included in Annex I to the Convention shall submit a biennial update report every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. As mandated, the least developed country Parties and small island developing States may submit biennial update reports at their discretion. This summary report presents the results of the technical analysis of the second biennial update report of Togo, 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	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
AD	activity data
AFOLU	agriculture, forestry and other land use
BUR	biennial update report
C	confidential
CH <sub>4</sub>	methane
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
EEA	European Environment Agency
EF	emission factor
EMEP	Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe
ETF	enhanced transparency framework under the Paris Agreement
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	<i>Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories</i>
IPCC good practice guidance for LULUCF	<i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i>
IPPU	industrial processes and product use
MRV	measurement, reporting and verification
N <sub>2</sub> O	nitrous oxide
NA	not applicable
NC	national communication
NDC	nationally determined contribution
NE	not estimated
NIR	national inventory report
NMVO	non-methane volatile organic compound
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
NO <sub>x</sub>	nitrogen oxides
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF <sub>6</sub>	sulfur hexafluoride
SO <sub>2</sub>	sulfur dioxide
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”

## 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. In addition, paragraph 41(f) of that decision states that non-Annex I Parties shall submit a BUR every two years, either as a summary of parts of their NC in the year in which the NC is submitted or as a stand-alone update report.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. Togo submitted its first BUR on 27 September 2017, which was analysed by a TTE in the ninth round of technical analysis of BURs from non-Annex I Parties, conducted from 4 to 8 December 2017. After the publication of its summary report, Togo participated in the sixth workshop for the facilitative sharing of views, convened in Katowice on 7 December 2018.
5. This summary report presents the results of the technical analysis of the second BUR of Togo, 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, Togo submitted its second BUR on 13 December 2021 as a stand-alone update report. The submission was made within four years and three months from the submission of the first BUR.
7. During the technical analysis, the Party explained that the BUR was submitted more than two years after the submission of the previous BUR because of a delay in conducting the QA process for the GHG inventory arising from circumstances related to the coronavirus disease 2019 pandemic.
8. A desk analysis of Togo'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 Humatova (Azerbaijan), Inge G.C. Jonckheere (Belgium), Jean Claude Kabamba Lungenyi (Democratic Republic of the Congo), Bamikole Jacques Kouazounde (Benin), Benoit 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 Luca Birigazzi, Mirana Andriarisoa and Martina Kuehner (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 and Togo engaged in consultation<sup>1</sup> on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis

<sup>1</sup> The consultation was conducted via videoconferencing.

of Togo's second BUR, the TTE prepared and shared a draft summary report with Togo on 6 July 2022 for its review and comment. Togo, in turn, provided its feedback on the draft summary report on 12 July 2022.

10. The TTE responded to and incorporated Togo's comments referred to in paragraph 9 above and finalized the summary report in consultation with the Party on 11 August 2022.

## **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 Togo'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 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.

15. The current TTE noted improvements in the reporting in Togo's second BUR compared with that in its first BUR. Information on the GHG inventory reported in the Party's second BUR demonstrates that it has taken into consideration the areas for enhancing the transparency of the extent of the information reported noted by the previous TTE in the summary report on the technical analysis of the Party's previous BUR.

### **C. Technical analysis of the information reported**

16. 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.

17. 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. Togo 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.

18. 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**

19. 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.

20. In its second BUR, Togo provided an update on its national circumstances, including a description of national and regional development priorities, objectives and circumstances, including features of geography, climate 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 needs and concerns arising from the adverse effects of climate change.

21. Togo transparently reported in its second BUR an update 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, the involvement and roles of other institutions and experts, and mechanisms for information and data exchange. The national authority, established in November 2018, for coordinating Togo's NCs, BURs and NDC is responsible for preparing the NCs and BURs on a continuous basis. The institutions participating in preparing the GHG inventory and designing mitigation actions are organized into working groups that coordinate the work by sector, such as energy, IPPU, AFOLU and waste, and activities such as data collection.

22. The extent to which the current institutional arrangements are sustainable and allow for the reporting of NCs and BURs on a continuous basis was not clear to the TTE. During the technical analysis, the Party clarified that the arrangements are not sustainable as they rely mainly on informal agreements and memorandums of understanding among institutions. To overcome this, a decree is being formulated with the aim of facilitating coordination and cooperation among national and private sector institutions in collecting the data necessary for reporting and in operationalizing the MRV system.

23. The TTE noted that the transparency of the information reported on institutional arrangements could be enhanced by addressing the area noted in paragraph 22 above, which could facilitate a better understanding of the information reported on institutional arrangements.

24. In paragraph 20 of the summary report on the technical analysis of Togo's first BUR, the previous TTE noted areas where the transparency of the reporting on institutional arrangements could be enhanced, namely including additional information on the institutions involved in preparing NCs and BURs on a continuous basis.

25. Togo reported in its BUR an update on its domestic MRV arrangements. In 2017, the Party started operationalizing its cross-cutting MRV system. An interdisciplinary community of practice on MRV and climate was established by the Ministry of Environment and Forest Resources in collaboration with the Canadian Ministry of Environment and Climate Change. This multisectoral forum, which took place twice a month until September 2021 and will

resume with further financial support from Canada in August 2022, promotes information exchange and addresses issues related to operationalizing the MRV system, the methodology for collecting AD, the management of AD, including QA and archiving, and capacity-building, including for preparing for and transitioning to the ETF.

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

26. As indicated in table I.1, Togo 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.

27. Togo submitted its second BUR in 2021 and the GHG inventory reported is for 1995–2018. The GHG inventory is consistent with the requirements for the reporting time frame.

28. Togo submitted an NIR in conjunction with its second BUR. The relevant sections of the NIR were referenced in the BUR and the document was made publicly available on the UNFCCC website.<sup>2</sup>

29. GHG emissions and removals for the BUR covering the 1995–2018 inventory were estimated using mainly tier 1 methodology from the 2006 IPCC Guidelines. Tier 1 and 2 methodologies were used for the agriculture, and forestry and other land use sectors. The TTE commends the Party for using the 2006 IPCC Guidelines. Methods from the *EMEP/EEA air pollutant emission inventory guidebook 2019* were applied for estimating NO<sub>x</sub>, CO, NMVOC and SO<sub>2</sub> emissions. The TTE identified improvements in the completeness of the inventory, in particular the inclusion of HFC emissions.

30. Information on the methodology used to estimate emissions of HFCs was not clearly reported in Togo’s BUR. During the technical analysis, the Party clarified that approach A (under the tier 2 methodology from the 2006 IPCC Guidelines) was used. Furthermore, the TTE noted that numerous tables in the BUR and the NIR list sectors and categories found in the Revised 1996 IPCC Guidelines, even though the Party followed the 2006 IPCC Guidelines in estimating emissions. During the technical analysis, the Party clarified that this discrepancy in reporting was due to a compilation error that will be addressed for the next BUR.

31. Information on AD and EFs used and their sources was clearly reported in the NIR (tables 1-2–1-3). AD originate from various national and international institutions, including the Directorate General of Energy of Togo and the Food and Agriculture Organization of the United Nations. Default EFs from the 2006 IPCC Guidelines were used for all sectors except for category 2.A.1 (cement production) of the IPPU sector and some categories of the AFOLU sector, for which country-specific EFs were used.

32. Information on the EFs applicable to HFCs was not reported in Togo’s BUR. During the technical analysis, the Party clarified that it sourced the EFs from the 2005 IPCC/Technology and Economic Assessment Panel report on safeguarding the ozone layer and the global climate system.

33. Information on the Party’s total GHG emissions by gas for 1995–2018 is outlined in table 1 in units of mass. It shows an increase in emissions of 243.6 per cent with AFOLU since 1995.

**Table 1  
Greenhouse gas emissions by gas of Togo for 1995–2018**

<i>Gas</i>	<i>GHG emissions (Gg) including land and HWP<sup>a</sup></i>	<i>% change 1995–2018</i>	<i>GHG emissions (Gg) excluding land and HWP</i>	<i>% change 1995–2018</i>
CO <sub>2</sub>	20 352.11	216.1	3 117.96	154.2
CH <sub>4</sub>	128.30	45.7	128.30	45.7
N <sub>2</sub> O	57.93	345.3	57.93	345.3
HFCs <sup>b</sup>	1 385.16	9 709.9	1 385.16	9 709.9

<sup>2</sup> <https://unfccc.int/documents/397887>.

<i>Gas</i>	<i>GHG emissions (Gg) including land and HWP<sup>a</sup></i>	<i>% change 1995–2018</i>	<i>GHG emissions (Gg) excluding land and HWP</i>	<i>% change 1995–2018</i>
PFCs	NE	NA	NE	NA
SF <sub>6</sub>	NE	NA	NE	NA
Other	NE	NA	NE	NA
<b>Total</b>	<b>42 389.87</b>	<b>243.6</b>	<b>25 155.72</b>	<b>253.1</b>

*Note:* Total GHG emissions are in Gg CO<sub>2</sub> eq.

<sup>a</sup> 2006 IPCC Guidelines AFOLU category 3.B (land) and, if reported, 3.D (HWP (3.D.1) and other emissions (3.D.2)).

<sup>b</sup> Emissions of HFCs are provided in CO<sub>2</sub> eq.

34. Information on emissions of PFCs was not reported in Togo's BUR. SF<sub>6</sub> emissions were reported as either "NE" or "NO". During the technical analysis, the Party clarified that the AD required for estimating the emissions were not available.

35. Information on other emissions was clearly reported, including 53.75 Gg NO<sub>x</sub>, 1,877.14 Gg CO and 42.69 Gg NMVOCs.

36. Emissions of SO<sub>2</sub> from several sources were reported as "NE" in Togo's BUR. During the technical analysis, the Party noted that it was unable to gather the necessary AD for estimating the emissions.

37. The TTE noted discrepancies in the GHG emission estimates reported between various tables in the BUR and the NIR, for instance between tables 12 and 13 of the BUR with regard to aggregate emissions in 2018. There were also discrepancies between the values provided in narrative and tabular format, for instance between the text and the tables in the NIR (section 2.2) with regard to HFC emissions. Furthermore, some tables were incomplete; for instance, some of the summary and sectoral tables in the annexes to the NIR. During the technical analysis, the Party explained that, because its sectoral experts lack training in using the relevant tools and methodologies, it lacks the capacity to ensure consistent reporting of data.

38. The TTE noted the inconsistency between the numbers reported in the tables for GHG emission estimates, in the BUR and the NIR. Both reports were produced in French but include some tables in English. Numbers are sometimes presented with commas before the decimals and full stops as separators (prevailing use in French) and sometimes with full stops before the decimals and commas as separators (prevailing use in English). During the technical analysis, the Party clarified that this issue arose because the tables were not correctly formatted in the IPCC inventory software before being exported to the report. The Party indicated that it lacks the technical capacity to use the software and conduct thorough QA/QC procedures.

39. Togo applied notation keys in tables where numerical data were not provided. The use of notation keys was not consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. For instance, Togo used "NE" to report both data that were not estimated and data that were "not existing" (i.e. not occurring), and it used "NA" sometimes to indicate that the category was not applicable and other times to indicate that it was not occurring. In some tables, instead of entering a notation key, "0" was entered or cells were left empty. During the technical analysis, the Party clarified that it had difficulties using the notation keys in accordance with the guidelines and requires capacity-building, in particular the training of sectoral experts, in this regard (see para. 37 above).

40. Togo reported 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.

41. 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 2018 are reflected in table 2.

Table 2  
**Shares of greenhouse gas emissions by sector of Togo for 1995–2018**

<i>Sector</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq)</i>	<i>% share<sup>a</sup></i>	<i>% change 1995–2018</i>
Energy	4 013.12	15.9	247.1
IPPU	1 095.63	4.4	175.3
AFOLU	36 956.72	NA	247.0
Livestock (category 3.A)	1 163.69	4.6	132.2
Land (category 3.B)	17 234.15	NA	230.5
Aggregate sources and non-CO <sub>2</sub> emissions sources on land (category 3.C)	18 559.09	73.8	276.0
HWP and other emissions (category 3.D)	0	NA	–100.0
Waste	324.41	1.3	138.9

<sup>a</sup> 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)).

42. Togo 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 CH<sub>4</sub> and N<sub>2</sub>O only.<sup>3</sup>

43. Togo did not report in the BUR or the NIR the GWP values used for other gases. During the technical analysis, the Party clarified that it also used GWP values consistent with those provided by the IPCC in its AR2 based on the effects over a 100-year time-horizon of HFCs.<sup>4</sup>

44. For the energy sector, information was clearly reported on GHG emissions, methodological tier levels, AD and their sources, EFs and key categories. Energy sector emissions increased significantly over the time series, owing largely to increasing activity in power generation and transportation. The sectoral GHG emissions are dominated by CO<sub>2</sub> emissions from transport (category 1.A.3), which contributed 1,471.58 Gg CO<sub>2</sub> in 2018. While energy industries (category 1.A.1) accounted for a comparatively smaller share of emissions in 2018 (499.04 Gg CO<sub>2</sub> eq), the emissions have also increased significantly since 1995 (80.94 Gg CO<sub>2</sub> eq).

45. Information on domestic aviation and waterborne navigation was not reported in Togo's BUR. During the technical analysis, the Party clarified that information on domestic aviation is confidential. It confirmed, however, that emissions from domestic aviation are included in the aggregated total emissions from transport. Emissions from domestic waterborne navigation were not estimated because Togo does not have the required AD.

46. For the IPPU sector, information was clearly reported on GHG emissions, AD and EFs. The Party reported emissions for two categories: cement production (2.A.1) and refrigeration and air conditioning (2.F.1). Emissions from cement production have increased since 1995. Emissions for other categories of the IPPU sector were reported using notation keys.

47. Information on HFC emissions was not clearly reported in Togo's BUR. Different values were provided in narrative and tabular format (e.g. in BUR table 11 and the text above it) and in different tables. Moreover, it appears that HFC emissions were not included in the time series provided in table 12 of the BUR. During the technical analysis, the Party explained that it had difficulties establishing a robust assessment of HFC emissions. The Party clarified that it estimated HFC emissions as 1,385.16 Gg CO<sub>2</sub> eq for 2018, but could not provide an estimate for 1995 as the collection of relevant AD started in 2013.

48. Furthermore, information on emissions of HFCs on a gas-by-bas basis was not reported in Togo's BUR. During the technical analysis, the Party clarified that it had difficulties collecting disaggregated data on HFCs, highlighting that the staff of the National

<sup>3</sup> The GWP values are 21 for CH<sub>4</sub> and 310 for N<sub>2</sub>O.

<sup>4</sup> The GWP values are 650 for HFC-32, 2,800 for HFC-125, 1,300 for HFC-134a and 3,800 for HFC-143a.



Ozone Unit require training for collecting data. Nevertheless, the Party provided the TTE with gas-by-gas estimates for 2018.<sup>5</sup>

49. For 2006 IPCC Guidelines AFOLU categories 3.A and 3.C, enteric fermentation (CH<sub>4</sub>) was identified as a key category and the most relevant emissions sources in the sector. The Party reported that the contribution of CO<sub>2</sub> emissions from aggregated sources and non-CO<sub>2</sub> emissions from sources on land to the total sectoral CO<sub>2</sub> emissions is very small, at about 12.72 Gg CO<sub>2</sub> (0.08 per cent).

50. For land and HWP (categories 3.B and 3.D), Togo reported that the main source of net emissions at the sectoral level was forest land (category 3.B.1), contributing 15,559.06 Gg CO<sub>2</sub> eq (90.28 per cent) of sectoral emissions in 2018. Overall, the net CO<sub>2</sub> emissions from land and HWP fluctuated between a minimum of 6,345.27 Gg CO<sub>2</sub> eq in 1995 and a maximum of 18,521.44 Gg CO<sub>2</sub> eq in 2017. The sector was a net source throughout the time series and emissions have increased by 230.5 per cent since 1995. In its NIR, Togo explained that this increase is attributable to the combined effects of deforestation (mainly conversion of forest land to cropland) and forest degradation (due to collection of commercial roundwood and fuelwood) since the 1990s resulting from the sociopolitical unrest that followed the country's democratization.

51. Emissions for the categories wetlands (3.B.4), settlements (3.B.5), other land (3.B.6) and indirect N<sub>2</sub>O emissions from managed soils (3.C.5) were reported as "NE" without explanation, and those for cropland (3.B.2) were reported as "NO" although it would be more appropriate to report them as "NE". During the technical analysis, the Party indicated its need for capacity-building to use the 2006 IPCC Guidelines in order to address this issue for future reporting. In addition, the TTE noted that emissions from HWP (category 3.D) for 2018 were reported in the NIR as both "NE" (pp.63 and 208) and "0" (p.83). During the technical analysis, Togo clarified that emissions from HWP occur but at a very low level; therefore, the estimate was rounded down to "0".

52. For the waste sector, information was clearly reported on methodological tier levels and EFs. Sectoral emissions increased from 135.02 to 322.90 Gg CO<sub>2</sub> eq over 1995–2018. The main contributing categories in 2018 were CH<sub>4</sub> emissions from domestic wastewater treatment and discharge (4.D.1) (129,78 Gg CO<sub>2</sub> eq), CH<sub>4</sub> emissions from solid waste disposal (4.A) (88.83 Gg CO<sub>2</sub> eq) and N<sub>2</sub>O emissions from solid waste disposal (4.A) (77.5 Gg CO<sub>2</sub> eq).

53. Information on the sources of the AD used for the waste sector was not clearly reported in Togo's BUR or NIR. During the technical analysis, the Party clarified that statistics were obtained from the work carried out by the University of Lomé's Waste Management, Treatment and Recycling Laboratory in some cities and from certain waste management actors. The Party noted that it had difficulties gathering AD for historical emissions.

54. Information on emissions of N<sub>2</sub>O, NO<sub>x</sub>, CO and NMVOCs from solid waste disposal was not reported in Togo's BUR. However, the Party provided relevant clarification in its NIR, stating that it was not able to estimate the emissions owing to lack of reliable AD. During the technical analysis, the Party further clarified that it had difficulties gathering AD, particularly historical data, because it does not have an organized system for collecting waste management data.

55. The NIR provides an update to all GHG inventories reported in the Party's previous NCs and BUR. The information reported provides an update of the Party's NC3 and first BUR, which address anthropogenic emissions and removals for 1995–2015. The update was carried out for 1995–2018 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 23-year time series. The Party reported that it recalculated emissions for all sectors for 1995–2015 owing to changes in the methodology for estimating emissions and the use of tools, including software, for compiling AD, as well as changes in data sources and EFs. These changes were made with a view to enhancing the quality of the inventory. The Party reported that recalculations were performed using the updated data

<sup>5</sup> Estimates for 2018 (in Gg CO<sub>2</sub> eq) are 82.05 for HFC-32, 537.40 for HFC-125, 481.96 for HFC-134 and 283.74 for HFC-143a.

sources and resulted in an increase of estimated emissions for 2015 by 48.29 per cent. The availability of new data is the reason for the difference between the estimates in the NC4 and the second BUR and those in previous NCs and the first BUR.

56. Togo described in its BUR the institutional framework for the preparation of its 2018 GHG inventory. The Party reported that the Ministry of Environment and Forest Resources is the governmental body responsible for its climate change policy and GHG inventory. The GHG inventory system was designed with the support of the United Nations Development Programme, which also assisted Togo in preparing the BUR.

57. In its NIR, Togo reported that it is still in the process of moving from ad hoc, consultant-based reporting to more institutionalized reporting. It has progressively developed a network of experts, selected a national focal point and established six working groups, managed by various national institutions, that are in charge of collecting AD or estimating emissions for five sectors (energy, IPPU, agriculture, forestry and other land use, and waste). During the technical analysis, the Party indicated that it has also established a more formal national MRV framework, under which data-providing institutions and national inventory experts collaborate closely.

58. Togo reported that a key category analysis was performed for the level of emissions. The analysis, which was based on approach 1, identified nine key categories: forest land remaining forest land (3.B.1.a) (CO<sub>2</sub>), direct N<sub>2</sub>O emissions from managed soils (3.C.4), land converted to forest land (3.B.1.b) (CO<sub>2</sub>), land converted to cropland (3.B.2.b) (CO<sub>2</sub>), road transportation (1.A.3.b) (CO<sub>2</sub>), indirect N<sub>2</sub>O emissions from managed soils (3.C.5), cement production (2.A.1) (CO<sub>2</sub>), emissions from biomass burning (3.C.1) (CH<sub>4</sub>) and enteric fermentation (3.A.1) (CH<sub>4</sub>).

59. Information on the emission data used for compiling the key categories and for reporting key categories in different sections of the NIR was not clearly reported. Inconsistencies were apparent as the key categories that were identified in the sectoral analysis exceeded those identified in the general analysis. During the technical analysis, the Party clarified that these issues were due to a problem in compiling sectoral information during preparation of the NIR and a lack of coordination between the sectoral team and the national inventory team.

60. Information on the share of emissions and removals covered by the key categories was not clearly reported in Togo's BUR. During the technical analysis, the Party clarified that it estimated that the nine key categories represent 93 per cent of its total emissions and removals in 2018. The Party also clarified that, considering its national circumstances, it decided not to include the tenth key category, HFC emissions from refrigeration and air conditioning (2.F.1), in the list of key categories because the emissions are regulated under the Montreal Protocol and Togo is not a producer of HFCs. However, the Party would welcome assistance in collecting data on HFCs for future reporting.

61. The BUR provides information on QA/QC measures for all sectors, including on the use of QC checklists from the IPCC good practice guidance and the 2006 IPCC Guidelines to record and describe QC activities. The TTE commends Togo for providing information in accordance with the IPCC good practice guidance.

62. Togo clearly reported information on CO<sub>2</sub> fuel combustion emissions using both the sectoral and reference approach. The information reported indicates that the combustion emissions estimated under the sectoral and the reference approach are 2,007.05 and 1,555.10 Gg CO<sub>2</sub>, respectively. As reported in the BUR, the estimate for the sectoral approach is 29 per cent higher than that for the reference approach, and, as explained in the BUR, two of the reasons for this large difference are the supply of fuels outside of the official channels of distribution and the fact that the sectoral approach does not reflect the non-energy use of fuels. The TTE noted, however, that the non-energy use of fuels should result in a higher estimate under the reference approach than under the sectoral approach.

63. Information was reported on international aviation and marine bunker fuels: data for international aviation fuels and notation keys for international waterborne navigation. The TTE identified an improvement in the Party's reporting since the previous BUR, namely the inclusion of data on international aviation bunker fuels.

64. Information on international marine bunker fuels was not clearly reported in Togo's BUR. The Party reported the emissions as "NA" and it was not clear to the TTE whether the emissions were not occurring or not estimated. During the technical analysis, the Party clarified that, while international navigation does occur in Togo, the emissions could not be estimated or reported because the relevant AD are confidential. The TTE noted that the Party could consider including this clarification as an in-text explanation in the BUR alongside use of the notation key "C".

65. Togo reported information on the uncertainty assessment (level) for most sectors and categories in its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and covers all source categories and all direct GHGs. The uncertainty assessment relies mainly on default values from the 2006 IPCC Guidelines and on expert judgment because information on the uncertainty associated with AD is not generally available to the Party.

66. Information on the uncertainty assessment for HFCs and the aggregate level of uncertainty associated with the national GHG inventory was not reported in Togo's BUR or NIR. During the technical analysis, the Party clarified that it lacks capacity to assess the level of uncertainty associated with its estimates of HFC emissions and that, as a result, it was unable to calculate an aggregate level of uncertainty. In addition, information on the uncertainty analysis of the AD for the forestry and other land use sector was not reported in Togo's BUR. During the technical analysis, the Party indicated its need for capacity-building for analysing the uncertainty associated with satellite imagery over the time series.

67. The TTE noted that the transparency of the information reported on GHG inventories could be enhanced by addressing the areas noted in paragraphs 30, 32, 34, 37, 38, 39, 42, 45, 47, 48, 51, 53, 54, 59, 60, 64 and 66 above, which could facilitate a better understanding of the information reported on GHG inventories.

68. In paragraph 45 of the summary report on the technical analysis of Togo's first BUR, the previous TTE noted areas where the transparency of the reporting on GHG inventories could be further enhanced, namely applying the correct notation keys, resolving discrepancies in the reporting of emission estimates, using two sets of reporting tables (one for the Revised 1996 IPCC Guidelines and one for the 2006 IPCC Guidelines), estimating emissions of fluorinated gases, resolving inconsistencies in the key category analysis tables, implementing QA/QC and reporting international bunker fuel emissions. The current TTE noted the improvements referred to in paragraphs 29 (on reporting HFC emissions) and 63 (on reporting emissions from international aviation) above and commends the Party for enhancing the transparency of its reporting.

69. Togo reported in its NIR (section 2.1) information on its current initiatives for enhancing its GHG inventory reporting for compliance with requirements under the ETF. The initiatives relate to reinforcing institutional and legal mechanisms for MRV and to capacity-building, among other things. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

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

71. The information reported provides a clear and comprehensive overview of the Party's mitigation actions and their effects. In its BUR, Togo reported information on its national context and framed its national mitigation planning and actions in the context of the NDC, the National Development Plan for 2018–2022, the road map of the Government for 2020–2025 and sectoral policy instruments (strategies, policies, plans and programmes) for energy and AFOLU. In its revised NDC, Togo pledged to reduce GHG emissions for all sectors by a total of 50.57 per cent by 2030 compared with the 'business as usual' scenario. The NDC is based mainly on sectoral policy instruments, laws that promote electricity production from renewable energy sources and the road map of the Government for 2020–2025. Togo reported a number of policies, programmes and plans relating to climate change, such as implementing

the 2030 Agenda for Sustainable Development, including the transition to a green economy. Most of the mitigation actions are in the energy and the forestry sector.

72. The Party reported a summary of its ongoing and planned sectoral mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11.

73. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Togo reported the names of mitigation actions, coverage (sector and gases) and progress indicators in the BUR (tables 22–34). A description, as well as information on the nature of the actions and quantitative goals, was provided in the BUR for most mitigation actions. The TTE commends the Party for the improvements in its reporting on the nature of its mitigation actions.

74. Information on the quantitative goals of mitigation action 4 and descriptions of mitigation actions 9–10 were not reported in Togo’s BUR and the reason for this was not clear to the TTE. In addition, descriptions of mitigation actions 1–8 and 11–13 and information on progress indicators and coverage for most mitigation actions were not clearly reported in Togo’s BUR. In particular, the TTE noted that the descriptions of the mitigation actions and information on the steps taken and envisaged to achieve them were reported together, which did not allow the TTE to gain a clear understanding of whether the individual reporting elements had been addressed (see para. 76 below).

75. Further, for most mitigation actions, information reported in the BUR on the gases covered was not consistent with the expected description of the action based on the 2006 IPCC Guidelines. For example, mitigation actions 11–13, relating to forestry, cover CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions instead of CO<sub>2</sub> removals; mitigation action 7, relating to reducing urea consumption, covers CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O instead of N<sub>2</sub>O only; and mitigation action 6, relating to best practices for annual crop production, covers CO<sub>2</sub> instead of N<sub>2</sub>O. During the technical analysis, the Party provided clarification and further information regarding the description of the mitigation actions and their progress indicators, including the variables used to estimate progress, such as indicator value, baseline and target, as well as the timeline defined for the indicators. The Party also clarified that it lacks capacity to report on the gases targeted by individual mitigation actions and to provide a description of most mitigation actions.

76. Togo reported information on the methodologies and assumptions used to estimate GHG impacts, including the baseline and mitigation scenarios for 2020–2030, the progress of implementation and results achieved, such as estimated emission reductions, the objectives of the actions and steps taken or envisaged to achieve those actions for most mitigation actions in the energy and AFOLU sectors. The TTE commends the Party for the improvements in its reporting on quantitative goals, progress indicators, methodologies and underlying assumptions, and the year or period for which emission reduction was estimated.

77. The mitigation actions for the energy sector focus mainly on improving energy efficiency and promoting renewable energy sources and were reported as ongoing or planned. Togo’s strategy of electrification through introduction of renewable energy resources (mitigation action 1) has been ongoing since 2020 and is expected to reduce emissions by an estimated 548.5 Gg CO<sub>2</sub> eq in 2025 and 320.3 Gg CO<sub>2</sub> eq in 2030 compared with the level of emissions under the ‘business as usual’ scenario. Efficient transportation (mitigation action 2), planned for 2020–2030, will enable the country to avoid an estimated 68.2, 572.0 and 1,487.8 Gg CO<sub>2</sub> eq emissions in 2020, 2025 and 2030, respectively. Togo envisages that implementation of the second phase of its energy-saving strategy (mitigation action 3) will contribute to a reduction in emissions of 35.56 Gg CO<sub>2</sub> eq in 2030. Its rational use of wood energy (mitigation action 5) has been ongoing since 2020 and the emission reductions are estimated to be 26.8 Gg CO<sub>2</sub> eq in 2020 and 2025 and 202.6 Gg CO<sub>2</sub> eq in 2030.

78. The mitigation actions for the agriculture sector focus mainly on applying good practices in annual crop production, using natural fertilizers, improving livestock management and improving water management in rice cultivation and were reported as ongoing (one action) or planned (three actions). Togo’s measure for applying good practices in annual crop production (mitigation action 5), ongoing since 2015, is expected to reduce emissions by an estimated 7,261.56 Gg CO<sub>2</sub> eq in 2030. Togo envisages that improving livestock management (mitigation action 8) will contribute a reduction in emissions of 1,979.68 Gg CO<sub>2</sub> eq in 2030. Improving water management in rice cultivation (mitigation

action 9) is another planned action, which will contribute a reduction in emissions of 355.35 Gg CO<sub>2</sub> eq in 2025 and 7,983.3 Gg CO<sub>2</sub> eq in 2030.

79. The information reported in Togo's BUR for mitigation action 7, relating to using natural fertilizers, indicates that the emissions associated with the implementation of the action are higher than would occur if the action were not implemented. It was unclear to the TTE whether these figures are correct and, if so, whether this measure can contribute to the mitigation of climate change. During the technical analysis, the Party clarified that the information reported in the BUR is correct and the action may result in an increase in GHG emissions.

80. The mitigation actions for the forestry and other land use sector focus mainly on promoting reforestation and restoration of forest landscapes and strengthening restoration of degraded ecosystems, as well as on technical capacity-building, and were reported as ongoing (one action) or planned (three actions). Togo's reforestation and restoration of forest landscapes (mitigation action 10) is ongoing since 2020 and envisaged to result in aggregate CO<sub>2</sub> removals for 2020–2029 estimated at 12,644.36 Gg CO<sub>2</sub> eq. Strengthening restoration of degraded ecosystems (mitigation action 12) is planned and expected to contribute to the sequestration of carbon by an estimated 13,715 Gg CO<sub>2</sub> eq in 2030.

81. The assumptions used to develop the baseline and mitigation scenarios for the individual actions were not clearly reported for most mitigation actions in all sectors. It was also not clear, given the information reported, what impacts in terms of GHG emissions were attributed to mitigation actions 11 (relating to forest conservation and restoration) and 13 (relating to promoting agroecological practices) and which methodologies and assumptions were applied in deriving those impacts. Information on the methodology for estimating the effects of mitigation action 4, relating to improving the infrastructure for and promoting use of public transport in Lomé, was not reported in Togo's BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that it lacks capacity to better estimate the effects of mitigation actions using appropriate methodologies and tools and to define associated assumptions; the capacity-building provided to national experts for this purpose had to be held remotely owing to the pandemic, but the virtual training was not sufficient for building the experts' capacity in this regard.

82. Information on the results achieved for the ongoing mitigation actions (1, 6 and 10) was not reported in the BUR and the reason for this was not clear to the TTE. In addition, for most mitigation actions, information on steps taken and envisaged to achieve the actions and their progress of implementation, the timeline of the progress of implementation of mitigation actions being designed, and the progress and the underlying steps taken for ongoing mitigation actions were not clearly reported (see para. 73 above). The TTE noted that, although mitigation actions 3, 4, 7, 8, 9, 11, 12 and 13 are being designed, their implementation timelines are not clear. Togo provided the following clarifications during the technical analysis: the non-reporting of some information and lack of clarity of some reported information resulted from inconsistencies between the tabular format used for reporting by sectoral experts and the tabular format used for presenting the mitigation actions in the BUR; mitigation action 13 does not have any impact on GHG emissions; further investigation is needed before a conclusion can be reached on the impact of mitigation action 11 on GHG emissions; and implementation of mitigation actions 3, 4, 7, 8, 9, 11 and 13 has commenced but the Party decided to update them for 2020–2030. Regarding the latter clarification, the TTE noted that the additional information on the implementation timeline does not clarify the progress of implementation of the mitigation actions.

83. Togo did not provide information on its involvement in international market mechanisms as a Party to the Kyoto Protocol and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that this omission was an oversight; it has engaged in the UNFCCC clean development mechanism process and is benefiting from capacity-building for implementing Article 6 of the Paris Agreement.

84. Togo reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Togo is in the process of designing and developing a domestic MRV system, under which various working groups, including one responsible for mitigation actions in the energy and AFOLU

sectors, have been established. During the technical analysis, the Party indicated that this group includes, for each sector, representatives of the institutions responsible for providing data and of the institution responsible for estimating the effects of mitigation actions, and provided the TTE with information on the composition of the working group. Togo clarified that partnership agreements have been signed between the institutions involved in the mitigation working group and the Ministry of Environment and Forest Resources.

85. The TTE noted that the transparency of the information reported on mitigation actions could be enhanced by addressing the areas noted in paragraphs 74, 75, 79, and 81–83 above, which could facilitate a better understanding of the information reported on mitigation actions.

86. In paragraph 57 of the summary report on the technical analysis of Togo's first BUR, the previous TTE noted areas where the transparency of the reporting on mitigation actions could be further enhanced, namely reporting information on the nature of actions, quantitative goals, progress indicators, methodologies and underlying assumptions, and the year or period for which emission reduction was estimated. The current TTE noted the improvements referred to in paragraphs 73 and 76 above and commends the Party for enhancing the transparency of its reporting.

87. Togo reported in its BUR (section 2.1) information on its current initiatives for enhancing its existing MRV system for compliance with requirements under the ETF. The initiatives relate to strengthening and updating the current MRV system under a Capacity-building Initiative for Transparency project, which includes capacity-building activities for transparency in accordance with Article 13 of the Paris Agreement. The objective of the project is to strengthen institutional and legal arrangements related to MRV, develop the capacity of actors in priority sectors in relation to climate change, review the institutional framework for MRV and formulate measures for operationalizing the national MRV system. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

88. As indicated in table I.3, Togo 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.

89. Togo 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, Togo identified its limited financial resources and technical capacity, the low level of collaboration among the institutions responsible for implementing government policies, and the status (not yet operational) of its national MRV system as constraints. Togo reported that its financial, technical and capacity-building needs are primarily in the areas of developing country-specific EFs; understanding, applying and disseminating adaptation and mitigation technologies; and using the 2006 IPCC Guidelines for preparing the national GHG inventory.

90. Togo 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, Togo reported that it received USD 269.5 million from multilateral sources and USD 64.6 million from bilateral sources, which includes allocation for both adaptation and mitigation projects. Togo also reported that since 2005 it has received a total of USD 383.5 million for all activities and projects specifically related to combating climate change carried out in the country. The report indicates that Togo received USD 14.8 million from the Global Environment Facility, including USD 852,000 for preparing the NC4 and the second BUR. Pledged aid is estimated at USD 1,488.3 million. The information reported indicates that Togo received capacity-building and technical support from a number of international organizations, including the United Nations Development Programme and the Food and Agriculture Organization of the United Nations, which supported the country in building community resilience for adaptation and undertaking reforestation activities, respectively.

91. Togo 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 (table 35), Togo reported detailed information on several technology needs, including technologies for promoting low-carbon transport and improving the national meteorological forecast.

92. Information on the extent to which the technologies reported as technology needs are already adopted in the country and which aspects of such technologies the Party seeks to be supported with was not clearly reported in Togo's BUR. During the technical analysis, the Party clarified that it lacks capacity to properly identify and report on nationally determined technology needs in line with decision 2/CP.17, annex III, paragraph 16.

93. The TTE noted that the transparency of the information reported on needs and support received could be further enhanced by addressing the area noted in paragraph 92 above, which could facilitate a better understanding of the information reported on needs and support received.

94. In paragraphs 62–63 of the summary report on the technical analysis of Togo's first BUR, the previous TTE noted areas where the transparency of the reporting on constraints, gaps, needs and support needed and received could be enhanced, namely reporting on technology support needed and received. The current TTE noted the improvements referred to in paragraph 91 above and commends the Party for enhancing the transparency of its reporting.

## 5. Any other information

95. Togo reported some information on adaptation action that may lead to GHG emission reductions. Togo is establishing a process for quantifying the emission reduction impacts of such measures on an ongoing basis.

## D. Identification of capacity-building needs

96. In consultation with Togo, 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 the national GHG inventory:
  - (i) Building national capacity to establish a permanent institutional arrangement whereby sectoral experts can be retained and their capacity can be improved over time;
  - (ii) Strengthening, through training, the capacity of sectoral experts from national institutions to use the UNFCCC reporting guidelines on BURs and apply methodologies from the 2006 IPCC Guidelines;
  - (iii) Strengthening the capacity of national institutions to gather AD;
  - (iv) Further strengthening the capacity of the National Ozone Unit, including through training national experts, to collect accurate, detailed data on fluorinated gases (in particular by gathering disaggregated data on residential split air-conditioning systems and mobile air conditioners or by conducting a national survey thereon), enabling the Party to report a complete and transparent sectoral inventory in accordance with UNFCCC reporting requirements and in line with the 2006 IPCC Guidelines;
- (b) In relation to mitigation actions and their effects:
  - (i) Building the capacity of sectoral experts to use templates and tools for reporting information on mitigation actions in the BUR;
  - (ii) Enhancing the capacity of sectoral experts to determine steps taken or envisaged for achieving actions and estimate results achieved;
  - (iii) Enhancing the capacity of energy sector experts to estimate the effects of transport-related mitigation actions using appropriate methodologies and tools;

- (c) In relation to needs and support:
  - (i) Building national capacity to identify and report on nationally determined technology needs;
  - (ii) Enhancing national capacity to prepare, conduct QA/QC for and submit BURs on a continuous basis;
  - (iii) Building national capacity to improve the MRV system for support received.

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

- (a) Strengthening the capacity of national experts to use higher-tier methodologies from the 2006 IPCC Guidelines;
- (b) Building national capacity to understand tools for assessing vulnerability and adaptation to climate change;
- (c) Strengthening the capacity of national experts to use modelling tools for mitigation studies, including the Greenhouse Gas Abatement Cost Model, EX-Ante Carbon-balance Tool and Low Emissions Analysis Platform and other appropriate tools in this area;
- (d) Strengthening national capacity to establish a national system for collecting, using and disseminating AD and other information related to climate change reporting.

98. In paragraphs 65 and 72 of the summary report on the technical analysis of Togo's first BUR, the previous TTE, in consultation with Togo, identified and prioritized capacity-building needs. In its second BUR, Togo reflected that some of those capacity-building needs have been addressed.

### III. Conclusions

99. The TTE conducted a technical analysis of the information reported in the second BUR of Togo 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 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 was provided by Togo on all the above-mentioned areas. The TTE concluded that the information analysed is partially transparent.

100. Togo reported an update on the institutional arrangements relevant to the preparation of its BURs. It has taken significant steps to operationalize its national MRV system and to establish institutional arrangements that enable sustainable preparation of its BURs, such as formulating a decree to facilitate coordination and cooperation among national and private sector institutions in collecting the data necessary for reporting.

101. In its second BUR, submitted in 2021, Togo reported information on its national GHG inventory for 1995–2018. This included GHG emissions and removals of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and HFCs for all relevant sources and sinks as well as the precursor gases. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2018 were reported as 25,155.72 Gg CO<sub>2</sub> eq (excluding land and HWP) and 42,389.87 Gg CO<sub>2</sub> eq (including land and HWP). Nine key categories and main gases were identified: forest land remaining forest land (3.B.1.a) (CO<sub>2</sub>), direct N<sub>2</sub>O emissions from managed soils (3.C.4), land converted to forest land (3.B.1.b) (CO<sub>2</sub>), land converted to cropland (C.B.2.b) (CO<sub>2</sub>), road transportation (1.A.3.b) (CO<sub>2</sub>), indirect N<sub>2</sub>O emissions from managed soils (3.C.5), cement production (2.A.1) (CO<sub>2</sub>), emissions from biomass burning (3.C.1) (CH<sub>4</sub>) and enteric fermentation (3.A.1) (CH<sub>4</sub>). Estimates of emissions of PFCs and SF<sub>6</sub> were not provided



owing to difficulties in obtaining the necessary data, as clarified by the Party during the technical analysis.

102. Togo reported information on mitigation actions and their effects in tabular format, including emission reduction targets and the baseline and mitigation scenarios for 2020–2030, and framed its national mitigation planning and actions in the context of its NDC, the National Development Plan for 2018–2022, the road map of the Government for 2020–2025 and sectoral policy instruments. Togo reported planned and ongoing actions in the energy, agriculture, and forestry and other land use sectors. The mitigation actions focus on improving energy efficiency, promoting renewable energy sources, applying good practices in annual crop production, improving livestock management, promoting reforestation and restoration of forest landscapes and improving restoration of degraded ecosystems. The highest GHG emission reduction was reported for the agriculture sector between 2020 and 2030 and this is mainly attributable to the mitigation actions related to applying good practices in annual crop production (reduction potential of 7,261.56 Gg CO<sub>2</sub> eq in 2030), improving livestock management (contributing a reduction in emissions of 1,979.68 Gg CO<sub>2</sub> eq in 2030) and improving water management in rice cultivation (reduction potential of 7,983.3 Gg CO<sub>2</sub> eq in 2030).

103. Description of mitigation actions, steps taken or envisaged to achieve the actions, assumptions used in developing the baseline and mitigation scenarios, progress of implementation of planned mitigation actions, gases covered by the mitigation actions and effects of some mitigation actions were not clearly reported. The Party clarified during the technical analysis that this is due to lack of capacity of national experts to appropriately use methodologies and tools for estimating effects of mitigation actions as well as to inconsistencies between the tabular formats used for reporting effects of mitigation actions at the sectoral level and in the BUR.

104. The Party reported information on MRV arrangements, but information on its involvement in international market mechanisms was not reported owing to an omission, as clarified by the Party during the technical analysis.

105. Togo reported information on key constraints, gaps and related needs, including the low level of collaboration among the institutions responsible for implementing government policies and the lack of an operational national MRV system. Information was reported on technical and capacity-building needs, including for developing country-specific EFs; understanding, applying and disseminating adaptation and mitigation technologies; and using the 2006 IPCC Guidelines for preparing the national GHG inventory. The Party also reported that, since 2005, it has received financial support of USD 383.5 million for all activities and projects specifically related to combating climate change carried out in the country, including USD 852,000 for preparing the NC4 and the second BUR. The Party further reported information on its technology needs, including technologies for promoting low-carbon transport and improving the national meteorological forecast. Information on technology needs was not clearly reported owing to lack of capacity, as clarified by the Party during the technical analysis.

106. The current TTE noted improvements in the reporting in the Party's second BUR compared with that in its previous BUR. The information reported demonstrates that the Party has taken into consideration the areas for enhancing the transparency of the information reported noted by the TTE in the summary report on the technical analysis of the first BUR. However, improvements are ongoing and the Party has taken note of outstanding areas for future improvement.

107. The TTE, in consultation with Togo, identified the 10 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. Togo prioritized the capacity-building needs referred to in paragraph 96(a)(ii) and (iv) and II.D.96(b)(i)–iii) above.

## Annex I

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

Table I.1

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

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Togo submitted its second BUR in December 2021; the GHG inventory reported is for 1995–2018.
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	Togo used the 2006 IPCC Guidelines, supplemented by the <i>EMEP/EEA air pollutant emission inventory guidebook 2019</i> .
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Yes	The information was reported in the BUR, as well as in the NIR, which was submitted as a stand-alone document.
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;	Yes	Comparable information was reported in table 11 of the BUR and the sectoral table of the NIR.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Comparable information was reported in table 12 of the BUR.
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 1995–2018 was reported.
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	
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	Yes	The inventory was calculated using the 2006 IPCC Guidelines.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);		Comparable information was reported in table 11 of the BUR.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).	Partly	Comparable information was reported in table 11 of the BUR; however, that table does not provide gas-by-gas data in units of mass, as recommended in note (b) to table 2 in the annex to decision 17/CP.8.
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	Nine key categories, representing, according to the Party's estimation, 93 per cent of its total GHG emissions in 2018, were identified in the BUR and the NIR.
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	The Party reported information on procedures and arrangements for collecting and archiving data for preparing national GHG inventories, as well as information on efforts to make this a continuous process, including the role of the institutions involved.
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 <sub>2</sub> ;	Partly	Emissions were reported, except for some subcategories for which "NE" was used due to lack of data.
	(b) CH <sub>4</sub> ;	Partly	Emissions were reported, except for some subcategories for which "NE" was used due to lack of data.
	(c) N <sub>2</sub> O.	Partly	Emissions were reported, except for some subcategories for which "NE" was used due to lack of data.
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	PFC emissions were reported as "NE" or "NO".
	(c) SF <sub>6</sub> .	Yes	SF <sub>6</sub> emissions were reported as "NE" or "NO".

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as: <ul style="list-style-type: none"> <li>(a) CO;</li> <li>(b) NO<sub>x</sub>;</li> <li>(c) NMVOCs.</li> </ul>	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	The Party reported data on SO <sub>2</sub> , but not on other sulfur oxides.
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 <sub>2</sub> fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	Yes	
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories: <ul style="list-style-type: none"> <li>(a) International aviation;</li> <li>(b) Marine bunker fuels.</li> </ul>	Yes	
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO <sub>2</sub> eq should use the GWP provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	Partly	The BUR and the NIR specify that GWP values provided in the AR2 were used for CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O, but they do not specify the GWP values used for HFCs.
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: <ul style="list-style-type: none"> <li>(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;</li> <li>(b) Explanation of the sources of EFs;</li> </ul>	Partly	Togo used the 2006 IPCC Guidelines. Tier 1 methodology was used for the energy, IPPU, and waste sectors, and tier 1 and 2 methodologies were used for the AFOLU sector. Information on the methodology used for estimating HFC source categories was not provided.
		Partly	The NIR specifies the source of EFs for most sources and sinks. However, information on the

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
			source of the EFs used for HFC emissions for category 2.F was not reported.
	(c) Explanation of the sources of AD;	Yes	
	(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	The Party used methodologies from the 2006 IPCC Guidelines but it reported information comparable to tables 1–2. Notation keys were generally used but were sometimes missing.
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	The Party provided the level of uncertainty for some sectors, but no aggregate level of uncertainty for the entire GHG inventory.
	(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 second biennial update report of Togo**

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Yes	
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 for some of the mitigation actions in the energy and AFOLU sectors was not reported. A description for some of the mitigation actions in the AFOLU sector was not reported.
	(b) Information on:		
	(i) Methodologies;	Partly	Information on the methodologies used to calculate the effects of mitigation action 4 was not reported. Information on the methodologies used to estimate non-GHG impacts was not reported for those mitigation actions for which these impacts were estimated.
	(ii) Assumptions;	Yes	
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Partly	No distinction was made between steps achieved or envisaged in the reported information.
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Yes	
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Partly	Description of the action and information on steps taken or envisaged was reported together for all 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 did not report on results achieved for most of the ongoing mitigation actions. For most of the planned mitigation actions, estimates of expected future results do not cover non-GHG effects.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	(e) Information on international market mechanisms.	No	
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 second biennial update report of Togo**

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on: (a) Constraints and gaps; (b) Related financial, technical and capacity-building needs.	Yes Yes	
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide: (a) Information on financial resources received, technology transfer and capacity-building received; (b) Information on technical support received from the Global Environment Facility, Parties included in Annex II to the Convention 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.	Yes 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; (b) Technology support received.	Yes 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>.

IPCC. 2000. *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*. J Penman, D Kruger, I Galbally, et al. (eds.). Hayama, Japan: IPCC/Organisation for Economic Co-operation and Development/International Energy Agency/Institute for Global Environmental Strategies. Available at <http://www.ipcc-nggip.iges.or.jp/public/gp/english/>.

IPCC. 2003. *Good Practice Guidance for Land Use, Land-Use Change and Forestry*. J Penman, M Gytarsky, T Hiraishi, et al. (eds.). Hayama, Japan: Institute for Global Environmental Strategies. Available at <http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html>.

IPCC. 2006. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. S Eggleston, L Buendia, K Miwa, et al. (eds.). Hayama, Japan: Institute for Global Environmental Strategies. Available at <http://www.ipcc-nggip.iges.or.jp/public/2006gl>.

#### B. UNFCCC documents

First BUR of Togo. Available at <https://unfccc.int/BURs>.

NC4 of Togo. Available at <https://unfccc.int/non-annex-I-NCs>.

Summary report on the technical analysis of the first BUR of Togo, contained in document FCCC/SBI/ICA/2017/TASR.1/TGO. Available at <https://unfccc.int/ICA-reports>.

#### C. Other documents

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

EEA. 2019. *EMEP/EEA air pollutant emission inventory guidebook 2019: Technical guidance to prepare national emission inventories*. Luxembourg: Publications Office of the European Union. Available at <https://www.eea.europa.eu/publications/emep-eea-guidebook-2019>.

IPCC/TEAP. 2005. *Safeguarding the Ozone Layer and the Global Climate System : Issues Related to Hydrofluorocarbons and Perfluorocarbons*. Cambridge University Press, UK. Available at <https://www.ipcc.ch/report/safeguarding-the-ozone-layer-and-the-global-climate-system/>.

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