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Technical analysis of the second biennial update report of Georgia submitted on 13 June 2019

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 Georgia, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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Abbreviations and acronyms

AD	activity data
BUR	biennial update report
CBIT	Capacity-building Initiative for Transparency
CDM	clean development mechanism
CER	certified emission reduction
CGE	Consultative Group of Experts
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
DTU	Technical University of Denmark
EF	emission factor
GEF	Global Environment Facility
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
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
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NC	national communication
NE	not estimated
NIR	national inventory report
NMVOC	non-methane volatile organic compound
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
N ₂ O	nitrous oxide
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF ₆	sulfur hexafluoride
SO _x	sulfur oxides
TTE	team of technical experts
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

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 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. Georgia submitted its first BUR on 18 July 2016, which was analysed by a TTE in the seventh round of technical analysis of BURs from non-Annex I Parties, conducted from 5 to 9 December 2016. After the publication of its summary report, Georgia participated in the fourth workshop for the facilitative sharing of views, convened in Bonn on 10 November 2017.
5. This summary report presents the results of the technical analysis of the second BUR of Georgia, 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, Georgia submitted its second BUR on 13 June 2019 as a stand-alone update report. The submission was made more than two years after the submission of the first BUR.
7. In its BUR, the Party clarified that the transition from the Revised 1996 IPCC Guidelines to the 2006 IPCC Guidelines and the associated increase in time needed for the QA/QC process resulted in the delay to the submission.
8. The technical analysis of the BUR took place from 2 to 6 September 2019 in Bonn and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Ruleta Camacho Thomas (former member of the CGE from Antigua and Barbuda), Ana-Maria Danila (former member of the CGE from the European Union), Mahendra Kumar (former member of the CGE from Fiji), Julius Madzore (Zimbabwe), Neranda Maurice-George (Saint Lucia), Engin Mert (Turkey) and Verica Taseska Gjorgievska (North Macedonia). Ms. Camacho Thomas and Ms. Danila were the co-leads. The technical analysis was coordinated by James Howland and Karen Ortega (secretariat).
9. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Georgia engaged in consultation¹ on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Georgia's second BUR, the TTE prepared and shared a draft summary report with Georgia on 18 November 2019 for its review and comment. Georgia, in turn, provided its feedback on the draft summary report on 2 March 2020.

¹ The consultation was conducted via teleconferencing.

10. The TTE responded to and incorporated Georgia's comments referred to in paragraph 9 above and finalized the summary report in consultation with the Party on 3 March 2020.

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 Georgia'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 the progress made 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 annex I.

15. The current TTE noted improvements in reporting in the Party's second BUR compared with that in the first BUR. Information on GHG inventories and mitigation actions and their effects reported in the second BUR demonstrates that the Party has taken into consideration the areas for enhancing transparency noted by the previous TTE in the summary report on the technical analysis of the Party's first 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 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.

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, the Party provided an update on its national circumstances, including a description of its government structure, economy, population, social conditions, geography, and national development and climate change mitigation and adaptation priorities. Georgia reported that climate change impacts observed in the country have caused substantial economic losses and damage to arable land and infrastructure, and pose a threat to human life. The melting of glaciers was noted as a serious climate change related problem, set to have an impact on water resource accessibility in the future. Georgia provided a table summarizing the changes in temperature and precipitation from 1990 to 2015 for various regions in the country, which reveals a warming trend in all areas where data were collected. Georgia reported that its population is 3.7 million, it had an unemployment rate of 12.7 per cent in 2018, 21.9 per cent of its population was under the absolute poverty line in 2017, and it has an economy in transition, with an average annual real gross domestic product growth rate of 4.8 per cent from 2010 to 2017.

21. Georgia transparently described in its BUR the existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis, which are intended to support the preparation of these reports. The description covers key aspects of the institutional arrangements and governance structure, such as the legal status and roles and responsibilities of the overall coordinating entity, the involvement and roles of local and international institutions and experts, mechanisms for information and data exchange, QA/QC procedures, provisions for public consultation and other forms of stakeholder engagement, and future improvement plans. The Ministry of Environmental Protection and Agriculture is responsible for coordinating the preparation of NCs and BURs and also chiefly responsible for preparing and implementing the national climate change policy, with assistance from several other government agencies. The Environmental Information and Education Centre within that Ministry is an independent legal entity tasked with preparing the Party's GHG inventories. Georgia reported on the financial and technical assistance it received from the GEF and UNDP for the preparation of its second BUR.

22. Georgia reported in its second BUR on the implementation of the project, funded by the GEF and the United Nations Environment Programme, Harmonization of Information Management for Improved Knowledge and Monitoring of the Global Environment of Georgia, and on the adoption in August 2014 of national resolution N502 on data provision, which will improve the provision of data for the NC and BUR preparation processes.

23. In paragraph 26 of the summary report on the technical analysis of Georgia's first BUR, the previous TTE noted areas where the transparency of the reporting on institutional arrangements could be further enhanced. The current TTE noted that Georgia included relevant information in section 1.8 of its second BUR, and commends the Party for enhancing the transparency of its reporting.

24. Georgia reported on its proposed domestic MRV system. The Party intends to refine elements of its existing MRV system, which is currently focused on data collection and reporting for its GHG inventories, to allow for the coverage of mitigation and adaptation action and support needed and received. It reported significant developments in its design, and that gap analyses had been carried out and legal instruments drafted for the revised national MRV system.

25. Information on measures to ensure the sustainability of the new MRV system was reported; for example, developing key stakeholder capacities, enacting new policies and strengthening the institutional framework. The Ministry of Environmental Protection and Agriculture will coordinate the system, supported by the Environmental Information and Education Centre, which will also serve as the technical advisory body, and the Climate Change Council will have a supervisory role. The BUR provided information on the responsibilities and sizes of the proposed units within the Climate Change Council. The information provided in the BUR on the expected timelines for establishing the new system was unclear. During the technical analysis, Georgia clarified that, to advance the establishment of the system, a multi-stakeholder dialogue on needs was held and a legal assessment of the proposed charter of the Climate Change Council is ongoing.

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

26. As indicated in table 1 in annex I, Georgia 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. Georgia submitted its second BUR in June 2019, and the GHG inventory reported is for 1990–2015, which is consistent with the requirements for the reporting time frame.

28. Georgia submitted an NIR in conjunction with its second BUR and the document was made publicly available on the UNFCCC website.²

29. GHG emissions and removals for the BUR covering the 1990–2015 inventories were estimated using mainly a tier 1 methodology from the 2006 IPCC Guidelines and the Revised 1996 IPCC Guidelines, while in some cases the IPCC good practice guidance and the IPCC good practice guidance for LULUCF were applied, as appropriate. The TTE noted that Georgia took into consideration the comments from the technical analysis of its first BUR and used the 2006 IPCC Guidelines more extensively. The TTE commends the Party for using the 2006 IPCC Guidelines for the energy, waste, agriculture and LULUCF sectors and most subcategories of the IPPU sector.

30. With regard to the methodologies used, information was clearly reported, including the tier level and the sources of AD and EFs used to estimate the emissions. Any country-specific factors used were specified; for example, the net calorific value for fuels in the IPPU sector for ammonia production (category 2.B.1) and the EF for CH₄ emissions from enteric fermentation of cattle (category 3.A.1).

31. Information on the Party's total GHG emissions by gas for 2015 is outlined in table 1 in Gg CO₂ eq. It shows a decrease in emissions of 61.4 per cent since 1990 (28,015 Gg CO₂ eq). Georgia applied notation keys in tables where numerical data were not provided. In some cases, the use of notation keys was not consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. For example, Georgia reported "NA" in table 8 of the BUR for CH₄ emissions and "NE" in table 10 for indirect gases. During the technical analysis, the Party clarified that there were typographical errors in tables 8 and 10 of the BUR: in table 8, CH₄ emissions from industrial processes (category 2) should have been reported at 0.04 Gg rather than as "NA"; and, in table 10, "NO" should have been reported instead of "NE" for N₂O emissions from metal production (category 2.C), in line with the reporting in the NIR. The TTE noted that consistently using notation keys and reducing typographical errors in the BUR could facilitate a better understanding of the information reported. In addition, the TTE noted that explaining why some information reported for HFCs, PFCs and SF₆ in tables 9 and 11 of the BUR was reported as "NO", "NA" or "NE" could also facilitate a better understanding of the information.

² <https://unfccc.int/BURs>.

Table 1
Greenhouse gas emissions by gas of Georgia in 2015

<i>Gas</i>	<i>GHG emissions (Gg CO₂ eq) excluding LULUCF</i>	<i>Change (%) 1990–2015^a</i>
CO ₂	10 277	–69.9
CH ₄	5 088	–43.8
N ₂ O	2 084	–15.3
HFCs	139	63 259.1
PFCs	–	–
SF ₆	0.32	45.5
Other	–	–
Total	17 591	–61.4

^a For HFCs, change is calculated for between 2001 and 2015; and for SF₆, for between 2010 and 2015.

32. Other emissions reported include 58 Gg nitrogen oxides; 678 Gg carbon monoxide from fuel combustion (category 1.A), chemical industry (category 2.B) and forest and grassland conversion (category 4.B); 45 Gg NMVOCs from fuel combustion (category 1.A) and industrial processes (categories 2.A, 2.B and 2.C); and 169 Gg SO_x from fuel combustion (category 1.A) and industrial processes (categories 2.A, 2.B and 2.C).

33. Georgia 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.

34. The shares of emissions that different sectors contributed to the total GHG emissions excluding LULUCF in 2015 as calculated by the TTE using information in the BUR are reflected in table 2.

Table 2
Shares of greenhouse gas emissions by sector of Georgia in 2015

<i>Sector</i>	<i>GHG emissions</i>		<i>Change (%) 1990–2015</i>
	<i>(Gg CO₂ eq)</i>	<i>Share^a (%)</i>	
Energy	10 874	61.8	–70.4
Agriculture	3 271	18.6	–18.5
LULUCF	–3 882	NA	–43.2
IPPU	2 058	11.7	–47.0
Waste	1 388	7.9	25.6

^a Share of total without LULUCF.

35. Georgia reported information on its use of GWP values consistent with those provided by the IPCC in its Second Assessment Report based on the effects over a 100-year time-horizon of GHGs.

36. For the energy sector, all information was clearly reported, such as AD, emissions sources, EFs and emissions for the subcategories, including the recalculations referred to in paragraph 41 below. The key subcategories and their contributions to the total sectoral emissions were transport (category 1.A.3) with 38 per cent, oil and gas (category 1.B.2) with 17 per cent, energy industries (category 1.A.1) with 15 per cent and manufacturing industries and construction (category 1.A.2) with 10 per cent. AD were obtained mainly from the Party's National Statistics Office and Ministry of Energy, the International Energy Agency and enterprises such as Georgian Oil and Gas Cooperation and British Petroleum Georgia.

37. For the IPPU sector, Georgia reported information on emissions for all subcategories, the emissions sources of the direct and indirect GHGs, and emissions of HFCs and SF₆. The key subcategories were mineral production (category 2.A), emissions mainly from cement and lime production, contributing 37 per cent of the total sectoral emissions, and chemical

industry (category 2.B), emissions from ammonia and nitric acid production, at 35 per cent; followed by metal industry (category 2.C), emissions mainly from iron, steel and ferroalloys production, at 21 per cent. AD for these key subcategories were obtained from the corresponding industrial plants. For HFCs, tier 1 methodology was applied and an emission coefficient of 1 was used; while, for SF₆, methodology from the 2006 IPCC Guidelines was used with default tier 1 EFs. Furthermore, Georgia reported HFC emissions on a gas-by-gas basis, with HFC-134a being the most significant.

38. For the agriculture sector, Georgia calculated GHG emissions for four subcategories: enteric fermentation, manure management, agricultural soils and field burning of agricultural residues. The IPCC subcategories rice cultivation, prescribed burning of savannahs, and other were not considered as they are not relevant to Georgia. The Party reported that, in 2015, enteric fermentation was the largest source of CH₄ emissions in the sector, while the largest source of N₂O emissions was agricultural soils. Georgia reported that some emissions from animal waste management systems are included in the subcategory manure management. Emissions from daily spread and animal waste dropped onto the soil during grazing on grassland (pasture, range and paddock) are reported under the subcategory agricultural soils. Information describing the methodologies, EFs and parameters used was transparently reported in the NIR. N₂O emissions from agricultural soils and CH₄ emissions from enteric fermentation and manure management were identified as key categories and the most relevant emissions sources in the sector. Georgia used EFs from the 2006 IPCC Guidelines and the IPCC good practice guidance. Information was reported on the number of livestock and amount of fertilizer used. During the technical analysis, Georgia explained that its data collection methodologies would be improved under the CBIT project (see paras. 44 and 64 below). The TTE noted that the transparency of the information reported on the agriculture sector in the GHG inventory could be further enhanced by providing the capacity development objectives of the projects identified in the BUR.

39. For the LULUCF sector, Georgia reported GHG emissions and removals for 1990–2015. Overall, the net removals from the LULUCF sector fluctuated between a minimum of 4,609 Gg CO₂ eq in 2014 and a maximum of 6,923 Gg CO₂ eq in 1990. The GHG inventory for the LULUCF sector covers three land categories: forest land, cropland and grassland. During the technical analysis, Georgia clarified that emissions and removals were not estimated for settlements and wetlands owing to the lack of the necessary data for these types of land. The Party identified capacity-building needs for data collection for the forest land, cropland and grassland categories in table 27 of the BUR. The 2006 IPCC Guidelines and the IPCC good practice guidance for LULUCF were used for the LULUCF sector. In the GHG inventory, the information reported for the sector is mostly based on tier 1 methodologies and default EFs; however, some country-specific parameters were used (e.g. basic wood density values).

40. For the waste sector, CH₄ from solid waste disposal sites and from wastewater handling are the key categories. Information was not clearly reported on waste incineration. During the technical analysis, Georgia explained that there are no waste incineration plants for energy recovery purposes in the country. The TTE noted that the Party reporting this information in the BUR could facilitate a better understanding of the information reported.

41. The NIR provides an update to all GHG inventories reported in previous NCs and BURs. Georgia reported its national GHG inventory as a chapter of the BUR, containing information that provides an update of all previous NCs and the first BUR, which addressed anthropogenic emissions and removals for 2015. The update was carried out for all years 1990–2015, using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 26-year time series. The previous NIR was prepared using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF. The TTE commends Georgia for recalculating its GHG inventory emissions in line with methodological changes (use of the 2006 IPCC Guidelines) and more accurate data becoming available. Recalculations were made for 1990, 1994, 2000, 2005, 2010, 2011, 2012 and 2013. For other years, GHG emission and removal estimates were interpolated using the compound annual growth rate, with the exception of the IPPU sector, for which GHG emissions were recalculated for all previous years, thus generating the consistent 26-year time series. During the technical analysis, Georgia indicated that the compound annual

growth rate varies by sector and period, and that details can be found in the relevant Excel file provided during the technical analysis. The TTE noted that the sectoral growth rates were either not provided in the file or not identifiable. The annual compound growth rate was not provided in the second BUR, nor was a reference made to the NIR in the second BUR or a reference made in the NIR to the recalculation tables in the second BUR. The TTE noted that providing the annual compound growth rate in the BUR could facilitate a better understanding of the information reported.

42. Georgia described in its BUR the institutional framework for the preparation of its 2015 GHG inventory. The Ministry of Environmental Protection and Agriculture is the governmental body responsible for climate change policies and is responsible for the Party's GHG inventory, which is prepared by the Environmental Information and Education Centre within the Ministry with the support of UNDP. The institutional arrangements for the GHG inventory are also shown in figure 3 of the BUR.

43. Georgia reported that a key category analysis was performed for both the level of emissions and the trend in emissions. The key categories were identified for emissions including LULUCF and emissions excluding LULUCF, and they were reported in tables 3–4 of the BUR.

44. The BUR provides information on QA/QC measures for all sectors. The Party reported on an agreement with UNDP for assistance in preparing Georgia's NC4 and second BUR. In order to fulfil the QA procedures of the inventory preparation process, the Government of Georgia signed a service agreement with UNDP and Ilia State University for implementing QA procedures for the national GHG inventory. Georgia reported that QC procedures are carried out in parallel with inventory preparation by means of routine technical activities for monitoring and maintaining the quality of the inventory. The second component of the CBIT project, which Georgia described during the technical analysis, sets out QA/QC activities for the national and subnational GHG inventories. The TTE commends Georgia for providing information in accordance with the IPCC good practice guidance.

45. Georgia reported information on CO₂ fuel combustion using both the sectoral and the reference approach, and the difference between the two approaches is reported in the NIR as 1.3 per cent in 2015.

46. Information was clearly reported on international aviation bunker fuels, but not on international marine bunker fuels. During the technical analysis, Georgia clarified that fuel use by international water transport sailing in Georgian waters is accounted for abroad and hence is not reported by Georgia. The TTE noted that the Party providing an explanation of its reporting on international marine bunker fuels in the BUR could facilitate a better understanding of the information reported.

47. Georgia reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and covers all source categories and all direct GHGs. The results obtained, as reported in the BUR, reveal that the level uncertainty for emissions is 30.9 per cent and the trend uncertainty is 13.3 per cent.

48. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 31, 38, 40, 41 and 46 above.

49. In paragraph 32 of the summary report on the technical analysis of Georgia's first BUR, the previous TTE noted where the transparency of the reporting on GHG institutional arrangements, time-series consistency, updating of AD and use of the 2006 IPCC Guidelines could be further enhanced. The TTE noted that Georgia took into consideration these areas for improvement, as outlined in chapter 2 of its second BUR, and commends the Party for enhancing the transparency of the information reported.

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

50. As indicated in table 2 in annex I, Georgia 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.

51. Georgia reported on its key policies and programmes for addressing climate change, established either to meet the Party's obligations under international agreements or as national strategies. Current national policies related to action on climate change include Georgia 2020, the Party's socioeconomic development strategy; the Strategy for Agricultural Development in Georgia 2015–2020; and the Party's tourism strategy. The Party reported that its Climate Action Plan 2021–2030 is currently under development, upon completion of which Georgia will update its nationally determined contribution. The Party is preparing a legislative framework for national action plans on energy efficiency and renewable energy, as well as for the energy performance of buildings, as part of its commitments under the Energy Community Treaty of the European Union. The entry into force in 2016 of the Association Agreement between the European Union and Georgia underlines the need for cooperation on technology transfer in line with the Party's low-emission development strategy, nationally appropriate mitigation actions and technology needs assessment.

52. In addition, the Party reported information on strategic documents developed at the regional level, such as the sustainable energy action plans, developed as part of the Covenant of Mayors initiative of the European Union for 10 municipalities in Georgia, and the Tbilisi Sustainable Urban Transport Strategy 2015–2030. The Party reported that it is implementing the Greening Economies in the European Union's Eastern Neighbourhood programme in partnership with and with the support of the European Union and other donors. Information on sector-specific strategies for tackling climate change related issues in the transport, LULUCF and waste sectors was also provided in the BUR, such as on various supporting programmes and projects for promoting renewable energy and improving energy efficiency in public buildings, all of which contribute to climate change mitigation.

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

54. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Georgia clearly reported the names of mitigation actions, coverage (sector and gases) and progress indicators in tables 24–25 of the BUR. Information on implemented, ongoing and planned mitigation actions was reported in one comprehensive table (table 24), grouped by sector. In total, 55 measures are reported in the table, of which 15 are in the energy sector, 8 in the transport sector, 2 in the agriculture sector, 7 in the LULUCF sector, 13 in the IPPU sector and 10 in the waste sector. In table 25, the Party reported information on 20 potential mitigation actions, grouped by sector. A description of mitigation actions was clearly reported in the BUR. Information on quantitative goals was not clearly reported for some measures in the waste sector (measures 1, 6, 7 and 9) in table 24, or for some measures in the energy (measure 1) and transport (measure 1) sectors in table 25. During the technical analysis, Georgia clarified that the reason for not reporting this information was the lack of available data on the projects and their final outcomes, and stated that some of the projects were still in the preparation process and an analysis of their quantitative goals had not yet been completed. The TTE noted that the Party reporting this explanation in the BUR could facilitate a better understanding of the information reported.

55. The information reported includes the objectives of the mitigation actions and information on the steps taken to implement them, which were reported for all sectors. The methodologies used for estimating the results achieved were reported for most of the mitigation actions. Details on the methodology and underlying assumptions were not clearly reported in the BUR for all measures in the energy sector. In particular, the information provided on the construction of a combined cycle gas power plant (energy measure 3 in table 24) did not include a description of methodology or assumptions. For energy measures 2, 7, 8, 11 and 15 in table 24, Georgia reported that an internal methodology was used by the project team. For the waste sector, Georgia reported that, for waste measure 1 in table 24, the project team drew on international experience and an international methodology was used,

but the methodology was not described. Information on the underlying assumptions for the remaining measures was clearly reported in the BUR. During the technical analysis, the Party clarified that, for some measures, the project developers or donors provided general summary information from which Georgia's expert team was not able to identify the methodology used for estimating the activity's results. The TTE noted that the Party clarifying the reasons for the lack of reporting on methodologies in the BUR could facilitate a better understanding of the information reported.

56. Energy security, energy independence and the development of hydropower are highlighted as high priorities for the energy sector. The Party reported that programmes for other renewable energy sources, such as solar, wind and geothermal, are in the early stages of development. The BUR highlighted Georgia's potential to enhance the role played by these renewable sources in the country. The mitigation actions for the energy sector are mainly in the areas of promoting and utilizing renewable energy sources and improving energy efficiency, but there are also measures focused on enabling access to financial support. The Party reported that its mitigation measures were derived from projects that are implemented, ongoing or planned. The Party achieved significant results (annual emission reductions of 105 and 168 Gg CO₂ eq, respectively) from its mitigation action for hydropower development in the country and from the Energocredit programme.

57. In its second BUR, the Party stated that its mitigation actions in the transport sector are mainly focused on expanding and modernizing railway infrastructure in the country and improving vehicle inspections and road infrastructure. The ongoing action for urban mobility and improvement of buses is estimated to have the most significant outcome of the mitigation actions in the sector, achieving emission reductions of 277 Gg CO₂ eq annually.

58. The mitigation actions in the industrial sector are focused mainly on making technological improvements to production processes. The ongoing action on changing the clinker production method from wet to dry in the Heidelberg Cement factory in Kaspi is estimated to reduce annual CO₂ emissions from 476 to 346 Gg, on the basis of the production volume in 2017. The TTE commends Georgia for the improvements made to the comprehensiveness and clarity of the information reported on mitigation measures in the industrial sector.

59. In the agriculture sector, an estimated 297 Gg CO₂ will be avoided or sequestered over 20 years through the sustainable management of pastures in the Vashlovani protected areas and approximately 21.8 Gg CO₂ eq over 20 years through the prohibition of crop residue burning.

60. In the LULUCF sector, the mitigation actions are focused mainly on reforestation, expanding and improving the management of existing forests, and establishing new protected areas. The Party estimated that expanding and improving the management effectiveness of the Adjara region protected areas will have the greatest effect, leading to increased sequestration of 22.9 Gg CO₂ annually.

61. In the waste sector, the mitigation actions reported include improving waste management, constructing new landfills, CH₄ recovery and burning or utilization, constructing wastewater treatment plants and using biogas, and exploring options for composting biodegradable waste. The ongoing implementation of an integrated system for household waste management in several regions is estimated to reduce emissions by 92 Gg CO₂ eq annually.

62. Georgia reported information on the estimated results of the implementation of some of its mitigation actions in all sectors as emission reductions, but some information on measures in the energy, transport and waste sectors was not clearly reported. The Party did not report information on estimated outcomes for some mitigation actions in the energy and transport sectors and for most measures in the IPPU, waste, agriculture and LULUCF sectors. The Party reported notation keys where there was a lack of information. For some of the measures in the energy sector, some information on outcomes (e.g. electricity generation by power plants) was provided in the "Progress of implementation" or "Estimated GHG emission reduction" columns in table 24 of the BUR, where notation keys were used to report the absence of estimated outcomes. During the technical analysis, the Party clarified that the reasons for not reporting the estimated outcomes and emission reductions for some of the

mitigation actions were the lack of information on projects (some being confidential) and the high level of uncertainty related to the final outcomes of the projects for which outcome data were not publicly available. Georgia also explained that some of the projects are still in the preparation stage, and their expected outcomes had therefore not been analysed. Therefore, for its second BUR, Georgia assessed the estimated outcomes and emission reductions for most of the mitigation actions using the specified methodologies. The TTE noted that the Party reporting why some estimated outcomes were not included in the BUR and explaining the reasons for using notation keys could further enhance the transparency of the information reported.

63. Georgia provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. It documented seven verified CDM projects under the UNFCCC CDM process. Information regarding these projects was provided in tabular format, including the name of the project, registration date, and information on annual emission reductions and CERs issued. Georgia reported that the total forecast emission reduction resulting from the projects is 1,840 kt CO₂ eq annually. Of the seven registered CDM projects, the Party reported that four had had CERs issued and the other three had had CERs approved. The Party also reported that, owing to the carbon market conditions since the submission of its first BUR, no additional CERs had been issued for the other CDM projects.

64. Georgia reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. Further, Georgia reported consistently with the voluntary general guidelines for domestic MRV of domestically supported nationally appropriate mitigation actions contained in decision 21/CP.19. The information reported indicates that the Party has made significant developments in designing its domestic MRV system since its previous BUR, with help from the German Agency for International Cooperation as part of the Information Matters: Capacity-building for Ambitious Reporting and Facilitation of International Mutual Learning through Peer-to-Peer Exchange project. Georgia also joined CBIT through the Georgia's Integrated Transparency Framework for Implementation of the Paris Agreement project, which is expected to assist the Party in designing and developing an integrated, bottom-up MRV system that accounts for actions at both the municipal and the national level.

65. The TTE noted that the transparency of the information reported on mitigation actions and their effects could be further enhanced by addressing the areas noted in paragraphs 54, 55 and 62 above.

66. In paragraph 52 of the summary report on the technical analysis of Georgia's first BUR, the previous TTE noted where the transparency of the reporting on estimated outcomes and emission reductions could be further enhanced. The current TTE noted that Georgia took into consideration this area for improvement, reporting information on estimated outcomes and emission reductions from mitigation actions in table 24 of the BUR, and commends the Party for enhancing the transparency of the information reported.

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

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

68. Georgia 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, Georgia identified financial, technical, technological and capacity-building needs as constraints hindering its fulfilment of commitments under the Convention and the Paris Agreement and its implementation of sustainable mitigation measures in different sectors. Georgia reported that its financial, technical and capacity-building needs are primarily in the areas of effective implementation of climate change mitigation measures and technology transfer and development in all sectors. The Party highlighted its need for continued financial support for the preparation of its NCs and BURs, which it noted as being important for assisting it in building institutional capacity and integrating climate change issues into national policies and strategies. The TTE did not identify any specific gaps in the information

reported, as the information was comprehensively reported and presented the administrative, technical and institutional aspects of the BUR preparation.

69. Georgia reported on barriers and gaps across sectors, including its lack of capacity for long-term forecasting and analysis of GHG emission reductions resulting from mitigation measures. For the energy sector, Georgia reported the lack of financial support for introducing clean technologies, emphasizing the need for credit facilities to support these efforts. Financial and technical support were indicated as needs to support the collection and analysis of data in the transport sector. For the IPPU sector, capacity-building and technical support were highlighted as being critical for the selection and deployment of energy-efficient technologies in industrial enterprises. In the agriculture sector, capacity-building, technical support and financial support were reported as necessary for reducing the use of fertilizer and integrating use of climate-smart technologies into the sector. No new needs were identified for the LULUCF sector, but Georgia indicated that the needs reported in its first BUR are still relevant. For the waste sector, the Party highlighted the need for training, modernization of equipment, and technical and financial support for the selection of appropriate technologies to reduce emissions from landfills and attract investment in improving wastewater infrastructure.

70. Georgia reported information on financial resources, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR Georgia reported on assistance received over the past eight years, such as financial support from the GEF, which included allocations of USD 352,000 for its first BUR and USD 852,000 for its second BUR and NC4. Financial support was also received in the form of grants and loans from a number of agencies. Table 26 of the BUR contains comprehensive information on the financial support received. The information reported indicates that Georgia received capacity-building and technical support from UNDP, the German Agency for International Cooperation, Norway, the European Union and the European Bank for Reconstruction and Development.

71. Georgia 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, Georgia reported that the technology needs assessment was prepared by the Ministry of Environmental Protection and Agriculture, with financial support from UNEP and technical assistance from the UNEP DTU partnership. The technology needs assessment was the basis for the technology needs reported in the BUR. During the review, Georgia discussed some of the issues associated with reporting on technology transfer. It indicated that many mitigation projects that receive financial support include some element of technology transfer, but they are not solely dedicated to it. The TTE noted that the Party clarifying this in the BUR could facilitate a better understanding of the information reported.

72. Georgia reported that it had identified priority areas and desirable technologies, and that action plans and pilot projects were being introduced to implement those technologies. However, Georgia also reported that it did not receive any technology support from donors or partners. During the technical analysis, the Party clarified that the support it categorizes as financial support or enhancement of mitigation potential can contain some technology elements, but it does not classify it as technology support. It further reported in the BUR that most of its technology support needs relate to adaptation and that it had not received any support in that regard. The TTE noted that the Party clarifying its technology support needs in the BUR could facilitate a better understanding of the information reported.

73. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the areas noted in paragraphs 71–72 above.

74. The TTE acknowledged the continued efforts made by Georgia to report transparently on constraints and gaps, and related financial, technical and capacity-building needs.

D. Identification of capacity-building needs

75. During the technical analysis, the TTE referred to the list of capacity-building needs identified by Georgia in its second BUR and noted that there are no additional capacity-

building needs beyond those reported. Table 27 of the Party's second BUR provides an update on the status of the needs identified in its first BUR, and also new needs identified since the first BUR. Table 28 of the second BUR provides an update on the status of improvements related to the capacity-building needs identified by the previous TTE during the technical analysis of the first BUR. The Party reported that needs in the following areas remain relevant:

- (a) Enhancing the capacity of national experts and systems involved in GHG inventory preparation;
- (b) Data collection and the GHG statistical accounting system;
- (c) Training staff in selecting the best available technologies (industry sector);
- (d) Training of farmers to raise their awareness of nitrogen fertilizer norms and other ecologically pure alternatives for soils (agriculture sector);
- (e) Training of farmers to raise their awareness of biogas technology, as well as implementing pilot projects;
- (f) Training staff in selecting the most relevant technological solutions for CH₄ extraction and usage from solid waste landfills (waste sector);
- (g) Promoting land-use research using remote sensing databases (LULUCF sector);
- (h) Strengthening the capacity of the relevant responsible body in managing waste (waste sector);
- (i) Providing technical assistance to and strengthening the capacity of the National Statistics Office to implement international practices related to collecting, processing and using necessary data (waste sector).

76. In paragraphs 76–77 of the summary report on the technical analysis of Georgia's first BUR, the previous TTE, in consultation with Georgia, identified capacity-building needs. In its second BUR, Georgia indicated that some of those capacity-building needs have been addressed. The current TTE noted that the capacity-building needs related to GHG inventory preparation had been partly addressed and that the remaining gaps would be closed through ongoing projects.

III. Conclusions

77. The TTE conducted a technical analysis of the information reported in the second BUR of Georgia in accordance with the UNFCCC reporting guidelines on BURs. The TTE concludes that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs and 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 removal 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 NCs; domestic MRV; and barriers to and shortcomings in the effective implementation of climate change mitigation measures. The TTE concluded that the information analysed is mostly transparent.

78. Georgia reported information on the institutional arrangements relevant to the preparation of its BURs. It has taken significant steps to create institutional arrangements that allow for the sustainable preparation of its BURs. The Climate Change Office of the Ministry of Environmental Protection and Agriculture coordinated and led the preparation of the BUR. UNDP in Georgia functioned as the implementing agency for the GEF project that assisted with the preparation of the BUR (see para. 21 above) and provided monitoring and supervision support for the project.

79. Georgia also reported improved knowledge-sharing procedures to facilitate sectoral information transfer, including the GEF project mentioned in paragraph 22 above, which was implemented from 2015 to 2018. This cross-sectoral project was aimed at developing the individual and organizational capacities in the Ministry of Environment and Natural Resources Protection and the Environmental Information and Education Centre in order to improve the monitoring of environmental impacts and trends and thus enhance collaborative environmental management. As part of the project, an environmental information and knowledge management system was established.

80. The TTE commends Georgia for the progress made and noted that the planned improvement of the overall MRV system of GHG emissions and reductions, mitigation actions, adaptation actions, and support needed and received, as outlined in the BUR, would contribute to achieving sustainable reporting to the secretariat.

81. In its second BUR, submitted in 2019, Georgia reported information on its national GHG inventory for 1990–2015. This included GHG emissions and removals of CO₂, CH₄ and N₂O for all relevant sources and sinks as well as the precursor gases. Estimates of some fluorinated gases (HFCs and SF₆) were provided. The inventory was developed mainly on the basis of the 2006 IPCC Guidelines, although in some cases the Revised 1996 IPCC Guidelines, the IPCC good practice guidance or the IPCC good practice guidance for LULUCF, and specific EF values from the 2006 IPCC Guidelines, were applied for individual key categories. The total GHG emissions for 2015 were reported as 17,591 Gg CO₂ eq (excluding LULUCF) and 13,707 Gg CO₂ eq (including LULUCF). A total of 30 key categories were identified (excluding LULUCF), with the most significant being CO₂ emissions from road transport, CH₄ fugitive emissions from the oil and gas transmission and distribution system, and CH₄ emissions from enteric fermentation in the agriculture sector. The TTE noted that the Party reported that most of the capacity-building needs relating to improving the GHG inventory would be addressed through the CBIT project.

82. Georgia reported information on 55 mitigation actions and their effects, which occur across all sectors, of which 16 were implemented, 22 ongoing and 17 planned. Georgia also reported 20 potential actions. A description of the mitigation actions, their objectives and information on the steps taken to implement them was reported by Georgia; however, information on quantitative goals, results achieved in terms of estimated outcomes and emission reductions, and methodologies and assumptions were either not reported or not clearly reported for some of the measures. The key mitigation actions are the Energocredit programme, from which an annual emission reduction of 168 Gg CO₂ eq was achieved in 2016; urban mobility and improvement of buses, expected to bring about emission reduction of 277 Gg CO₂ eq per year; and changes in production methods in cement factories, which has the greatest potential for reducing annual CO₂ emissions, from 476 to 346 Gg, at the factory in Kaspi.

83. Georgia reported information on key constraints, gaps and related needs. The BUR clearly identifies the needs related to the development of the national GHG inventory. During the technical analysis, Georgia provided additional information on key challenges and needs, such as designing and implementing a systematic methodology for identifying constraints, gaps and needs and translating the identified needs into financial, technical, technological and capacity-building needs. Information on support received and needed was reported specific to mitigation actions. The Party also reported the challenge of establishing a standardized and sustainable system for monitoring the financial support received and discussed the proposed improvements to its domestic MRV system to address this. Information on technology needs and technology needed was also reported in the BUR. Georgia reported that it did not receive any technology support. During the technical analysis, Georgia clarified that some funded projects have elements of technology, but that it does not consider them to be technology support or technology transfer projects.

84. The TTE, in consultation with Georgia, agreed with the capacity-building needs listed in chapter II.D above 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. Georgia prioritized all the capacity-building needs in table 27 of its BUR.

Annex I

Extent of the information reported by Georgia its second biennial update report

Table 1

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

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Georgia submitted its second BUR in June 2019; the GHG inventory reported is for 2015.
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	Georgia used a combination of the 2006 IPCC Guidelines, the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF.
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	
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 the NIR (multiple tables in chapter 5).
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Comparable information was reported in the NIR (tables 1-7–1-10).
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 included all previous NC inventory years.
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 all inventory years from 1990 to 2015.
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:	Yes	

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	(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.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF ₆).	Yes	Comparable information was reported.
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	Yes	The Party submitted an NIR with its second 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 ;	Yes	
	(b) CH ₄ ;	Yes	
	(c) N ₂ O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	Partly	
	(a) HFCs;	Yes	
	(b) PFCs;	Partly	There was no explanation for the use of “NE” for some gases in the second BUR (table 11) or in the NIR (section 3.8.2, p.83).
	(c) SF ₆ .	Yes	Information on SF ₆ was 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	
	(c) NMVOCs.	Yes	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO _x , and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	Yes	The Party reported on SO _x in summary form in its second BUR (table 10).
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	Yes	

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	and to explain any large differences between the two approaches.		
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	Partly	The Party reported marine bunker fuels for 1994 only.
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 Second Assessment Report based on the effects of GHGs over a 100-year time-horizon.	Yes	The Party used the GWP provided in the IPCC Second Assessment Report based on the effects of GHGs over a 100-year time-horizon.
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	Tier 1 and 2 methodologies were used for some sectors.
	(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 country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:	NA	Georgia reported that it did not have country-specific sources and/or sinks that are not part of the IPCC sectors.
	(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	Georgia identified capacity-building needs.
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1 and 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.	Yes	Notation keys were used.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	Where numerical data are not provided, Parties should use the notation keys as indicated.		
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;	Yes	
	(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 2

Identification of the extent to which the elements of information on mitigation actions are included in the second biennial update report of Georgia

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 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 was not reported for some of the ongoing and planned measures in the waste sector and for some of the potential measures in the energy and transport sectors.
	(b) Information on:		
	(i) Methodologies;	Partly	Some internal methodologies were not described.
	(ii) Assumptions.	Partly	Assumptions for measure 3 in table 24 were not described. The assumptions were also not described for the measures where internal methodologies were used.
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action.	Yes	
	(d) Information on:		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
	(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;	Partly	Georgia did not report on estimated outcomes for some mitigation actions in the energy sector and transport sector, and for most measures in the IPPU, waste, agriculture and LULUCF sectors.
	(e) Information on international market mechanisms.	Yes	Georgia did not report emission reduction estimates for some mitigation measures in the energy, transport and waste sectors.
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 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 Georgia

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on:		
	(a) Constraints and gaps;	Yes	
	(b) Related financial, technical and capacity-building needs.	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;	Yes	
	(b) Information on technical support received from the GEF, 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	
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

Documents and information used during the technical analysis

Reference documents

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