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## **Technical analysis of the first biennial update report of Cambodia submitted on 14 August 2020**

### **Summary report by the team of technical experts**

#### *Summary*

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

AD	activity data
AFOLU	agriculture, forestry and other land use
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CCAP	climate change action plan
CCCCSP	Cambodia Climate Change Strategic Plan 2014–2023
CCTWG	Climate Change Technical Working Group
CDM	clean development mechanism
CH <sub>4</sub>	Methane
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
EF	emission factor
FOLU	forestry and other land use
GHG	greenhouse gas
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
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NAMA	nationally appropriate mitigation action
NC	national communication
NCSD	National Council for Sustainable Development
NDC	nationally determined contribution
NE	not estimated
NIR	national inventory report
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
N <sub>2</sub> O	nitrous oxide
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF <sub>6</sub>	sulfur hexafluoride
TTE	team of technical experts
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
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 a record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. The least developed countries and small island developing States may submit at their discretion.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. Decision 14/CP.19, paragraph 7, outlines that developing country Parties seeking to obtain and receive payments for results-based actions can submit relevant information and data through the BUR in the form of a technical annex as per decision 2/CP.17, annex III, paragraph 19.<sup>1</sup> Decision 14/CP.19, paragraph 8, outlines that the submission of the technical annex is voluntary and in the context of results-based payments. As mandated by decision 14/CP.19, paragraphs 10–14, the technical annex submitted by Cambodia has been subject to technical analysis by two LULUCF experts who are included as members of a TTE. The results of the technical analysis are captured in a separate technical report.<sup>2</sup>
5. This summary report presents the results of the technical analysis of the first BUR of Cambodia, 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, Cambodia submitted its first BUR on 14 August 2020 as a stand-alone update report.
7. A desk analysis<sup>3</sup> of Cambodia's BUR was conducted from 30 November to 4 December 2020 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: Ahmad Wafiq Aboelnasr (Egypt), Alexey Vladimirovich Cherednichenko (Kazakhstan), Ricardo Fernandez (European Union), Henrik Fliflet (Norway), Maria Ana Gonzalez Casartelli (Argentina), Karin Kindbom (Sweden), Nara Lee (Republic of Korea), Nicolo Macaluso (Canada), Athmane Mehadji (Algeria), Dinh Hung Nguyen (Viet Nam), Marcela Itzel Olguin-Alvarez (Mexico) and Orlando Ernesto Rey Santos (Cuba). Mr. Aboelnasr and Mr. Macaluso were the co-leads. The technical analysis was coordinated by Alma Jean, Gopal Joshi and Veronica Colerio (secretariat).
8. 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 Cambodia engaged in consultation<sup>4</sup> on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Cambodia's first BUR, the TTE prepared and shared a draft summary report with

<sup>1</sup> The technical annex on the results from the implementation of REDD+ activities.

<sup>2</sup> FCCC/SBI/ICA/2020/TATR.1/KHM. At the time of publication of this report, the technical report was being prepared.

<sup>3</sup> Owing to the circumstances related to the coronavirus disease 2019, the technical analysis of the first BUR submitted by Cambodia had to be conducted remotely.

<sup>4</sup> The consultation was conducted via videoconferencing.

Cambodia on 17 February 2021 for its review and comment. Cambodia, in turn, provided its feedback on the draft summary report on 4 June 2021.

9. The TTE responded to and incorporated Cambodia's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 4 June 2021. The TTE finalized the summary report in consultation with the Party on 23 July 2021.

## **II. Technical analysis of the biennial update report**

### **A. Scope of the technical analysis**

10. 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).

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

### **B. Extent of the information reported**

12. The elements of information referred to in paragraph 10(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.

13. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 11 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is 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.

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

14. The technical analysis referred to in paragraph 10(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.

15. 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. Cambodia submitted an NIR as a stand-alone document with its first

BUR. As requested by the Party, an in-depth technical analysis was conducted for the GHG information reported in both the BUR and the NIR.

16. 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**

17. 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.

18. Cambodia reported in its first BUR information 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 and/or the impact of the implementation of response measures, as referred to in Article 4, paragraph 8, and, as appropriate, Article 4, paragraphs 9–10, of the Convention.

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

20. Cambodia transparently reported in its first BUR information on its existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, including the legal status and roles and responsibilities of the overall coordinating entity, the involvement and roles of other institutions and experts, mechanisms for information and data collection, and QA/QC procedures. Cambodia also reported on the provisions for public and other relevant stakeholder input and review for a range of activities related to its development of policies and measures.

21. Cambodia provided information on institutional reforms aimed at improving the efficiency and effectiveness of its activities related to climate change and sustainable development. The reforms included the establishment, in May 2015, of NCS, which is composed of high-level representatives (Secretaries and Undersecretaries of State) of key government ministries and agencies and all municipal and provincial Governors, with the Prime Minister serving as its Honorary Chair and the Minister of Environment as its Chair. The structure of NCS is shown in the BUR (figure 3). Another key reform was the establishment of the Department of Climate Change in October 2009.

22. The Department of Climate Change serves as the CCTWG secretariat and it convenes and coordinates this working group to discuss key priorities, including the update and review of the national institution indicators that are part of the National Monitoring and Evaluation Framework, the Review of the Implementation of the CCCSP, and the NDC. CCTWG includes representatives of the General Secretariat of NCS and line ministries, and its mandate and priority programme is to support NCS in strengthening Cambodia's capacity to respond to climate change. CCTWG is an integral part of the NCS, and it facilitates the review, formulation and implementation of policies, strategies, action plans and programmes to enhance Cambodia's response to climate change. CCTWG also coordinated and facilitated the preparation and development of the BUR.

23. In addition to information on institutional reforms, Cambodia provided in its BUR information on improvements related to the development of two types of QC procedures – general and category-specific – proposed in the 2006 IPCC Guidelines. The Party reported that QA was undertaken by a team of international experts who were assigned specific sectors; they verified the transparency, accuracy, consistency, comparability and completeness of the GHG inventory information, particularly the data used to compile the inventory.

24. Information on the specific responsibilities of key institutions (i.e. NCSD and CCTWG) was clearly reported in the BUR. However, the roles and responsibilities of other institutions and entities involved in the preparation of the BUR were not clearly reported. During the technical analysis, the Party clarified that CCTWG is responsible for sharing relevant data and information from respective ministries and that it contributed, to some extent, to reviewing and providing feedback on the submitted report. An external consultant played a critical role in coordinating and reviewing the report before it was submitted to NCSD.

25. The TTE noted that the transparency of the information reported on institutional arrangements could be further enhanced by addressing the areas noted in paragraph 24 above, which could facilitate a better understanding of the information reported on institutional arrangements.

26. Cambodia reported in its first BUR information on both its existing and planned domestic MRV arrangements. According to the Party, it has made significant progress towards establishing five key aspects of the institutional arrangements: GHG emissions, CCCSP, REDD+, project-level MRV, and financial support received. The MRV arrangements are designed at the national level and cover the following main areas: the BUR preparation process, the GHG inventory system, the preparation of NAMAs, the MRV of GHG emissions, implementation of CCCSP, REDD+, NAMAs, projections of carbon market-based mechanisms, and the MRV of support needed and received.

27. Cambodia reported its approach to develop and operationalize its domestic MRV systems; that is, designing an MRV structure that integrates simply into the existing climate change monitoring and evaluation framework of CCCSP and builds on existing systems, processes and infrastructure, rendering it cost-effective. The planned MRV system will be acceptable and not too burdensome to the relevant institutions and enable them to fulfil their specific roles and responsibilities. Cambodia also reported that additional MRV functions will not require new legislation, but rather use the existing legal frameworks under the national monitoring and evaluation framework for its CCAPs.

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

28. As indicated in table I.1, Cambodia 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.

29. Cambodia submitted its first BUR in 2020 and the GHG inventory reported is for 1994–2016. The GHG inventory is consistent with the requirements for the reporting time frame.

30. Cambodia submitted an NIR as an additional document during the technical analysis and it was made publicly available on the UNFCCC website.<sup>5</sup> The Party reported on the NIR in its BUR, but specific sections were not referenced.

31. GHG emissions and removals for the BUR covering the 1994–2016 inventories were estimated using mostly a tier 1 methodology from the 2006 IPCC Guidelines, while in some cases, the IPCC good practice guidance was applied, as appropriate. For the AFOLU sector, methodologies from the 2006 IPCC Guidelines were used for all individual categories. The TTE commends Cambodia for using the more recent 2006 IPCC Guidelines for the preparation of the BUR.

32. Information on AD and EFs used and their sources was clearly reported in the BUR. The EFs used were mostly default values from the 2006 IPCC Guidelines. The EFs used for category 3.B (land) were derived from country-specific data, reported in the BUR and technical annex.

33. Information on AD disaggregated by land-use type for category 3.B (land) was not reported in the BUR and the reason for this was not clear to the TTE. Although Cambodia explained in its BUR (p.56) that all unforested lands were aggregated in the baseline data

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<sup>5</sup> <https://unfccc.int/documents/266294>.

used for the inventory, it also indicated (p.52) that all data used for land-use categories are from the forest reference level submitted by Cambodia to the secretariat under the REDD+ framework. The submission<sup>6</sup> (table 4-3) indicates that AD are available for all six broad categories of land use defined by the IPCC for 2006, 2010 and 2014. The “Technical Annex pursuant to Decision 14/CP.19”<sup>7</sup> (section 4.1) indicates that AD are also available for 2016. During the technical analysis, Cambodia clarified that the lack of disaggregated information was due to insufficient AD. The TTE noted that establishing a process to link the AD collected under the REDD+ framework with the net CO<sub>2</sub> emissions estimated for category 3.B (land), disaggregated by land-use type, could facilitate a better understanding of the information reported.

34. Information on the Party’s total GHG emissions by gas for 2016 is outlined in table 1 in Gg CO<sub>2</sub> eq. It shows an increase in emissions of 111.1 per cent excluding land and HWP since 1994 (17,149.45 Gg CO<sub>2</sub> eq).

Table 1  
**Greenhouse gas emissions by gas of Cambodia for 2016**

<i>Gas</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq) including land and HWP<sup>a</sup></i>	<i>% change 1994–2016</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq) excluding land and HWP<sup>a</sup></i>	<i>% change 1994–2016</i>
CO <sub>2</sub>	141 847.98	380.3	10 836.74	331.1
CH <sub>4</sub>	18 696.65	64.9	18 696.65	64.9
N <sub>2</sub> O	2 676.04	32.1	2 676.04	32.1
HFCs	371.68	NA	371.68	NA
PFCs	NE	NA	NE	NA
SF <sub>6</sub>	NE	NA	NE	NA
Other	NE	NA	NE	NA
<b>Total</b>	<b>163 592.35</b>	<b>281.3</b>	<b>32 581.11</b>	<b>111.1</b>

<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)).

35. Information on other emissions was clearly reported, including 43.43 Gg nitrogen oxides, 160.46 Gg carbon monoxide and 45.03 Gg non-methane volatile organic compounds.

36. Emissions of CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs, PFCs and SF<sub>6</sub> for some subcategories, primarily in the IPPU sector, and of precursor gases in sectors other than the energy sector were not reported in Cambodia’s BUR.

37. Cambodia applied notation keys in tables where numerical data were not provided. The use of notation keys was consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. Cambodia indicated in its BUR that notation keys were used in cases where emissions were not reported, and that the reason for using “NE” was the lack of information on AD for estimating the GHG emissions for the category. Cambodia also indicated in its BUR that priority was given to estimating GHGs as opposed to estimating precursor gas emissions in sectors other than energy.

38. Cambodia reported most of the required comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF and the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines. For table 3A.2.1A, comparable information on annual change in carbon stocks in living biomass for forest land remaining forest land, non-forest land converted to forest land, and forest land converted to non-forest land is available in table 53 of the BUR. For table 3A.2.1B, comparable information on annual change in carbon stocks in living biomass for forest land converted to non-forest land is also available in table 53 of the BUR. Cambodia reported comparable information for its 2016 inventory in summary table A of the BUR in accordance with annex

<sup>6</sup> <https://redd.unfccc.int/submissions.html?country=khm>.

<sup>7</sup> [https://unfccc.int/sites/default/files/resource/20201006\\_Cambodia\\_BUR\\_REDD\\_Technical\\_Annex.pdf](https://unfccc.int/sites/default/files/resource/20201006_Cambodia_BUR_REDD_Technical_Annex.pdf).

8A.2 to the 2006 IPCC Guidelines, and included further details in the sectoral chapters of the NIR.

39. Additional information on CO<sub>2</sub> emissions by sources and removals by sinks by land-use type under category 3.B (land) comparable to information in the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF was not reported in the BUR and the reason for this was not clear to the TTE.

40. 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 reported by the Party, using information from the BUR, in 2016 are reflected in table 2.

Table 2

**Shares of greenhouse gas emissions by sector of Cambodia for 2016**

<i>Sector</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq)</i>	<i>% share<sup>a</sup></i>	<i>% change 1994–2016</i>
Energy	9 601.61	29.5	256.8
IPPU	1 821.15	5.6	47 699.2 <sup>b</sup>
AFOLU			
Livestock (category 3.A)	5 384.54	16.5	0.3
Land (category 3.B)	131 011.24		384.9
Aggregate sources and non-CO <sub>2</sub> emissions sources on land (category 3.C)	13 013.13	39.9	123.1
HWP and other emissions (category 3.D)	NE		
Waste	2 760.68	8.5	79.9

<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)).

<sup>b</sup> Emissions in the IPPU sector increased from 3.81 Gg in 1994 to 1821.15 Gg in 2016 (see para. 45 below).

41. Cambodia reported information on its use of GWP values consistent with those provided by the IPCC in its AR4 based on the effects over a 100-year time-horizon of GHGs.

42. For the energy sector, information was clearly reported on GHG emissions from fuel combustion activities (1.A), while fugitive emissions (1.B) were considered not to occur in Cambodia. All GHG and precursor gas emissions were estimated using a tier 1 methodology. Fuel consumption and GHG emissions increased significantly from 1994 to 2016. The main sources of AD were the Economic Research Institute for the Association of Southeast Asian Nations and East Asia report for 2010–2015 and the energy balances from the Ministry of Mines and Energy for 2010–2016. Energy statistics for 1995–2012 were obtained from the Association of Southeast Asian Nations.

43. Biomass used in energy industries, in industrial combustion and in the residential sector is the fuel with the highest share of total consumption in the energy sector throughout the time series 1994–2016. Biomass is followed by gas/diesel and motor gasoline, which are mainly used in transport. CO<sub>2</sub> emissions from biomass are not included in the total emissions. The key category analysis (excluding FOLU) shows CO<sub>2</sub> emissions from liquid fuels (under 1.A.3.b), CO<sub>2</sub> emissions from solid and liquid fuels (under 1.A.1), CO<sub>2</sub> emissions from liquid fuels (under 1.A.2) and CH<sub>4</sub> emissions from biomass (under 1.A.4 and 1.A.1) are among the 15 most important key categories (level or trend).

44. Information on emissions from railways and national navigation was not reported in the BUR. However, the Party provided relevant clarification in its BUR; namely, that data were not available to estimate these emissions.

45. For the IPPU sector, information was clearly reported on GHG emissions from cement production (2.A.1), lubricant use (2.D.1), refrigeration and air conditioning (2.F.1) and fire protection (2.F.3). Emissions increased significantly from 1994 to 2016, mainly owing to emissions from cement production and refrigeration and air conditioning, both of which were not occurring and therefore produced no emissions in 1994. Emissions were estimated using the tier 1 approach, except for cement production, for which a hybrid tier 1/tier 2 approach



was used. AD for cement production were provided by the Ministry of Industry and Handicraft and by one production plant, AD for lubricants were obtained from national energy statistics, and AD for the fluorinated gases under category 2.F were obtained from a study carried out by the National Ozone Unit of the Ministry of Environment on HFCs consumed in the country. EFs were default values from the 2006 IPCC Guidelines. Cement production (CO<sub>2</sub>) and refrigeration and air conditioning (HFCs) are among the 15 most important key categories (excluding FOLU) for level or trend.

46. Information on emissions from sources other than categories 2.A.1, 2.D.1, 2.F.1 and 2.F.3 was not reported in the BUR. However, the Party provided relevant clarification in its BUR: the lack of reliable statistics for many sources in the IPPU sector has resulted in an incomplete inventory. Information on iron and steel production (2.C.1) was also not clearly reported. While the Party stated in the BUR that the metal industry does not exist in Cambodia, “NE” was inserted in the reporting table of the BUR. During the technical analysis, the Party confirmed that the metal industry does not exist in the country, and that the notation key will be revised to “NO”.

47. For categories 3.A and 3.C under the AFOLU sector from the 2006 IPCC Guidelines, rice cultivation (CH<sub>4</sub>) and enteric fermentation (CH<sub>4</sub>) were identified as key categories and the most relevant emissions sources in the sector. Cambodia used EFs from the 2006 IPCC Guidelines. The Party reported actual AD (e.g. the number of livestock and the amount of fertilizer used) in the BUR, which facilitates a better understanding of the information reported.

48. For land and HWP (categories 3.B and 3.D), Cambodia reported annual GHG emissions and removals for 1994–2016. Overall, the net removals from land and HWP (categories 3.B and 3.D) fluctuated between a minimum of 27,019 Gg CO<sub>2</sub> eq in 1994 and a maximum of 131,011 Gg CO<sub>2</sub> eq in 2016. HWP (category 3.D) is reported as “NE” for the whole time series (1994–2016).

49. Information on carbon stock changes in deadwood organic matter and soils for category 3.B (land) was not reported in the BUR. However, the Party provided relevant clarification in its BUR and its forest reference level submission, that is, that data were not available. Additional information on carbon stock changes in living biomass by source and/or sink and by land-use type was not reported in the BUR and the reason for this was not clear to the TTE.

50. The Party reported information on the 2016 AD used, which were extrapolated from 2010–2014 AD rather than derived from the 2016 land-cover or land-use map in the technical annex. Further, CO<sub>2</sub> emissions and removals from the conversion of natural forest to plantation were excluded from the total CO<sub>2</sub> emissions and removals in the AFOLU sector. These approaches to reporting information in the BUR were not clear to the TTE. During the technical analysis, the Party clarified that the GHG inventory for the AFOLU sector was prepared before the 2016 land-cover or land-use map became available. The Party also clarified that the approach of excluding CO<sub>2</sub> emissions and removals from the total CO<sub>2</sub> emissions and removals in the AFOLU sector was taken to ensure consistency between the GHG inventory and REDD+ reporting. For reporting under REDD+, CO<sub>2</sub> emissions and removals from the conversion of natural forest to plantation were excluded in line with the safeguard that REDD+ activities should not involve the conversion of natural forests.

51. For the waste sector, information was clearly reported on GHG emissions for all categories: solid waste disposal on land (4.A), biological treatment of solid waste (4.B), incineration and open burning of waste (4.C) and wastewater treatment and discharge (4.D). The GHG emission trends of the waste sector were driven by an increase in the urban population and improvements in sanitation and waste management. AD and other parameters used to estimate emissions from the waste sector were obtained from several sources, including country-specific information and statistics, dedicated studies and the Food and Agriculture Organization of the United Nations. Default EFs and methodologies from the 2006 IPCC Guidelines were used. Tier 1 methodologies were applied. Solid waste disposal (CH<sub>4</sub>) (4.A.1), open burning of waste (CO<sub>2</sub> and CH<sub>4</sub>) (4.C.2) and domestic wastewater treatment and discharge (CH<sub>4</sub>) (4.D.1) are among the 15 most important key categories (excluding FOLU) for level or trend.

52. Information on GHG emissions from waste incineration (4.C.1) and open burning of waste (4.C.2) in landfills was not reported in the BUR. However, the Party provided relevant clarification in its BUR, indicating that emissions from controlled waste incineration were not included under category 4.C, although this activity might occur. The amount of waste burned in landfills was not estimated owing to limited data, and if estimated, could increase emissions from the open burning of waste.

53. Information on emissions from the waste sector was not consistent between the BUR and the NIR. During the technical analysis, the Party clarified that during the development of the BUR, there was intensive discussion among different experts who had not been involved during the development of the NIR. The experts advised Cambodia to take additional information into account, which resulted in slight differences between the emissions from the waste sector reported in the NIR and those reported in the BUR. Cambodia considers that the data presented in the BUR are the most accurate.

54. The BUR provides an update to all GHG inventories reported in the Party's previous NCs. The information reported provides an update of the Party's NC1 and NC2, which addressed anthropogenic emissions and removals for 1994 and 2000, respectively. The update was carried out for 1994–2000 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 23-year time series, 1994–2016. The Party reported that it has recalculated emissions for all sectors for 1994–2000 owing to changes in methodologies, as the 2006 IPCC Guidelines were used for the entire time series reported in the BUR. Information on AD and EFs used and their sources was clearly reported in the BUR.

55. The Party reported that recalculations were performed using updated AD, where available. The recalculations for 2000 resulted in a decrease in emissions of 25 per cent (excluding FOLU) compared with the inventory reported in NC2. The main difference from previous inventories is found in the FOLU sector, where total emissions change from a net sink (–24,566 Gg CO<sub>2</sub> eq) for 2000 in Cambodia's NC2 to a net source (27,019 Gg CO<sub>2</sub> eq) for 2000 in its BUR. The new information gathered within the forest reference level framework has permitted an improvement in the data for this sector for 2006–2014, which allows the use of the 2006 IPCC Guidelines. However, the data for 1994–2005 were extrapolated from the data for 2006–2010 to keep time-series consistency. The GHG inventories for 1994–2016 reported in the BUR are consistent.

56. Cambodia described in its BUR the institutional framework for the preparation of its 2016 GHG inventory. The Party reported that NCS is the governmental body responsible for its climate change policy and the GHG inventory, which was prepared with the support of the United Nations Development Programme, which assisted Cambodia in designing its GHG inventory system. In the chapter on institutional arrangements in its BUR, Cambodia provided an informative figure showing the institutional arrangements for GHG inventory compilation (figure 4).

57. Information on efforts to make GHG inventory preparation a continuous process was not clearly reported in the BUR. During the technical analysis, the Party explained that the Department of Climate Change is the institution that coordinates and facilitates the development of the BUR with representatives of ministries who change over time. The GHG inventory is part of Cambodia's domestic MRV arrangements (see paras. 26–27 above).

58. Cambodia clearly reported that a key category analysis was performed for both the level and the trend in emissions, with and without FOLU, using approach 1.

59. The BUR provides information on QA/QC measures for all sectors. The information reported includes a description of general QC procedures, as well as category-specific QC procedures. Final QA checks and the procedure for official consideration and approval of the inventory are also described. The TTE commends Cambodia for providing information in accordance with the IPCC good practice guidance.

60. Cambodia reported information on CO<sub>2</sub> fuel combustion using the sectoral approach. The information reported indicates that the combustion emissions estimated under the sectoral approach are 8,845.29 Gg while no value was provided under the reference approach. Even though no value was provided for the reference approach the Party reported the difference between the sectoral and reference approach as 7.73 per cent for 2016.

61. Information on the combustion emissions estimated under the reference approach was not reported in the BUR. During the technical analysis, the Party clarified that some important data were missing (e.g. for the energy sector). To estimate the reference approach, assumptions were made based on discussions with key stakeholders and on expert judgment. The assumptions used relevant historical data and trends. No explanation for the difference reported between the sectoral and reference approach was provided in the BUR. However, the Party provided relevant clarification in its BUR, indicating that information to explain the difference is not available.

62. Information was clearly reported on international aviation and marine bunker fuels. Emissions were reported for international aviation while emissions from marine bunker fuels were reported as “NE”. The Party provided relevant clarification in its BUR, indicating that data are not available to estimate emissions from marine bunker fuels.

63. Cambodia 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 82 per cent (including FOLU) and the trend uncertainty is 90 per cent (including FOLU).

64. In its BUR Cambodia indicated that it chose the upper values of the default uncertainty ranges given in the 2006 IPCC Guidelines. During the technical analysis, the Party clarified that the upper values were chosen consistently with a conservative principle, which it considered appropriate given the absence of country-specific information.

65. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 30, 33, 36, 39, 46, 49, 53, 57 and 61 above, which could facilitate a better understanding of the information reported on GHG inventories.

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

66. As indicated in table I.2, Cambodia 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.

67. The information reported provides a clear and comprehensive overview of the Party’s mitigation actions and their effects. In its BUR, Cambodia reported information on its national context and framed its mitigation planning and actions in the context of national and sectoral development policies, strategies and action plans. In its BUR, Cambodia highlighted the importance of the national policies and strategies developed to guide future growth towards low-carbon, climate-resilient and sustainable development. Cambodia reported that climate change has been mainstreamed and integrated into its development plans, including mitigation. Cambodia also reported that it has developed a series of national policies, strategies and action plans (see table 72 of the BUR). These outline its policy targets, steps to achieve them and approaches to implementation, respectively.

68. CCCSP is of strategic importance; the Party reported that the plan is a significant step towards embedding climate change in the National Strategic Development Plan 2014–2018 and in the sectoral development plans of all relevant ministries. CCCSP sets objectives for developing concrete and appropriate measures and actions related to climate change adaptation and mitigation. It reflects the country’s political will, firm commitment and readiness for reducing climate change impacts on national development and contributing to global efforts to mitigate GHG emissions. Further, it sets out strategies and actions for the short, medium and long term. The Party reported that 14 ministries have prepared CCAPs, outlined priority mitigation actions (table 74 of the BUR) and provided detailed information on its main sectoral instruments for mitigation. Most of the mitigation actions reported relate to the energy sector.

69. Cambodia reported on its NDC, which was submitted in September 2015, and outlined its planned actions to reduce GHG emissions. Cambodia also reported that it will unconditionally reduce GHG emissions by 2030 to a maximum of 27 per cent (equivalent to

3.1 Mt CO<sub>2</sub> eq) of emissions below the ‘business as usual’ scenario in the energy, manufacturing and transportation sectors. The energy sector will be the main source of emission reductions. This value can increase, conditional on the country receiving the necessary international support, by 10.6 Mt CO<sub>2</sub> eq, which would be achieved by increasing forest cover to 60 per cent of total land through the implementation of forest programmes.

70. The Party reported a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. The summary includes information on 20 actions: 4 related to AFOLU, 6 to energy, 4 to combined energy and waste, 3 to combined energy and AFOLU, 2 to combined energy and industry, and 1 to combined AFOLU and industry. The Party also reported information on some of its mitigation actions in narrative format in section 2.3 of the BUR (mitigation actions chapter). The Party reported on the priority CCAP mitigation actions and the planned NDC mitigation actions in sections 1.4 and 2.1 of the BUR, respectively.

71. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Cambodia reported the names of mitigation actions or groups of actions, coverage (sector and gases) and progress indicators in annex V to the BUR. A description of mitigation actions, as well as information on quantitative goals, was provided in the BUR. The Party also reported on its national policy and planning framework in section 1 of the chapter on mitigation actions. Further, in this section, Cambodia reported on the sectoral CCAPs for 2014–2018, in addition to the different national and sectoral strategies.

72. Information on the progress indicators of actions 1 and 2 was not clearly reported in annex V to the BUR. Further, it was not clear to the TTE how the NDC mitigation actions reported in the BUR relate to the other mitigation actions presented in tabular format. During the technical analysis, the Party clarified that it needs capacity for reporting on progress indicators for the defined mitigation actions in accordance with the UNFCCC reporting guidelines on BURs, and that the actions reported in annex V to the BUR are part of the NDC mitigation actions.

73. Information describing quantitative goals and progress indicators for the defined priority actions under the sectoral CCAPs, and the quantitative goals for several sectoral strategic plans (e.g. Agricultural Sector Strategic Development Plan, Climate Change Strategic Plan for Transport Sector), was not reported in the BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that it faced challenges in reporting such information for CCAPs, noting in particular that it does not have a proper monitoring system in place. Also during the technical analysis, the Party clarified that some of the sectoral strategic plans have only qualitative goals.

74. Cambodia reported information on methodologies and assumptions and the objectives of the actions and steps taken or envisaged to achieve those actions for the mitigation actions in the AFOLU, energy, waste and IPPU sectors.

75. The mitigation actions in the AFOLU sector focused mainly on avoiding planned or unplanned deforestation (or both) and native grassland conversion. All these actions were reported as ongoing, with an expected lifetime of between 30 and 60 years, and all the actions are currently implemented as voluntary emission reduction projects. The Party reported the results of implementing these mitigation actions as emission reductions, with the Southern Cardamom REDD+ Project having the most significant reduction, estimated to amount to 3,982,378 t CO<sub>2</sub> eq/year. Cambodia anticipates the following co-benefits from these actions: direct employment, alternative income-generating activities, improved health and education facilities, conservation of biodiversity and protection of many species listed as threatened by the International Union for Conservation of Nature. Cambodia also reported on a mitigation action aimed at the sustainable production of charcoal and the provision of support for forest restoration in protected areas. This action was reported as planned, as the corresponding NAMA is still under preparation, and the Party reported the results of implementing it as an estimated emission reduction of 288.3 kt CO<sub>2</sub> eq/year.

76. The mitigation actions in the energy sector focused mainly on renewable energy generation and involve operationalizing four hydropower plants and a rice husk power plant, and implementing a programme for waste-to-energy biomass gasification facilities and a programme focusing on energy efficiency and renewable energy for small-scale drinking

water treatment facilities. All these actions were reported as ongoing, and they are implemented as CDM projects. The Party reported the results of implementing these mitigation actions as emission reductions, with the Lower Stung Russei Chrum and Stung Tatay hydroelectric projects having the most significant reductions, estimated at 701,199 and 563,074 t CO<sub>2</sub> eq/year, respectively. Cambodia anticipates the following co-benefits from these actions: more job opportunities for the local community, reduced adverse health impacts from air pollution and alleviated poverty through a reduced dependence on diesel for energy generation.

77. Cambodia reported on two mitigation actions that save energy and contribute to deforestation by employing more efficient cookstoves and biodigesters. The cookstoves project was reported as completed, while the biodigesters programme was reported to be in the third implementation phase (2019–2025); both are voluntary emission reduction actions. The Party reported the results of implementing both programmes as emission reductions: the cookstoves project was estimated to result in a reduction in emissions of 2,008,739 t CO<sub>2</sub> eq during 2003–2013 and the biodigesters programme was estimated to result in a reduction in emissions of 457,791 t CO<sub>2</sub> eq between May 2009 and December 2015. Cambodia also reported values for the co-benefits of the biodigesters programme, which included the percentage reduction in particulate matter, value of expenditure savings per household per year and number of personnel trained to build and operate the biodigesters.

78. The mitigation actions in the waste sector focused mainly on generating energy from wastewater treatment plants by capturing CH<sub>4</sub> at four facilities. All these actions were reported as ongoing, and they are implemented as CDM projects. The Party reported the results of implementing these mitigation actions as emission reductions, with the MH Bio-Ethanol Distillery and TTY Cambodia biogas projects having the most significant emission reductions, estimated at 58,146 and 50,036 t CO<sub>2</sub> eq/year, respectively.

79. The mitigation actions in the industry sector focused mainly on energy efficiency and fuel switching. The first mitigation action is a programme for enhancing energy efficiency and using agricultural waste as a source of energy in the garments industry (the main industry in Cambodia), while the second mitigation action is waste heat recovery in a cement plant. The garments programme was reported as planned, as the corresponding NAMA is under preparation, and the anticipated result of its implementation is an emission reduction of 120,000 t CO<sub>2</sub> eq over the next five years. The cement plant project was reported as an ongoing CDM project with emission reductions estimated at 17,107 t CO<sub>2</sub> eq/year.

80. The methodology used for action 6 (on sustainable charcoal) was not reported in the BUR, and the reason for this was not clear to the TTE. In addition, owing to inconsistencies in the reported data, the following was not clearly reported in Cambodia's BUR: information on methodologies used for action 5 (on energy efficiency in the garment industry); exact progress of implementation for actions 4 (the Oddar Meanchey Community Forest REDD Project), 5, 6 and 7 (the Biodigester Programme); and estimated emission reductions for actions 7 and 8 (on improved cookstoves). The assumptions used for estimating emission reductions for actions 5 and 6 were also not clearly reported. Finally, for actions 1, 2, 3 and 4, it was not clear whether the reported steps were taken or envisaged, as they were reported together, without distinction. During the technical analysis, the Party clarified that it faces challenges in the MRV system in terms of (1) coordination among different ministries and institutes and (2) access to and verification of data from the implementing entities of the mitigation actions. The Party also clarified that inconsistencies were a result of the data on methodology and estimated emission reductions received from the implementing entities being reported without verification. The Party noted that it needs to enhance its capacity in this regard.

81. Regarding the national policy and planning framework reported in section 1 of the chapter on mitigation actions, information on methodology, progress of implementation and estimated outcomes for the defined priority actions under the sectoral CCAPs was not reported in the BUR and the reason for this was not clear to the TTE. The same applies for the progress of implementation of the NDC mitigation actions reported in the BUR and several sectoral strategic plans (e.g. Agricultural Sector Strategic Development Plan, Climate Change Strategic Plan for Transport Sector). During the technical analysis, the Party clarified that owing to limited financial resources, most of the NDC mitigation actions and the

activities under the sectoral strategic plans were not yet implemented, and that only some actions under the CCAPs had been implemented. The Party also clarified that it does not have enough capacity to develop an estimation methodology and report on the estimated outcomes of the actions under CCAPs, and that it faces challenges in the MRV system in terms of coordination among different ministries and institutes, and access to and verification of data from the implementing entities of the mitigation actions.

82. Further, the implementation status of CCCSP was not clearly reported. During the technical analysis, the Party clarified that CCCSP is currently in the long phase (2019–2023), and that climate change considerations have been integrated into the work of key line ministries and institutions in addition to being mainstreamed in academia. The Party also clarified that while some of the planned mitigation actions under CCCSP have been implemented (some of the actions reported in the BUR relate to CCCSP) others have not because of the limited financial support available.

83. Cambodia provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. The Party reported information on three types of market-based mechanisms: CDM, joint crediting mechanism and voluntary emission reduction. Further, the Party included the CDM and voluntary emission reductions as part of its mitigation actions reported in annex V to the BUR (see paras. 75–80 above). Cambodia documented 12 CDM projects, including two programmes of activities approved by its designated national authority and verified under the CDM process. Since 2014, Cambodia has had an agreement with the Government of Japan on establishing joint crediting mechanism projects.

84. Cambodia documented six joint crediting mechanism projects, four of which have been completed. The project with the most significant emission reduction potential is the Prey Lang REDD+ project, which is in the installation phase and has an estimated emission reduction of 1,136,158 t CO<sub>2</sub>/year. In addition, Cambodia reported on six voluntary emission reduction projects, including four REDD+ projects and two energy projects – five of these are registered under the Verified Carbon Standard and one is registered under the Gold Standard. For all the above-mentioned mechanisms, the reported statistics include information on the total projects, sectors covered, registration date and quantity of certified emission reductions issued for Cambodia.

85. Information on the implementation status of some of the CDM actions (specifically 9, 10, 14, 16, 17, 19 and 20) was not clearly reported in the BUR. During the technical analysis, the Party clarified that coordination is poor between the specific CDM project implementer and the institution overseeing the CDM (General Secretariat of the NCSD). The TTE notes that reporting on international market mechanisms together with national mitigation actions in the same section of the BUR results in a lack of clarity, because the emission reductions generated by national mitigation actions are usually accounted for by the host country, whereas the emission reductions generated under international market mechanisms should be accounted for by the countries purchasing the certified emission reductions. During the technical analysis, the Party clarified that capacity-building is required in this area.

86. Cambodia reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Cambodia has in place a domestic MRV system for mitigation actions designed as NAMAs and those under international carbon market-based mechanisms. Cambodia reported that the MRV of NAMAs aims mainly to capture sustainable development co-benefits and GHG emission reduction benefits. Further, Cambodia reported consistently with the voluntary general guidelines for domestic MRV of domestically supported NAMAs, contained in the annex to decision 21/CP.19. Cambodia outlined the institutional arrangements for NAMAs, the responsibilities of the implementing entity of NAMAs (regarding data collection, monitoring and reporting) and the approaches and roles of the verification entity of NAMAs. Cambodia reported its willingness to develop an integrated and detailed MRV system for NDC tracking.

87. Information on the domestic MRV system applied and the institutional arrangements relevant to mitigation actions that are not developed as NAMAs and are not related to international carbon market-based mechanisms was not clearly reported in the BUR. During

the technical analysis, the Party clarified that there is currently no MRV system for mitigation actions other than NAMAs and market-based mechanisms, and that the current MRV system needs to be enhanced accordingly.

88. The TTE noted that the transparency of the information reported on mitigation actions could be enhanced by addressing the areas noted in paragraphs 72–73, 80–82, 85 and 87 above, which could facilitate a better understanding of the information reported on mitigation actions.

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

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

90. Cambodia 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, Cambodia identified its main constraints and gaps as relating to finance, technology transfer, mitigation, continuous development of the GHG inventory, and the capacity of national experts. Cambodia reported that insufficient finance mobilized for climate action remains a key barrier, although significant milestones have been achieved. In table 85 of the BUR, Cambodia identified a financing gap of USD 802.6 million to implement the actions identified in its national adaptation plan. For technology transfer, Cambodia highlighted the limited success of applying the technologies identified as nationally determined technology needs (energy-efficient lighting and household appliances for the energy sector, and energy-efficient urban mass transport and vehicle emission standards for the transport sector).

91. For the constraints and gaps related to mitigation, Cambodia reported on the challenges it faced in developing NAMAs, especially for the transport, energy and waste sectors. For continuous development of the GHG inventory, Cambodia reported the main challenges as being limited AD, the absence of a system for compiling the inventory, limited national capacity to develop the inventory, and limited financial support for inventory preparation. Cambodia also reported on the capacity constraints faced, which mainly relate to GHG inventories, mitigation, climate vulnerability assessment and adaptation measures, and climate finance.

92. Cambodia reported that the Government is shifting towards a full-scale implementation of climate change response actions, including mitigation. Hence, the Party plans to address its financial, technical and capacity-building needs in order to streamline effective climate change response actions into all its development areas. Cambodia reported that its main needs are securing the financial support required for implementing its national adaptation plan and CCAP actions, promoting and mobilizing resources for effectively implementing the prioritized technologies identified in its technology needs assessment, and addressing its capacity constraints identified in paragraph 91 above.

93. Information on the Party's technical support needs, and on whether it faces financial constraints in implementing mitigation actions generally and the priority mitigation actions under the CCAPs specifically, was not clearly reported in Cambodia's BUR. During the technical analysis, the Party clarified that it requires technical support to address the technology gaps identified, and that it faces critical financial constraints for implementing mitigation actions owing to the difficulty in accessing international support. The Party also clarified that the budget required for mitigation actions under the CCAPs has been prepared; however, it was not reported in the BUR.

94. Cambodia 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, Cambodia reported that it received USD 832,000 from the Global Environment Facility, which included an allocation for preparing both its first BUR and its NC3, and USD 136,000 from the United Nations Environment Programme for the preparation of its intended nationally determined contribution. In table 83 of the BUR, Cambodia listed the projects implemented with international support for which climate action

was the main objective, which amounted to about USD 137 million. The main donors of the projects were the Adaptation Fund, the Danish International Development Agency, the European Union, the Least Developed Countries Fund, the Swedish International Development Cooperation Agency, the United Nations Development Programme and the United Nations Environment Programme.

95. Cambodia reported that 86 per cent of the international financial support received in 2017 was for adaptation and cross-cutting activities, while 14 per cent was for mitigation. The information reported indicates that Cambodia received capacity-building support from the Asian Development Bank, Denmark, the European Union, Japan, the Netherlands, the Republic of Korea, the United Nations Development Programme, the United Nations Environment Programme, the World Bank, and other bilateral and multilateral donors for training on using the 2006 IPCC Guidelines, supporting the CDM and new market mechanisms, developing a forest degradation index, training on mitigation analysis, and long-term training for programmes in academia related to climate change.

96. Information on the specific projects listed in table 83 of the BUR that provided technical support and on the amount of financial support provided for capacity-building activities was not clearly reported in Cambodia's BUR. During the technical analysis, the Party clarified that there was a technical support component in each of the projects outlined in table 83, and that the total financial support received, including for capacity-building activities, was USD 250 million. The Party also clarified that the amount needed for climate change support is USD 1,250 million.

97. Cambodia 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, Cambodia reported that the technology needs assessment was nationally determined and the associated technology action plan was prepared in 2013. Table 86 of the BUR lists the seven project ideas identified in the technology action plan for energy-efficient home appliances for the energy sector and for energy-efficient urban mass transport and vehicle emission standards for the transport sector.

98. Information on the international support received for technology transfer was not reported in Cambodia's BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that, since the development of the technology action plan, the progress of implementation has been very slow, and there is no plan for monitoring project implementation after approval of the technology needs assessment and technology action plan.

99. The TTE noted that the transparency of the information reported on needs and support received could be further enhanced by addressing the areas noted in paragraphs 93, 96 and 98 above, which could facilitate a better understanding of the information reported on needs and support received.

#### **D. Identification of capacity-building needs**

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

- (a) In the area of GHG inventory preparation:
  - (i) Strengthening national capacity to manage and update the national GHG inventory for all sectors as a continuous process, specifically capacity-building, as hands-on training is needed to understand the assumptions made and how to use available data in the model that was developed for preparing the GHG inventory;
  - (ii) Building institutional capacity to establish a continuous process, encompassing procedures and arrangements, for inventory preparation, with a focus on strengthening cooperation with relevant government bodies;
  - (iii) Building institutional capacity, with a focus on strengthening cooperation with relevant government bodies and improving the system for data collection and management, and striving to improve completeness of data;



- (iv) Strengthening national capacity to coordinate and review data and other information used in the GHG inventory in a timely manner;
- (v) Enhancing national capacity to estimate indirect GHGs (nitrogen oxides, non-methane volatile organic compounds, carbon monoxide, sulfur dioxide) for sectors other than energy;
- (vi) Enhancing national capacity to collect appropriate data to estimate the reference approach and to explain the difference between the sectoral and the reference approach;
- (vii) Enhancing national capacity to improve uncertainty assumptions to better reflect national circumstances;
- (viii) Enhancing national capacity to provide information comparable to that provided in the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;
- (ix) Enhancing national capacity to report updated data on activity levels based on the best information available for the AFOLU sector;
- (b) In the area of mitigation actions and their effects:
  - (i) Expanding the domestic MRV system to include all the mitigation actions (not just NAMAs and international market mechanisms);
  - (ii) Enhancing the domestic MRV system, especially for verifying the information provided by the implementing entities;
  - (iii) Enhancing the domestic MRV system, especially for preparing the reports to submit to the secretariat and improving the QA steps;
  - (iv) Enhancing institutional set-up arrangements for the domestic MRV system to allow for better coordination and smoother data and information sharing;
  - (v) Enhancing the current MRV system of mitigation actions by developing specific reporting templates to be used and annually reported by the implementing entities of all mitigation actions to clearly show all the corresponding BUR reporting provisions (including any distinction between steps already implemented and planned steps);
  - (vi) Enhancing the MRV system so that the methodologies for all planned and ongoing mitigation actions are identified and frequently used to report emission reductions;
  - (vii) Reporting the description, quantitative goals and progress indicators for the defined mitigation actions in accordance with the UNFCCC reporting guidelines on BURs (including for planned actions);
  - (viii) Identifying the methodologies to be used for estimating the GHG emission reductions of mitigation actions;
  - (ix) Enhancing the MRV system for the international market-based mechanisms to acquire carbon credits to enable mandatory annual reporting from the implementing entity of the CDM to the national institution in charge of the CDM that shows project status, ex post annual GHG emission reductions and whether the project generated certified emission reductions;
  - (x) Enhancing national capacity to identify the ownership of emission reductions generated by different project types (e.g. national mitigation projects, projects under international market mechanisms) and to avoid potential double counting by the host country in its NDC, including capacity-building, under the relevant Articles of the Paris Agreement (Articles 4 and 6);
  - (xi) Enhancing national capacity to model the GHG impacts of mitigation actions and make assumptions where complete data are not available;
- (c) In the area of needs and support:

- (i) Improving the system for MRV of support to ensure effective monitoring, reporting and verification of the status of all projects receiving financial support and the status of all project ideas introduced in the technology needs assessment;
- (ii) Enhancing national capacity to mobilize resources and prepare, review and submit BURs on a continuous basis;
- (iii) Enhancing national capacity to model GHG mitigation actions and make assumptions where the data are not fully available;
- (iv) Enhancing national capacity to update climate vulnerability assessments and adaptation measures;
- (v) Enhancing national capacity to estimate the impacts of climate change on agronomy and the corresponding adaptation measures;
- (vi) Enhancing national capacity to mobilize climate finance for implementing the required climate actions;
- (vii) Enhancing national capacity to report on support received and needed, including the technical and technological aspects of such support.

101. The TTE noted that, in addition to those identified during the technical analysis, Cambodia reported in its BUR that it needs capacity-building programmes developed in conjunction with research institutes and academia covering the following areas:

- (a) Climate change impact assessment;
- (b) GHG inventory preparation;
- (c) Mitigation;
- (d) REDD+.

### **III. Conclusions**

102. The TTE conducted a technical analysis of the information reported in the first BUR of Cambodia in accordance with the UNFCCC reporting guidelines on BURs and concludes that the information reported is mostly consistent. It provides an overview of national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis; the national inventory of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol, including an NIR; mitigation actions and their effects, including associated methodologies and assumptions; constraints and gaps, and related financial, technical and capacity-building needs, including a description of support needed and received; the level of support received to enable the preparation and submission of BURs; and domestic MRV. During the technical analysis, additional information was provided by Cambodia on all these areas. The TTE concluded that the information analysed is mostly transparent.

103. Cambodia reported information on the institutional arrangements relevant to the preparation of its BURs. The information reported includes the legal status and roles and responsibilities of the overall coordinating entity, the involvement and roles of other institutions and experts, mechanisms for information and data exchange, QA/QC procedures, and provisions for public consultation and other forms of stakeholder engagement. The TTE noted planned improvements to the information reported in the BUR, including the development of two types of QC procedures and QA by an international team of experts to ensure adherence to the UNFCCC reporting guidelines on BURs and GHG inventory reporting provisions from UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. The Party has taken significant steps to establish institutional arrangements that allow for the sustainable preparation of its BURs. These include making organizational improvements and establishing knowledge-sharing procedures to facilitate sectoral information transfer.

104. In its first BUR, submitted in 2020, Cambodia reported information on its national GHG inventory for 1994–2016. This included GHG emissions and removals of CO<sub>2</sub>, CH<sub>4</sub>

and N<sub>2</sub>O for all relevant sources and sinks and HFCs for some sources, as well as the precursor gases. The inventory was developed on the basis of the 2006 IPCC Guidelines, although in some cases the IPCC good practice guidance and specific EF values from the 2006 IPCC Guidelines were applied for individual key categories. The total GHG emissions for 2016 were reported as 32,581.11 Gg CO<sub>2</sub> eq (excluding FOLU) and 163,592.35 Gg CO<sub>2</sub> eq (including FOLU).

105. The key categories and main gases reported for both level and trend assessment for 2016 were 3.B land (CO<sub>2</sub> emissions), 3.C.7 rice cultivation (CH<sub>4</sub> emissions), 1.A.3.b road transport – liquid fuels (CO<sub>2</sub> emissions), 3.A.1 enteric fermentation (CH<sub>4</sub> emissions) and 1.A.1 energy industries – solid fuels (CO<sub>2</sub> emissions). CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFC, PFC and SF<sub>6</sub> emissions for some subcategories, primarily in the IPPU sector, as well as emissions of any gas from waste incineration and from the burning of waste in landfills, were not reported. Estimated values for the reference approach, an explanation for the difference between the sectoral and reference approach, and information on efforts to make inventory preparation a continuous process were not reported in the BUR. The Party clarified that this was owing to difficulties in obtaining the necessary data, a lack of data and a lack of capacity to establish a continuous process.

106. Cambodia reported information on mitigation actions and their effects in both tabular and narrative format, including descriptions of mitigation actions, coverage (gases), progress of implementation, implementation time frame and the status of the actions. Cambodia framed its national mitigation planning and actions in the context of national and sectoral development policies, strategies and action plans, including CCCSP. Cambodia reported on its planned, ongoing and completed actions in the AFOLU, energy, waste and IPPU sectors, with most actions being reported as ongoing. The mitigation actions focus on avoiding planned or unplanned (or both) deforestation and promoting renewable energy generation capacity by employing hydropower resources and waste-to-energy technologies.

107. The Party reported the progress of implementation of its mitigation actions and the results achieved, including estimated emission reductions and sustainable development co-benefits. The highest estimated emission reduction was reported for the AFOLU sector, where the key mitigation action (Southern Cardamom REDD+ Project) is estimated to result in an emission reduction of 3,982,378 t CO<sub>2</sub> eq/year. Cambodia reported the co-benefits of its mitigation actions, including direct employment and alternative income-generating activities. The Party also reported information on its international market mechanisms and MRV arrangements. Descriptions, quantitative goals, progress indicators, methodologies, assumptions, progress of implementation and estimated outcomes for some mitigation actions, including the defined priority actions under the CCAPs for 2014–2018, were not reported. During the technical analysis, the Party clarified that it faced challenges in reporting such information owing to the absence of a proper monitoring system and a lack of capacity to develop an estimation methodology and report on the estimated outcomes of the mitigation actions, in addition to facing challenges with the MRV system.

108. Cambodia reported information on key constraints, gaps and related needs, including securing the financial support required for implementing its national adaptation plan and CCAP actions, and promoting and mobilizing resources for effectively implementing the prioritized technologies identified by a technology needs assessment. The Party also reported capacity-building needs in the areas of GHG inventory preparation, mitigation, climate vulnerability assessment and climate finance. Information was reported on the technical and capacity-building support received, including financial support from the Adaptation Fund, the Danish International Development Agency, the European Union, the Least Developed Countries Fund, the Swedish International Development Cooperation Agency, the United Nations Development Programme and the United Nations Environment Programme for implementing adaptation and mitigation actions.

109. The Party reported that financial support was received from the Asian Development Bank, Denmark, the European Union, Japan, the Netherlands, the Republic of Korea, Sweden, the United Nations Development Programme, the United Nations Environment Programme and the World Bank, and other bilateral and multilateral donors for capacity-building activities. The Party also reported that it received financial support in the amount of USD 832,000 from the Global Environment Facility, which included allocation for preparing

both its first BUR and its NC3. Cambodia indicated that information on the transfer of technology was not reported owing to its very slow implementation following approval of the technology needs assessment and technology action plan, and the absence of a corresponding monitoring plan.

110. The TTE, in consultation with Cambodia, identified the 27 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. Cambodia categorized the capacity-building needs as immediate term (the needs listed in paragraph 100(a)(i–iv), (b)(i) and (b)(viii) above), immediate term and medium term (the needs listed in paragraph 100(a)(v) and (b)(ix) above), and immediate term, medium term and long term (the needs listed in paragraph 100(a)(vi–ix), (b)(ii–vii), (b)(xi), (c)(i) and (c)(iii–vii) above).

## Annex I

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

Table I.1

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

<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	Cambodia submitted its first BUR in August 2020; the GHG inventories reported are for 1994–2016.
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	Cambodia used the 2006 IPCC Guidelines.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Partly	The section on the national inventory in Cambodia's BUR contains updated data on activity levels based on the best information available for all sectors except AFOLU, for which the data on activity levels for 2016 are extrapolated from 2010–2014. Data on activity levels for 2016 are available in the technical annex.
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;	Partly	Comparable information on annual change in carbon stocks in living biomass for forest land remaining forest land, non-forest land converted to forest land, and forest land converted to non-forest land was reported in table 53 of the BUR. However, comparable information on CO <sub>2</sub> emissions by sources and removals by sinks was not reported.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Comparable information was reported.
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	

<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 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).	Yes	This information was reported for 1994 and 2000.
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	
	(a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);	Yes	Comparable information was reported in table 116 of the NIR.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).	Yes	Comparable information was reported in table 116 of the NIR.
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 BUR contains annex I (detailed results of the key category analysis), annex II (uncertainty assessment results), annex III (QA/QC plan) and annex IV (improvement plans by sector). The Party submitted an NIR as an annex to its BUR.
Decision 17/CP.8, annex, paragraph 12	Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.	Yes	Key source analysis, approach 1, level and trend, with and without FOLU, is presented in annex I to the BUR.
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.	Partly	Information on efforts to make GHG inventory preparation a continuous process was not reported.
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	CO <sub>2</sub> emissions are provided, except for some subcategories in the IPPU sector, where “NE” is used owing to lack of data.
	(b) CH <sub>4</sub> ;	Partly	CH <sub>4</sub> emissions are provided, except for some subcategories in the IPPU sector, where “NE” is used owing to lack of data.
	(c) N <sub>2</sub> O.	Partly	N <sub>2</sub> O emissions are provided, except for some subcategories in the IPPU sector, where “NE” is used owing to lack of data.

<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 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of: <ul style="list-style-type: none"> <li>(a) HFCs;</li> <li>(b) PFCs;</li> <li>(c) SF<sub>6</sub>.</li> </ul>	Yes	Emission estimates are provided for subcategories 2.F.1 (refrigeration and air conditioning) and 2.F.3 (fire protection), and “NE” is reported for other subcategories.
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) Carbon monoxide;</li> <li>(b) Nitrogen oxides;</li> <li>(c) Non-methane volatile organic compounds.</li> </ul>	Yes	Emissions were estimated for the energy sector only.
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	Emissions were estimated for the energy sector only.
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.	Partly	Emissions were estimated for the energy sector only.
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	The Party reported on other gases, such as sulfur oxides.
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 global warming potential provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	Yes	Information was reported for the sectoral approach. The difference between the reference and sectoral approach was reported; no explanation was provided for the difference.
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	Yes	The emissions were reported as “NE”.
		NA	The Party used the global warming potential provided in the AR4.

<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>
	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	Cambodia used the 2006 IPCC Guidelines. Tier 1 methodology was used for all sectors, and tier 2 for a few sources.
	(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	
	(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.	Partly	Cambodia clearly identified areas for improvement in annex IV to its BUR, but did not specify for which areas capacity-building would be needed.
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.	Yes	Notation keys were used.
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	Inventory uncertainty was assessed following the tier 1 method in the 2006 IPCC Guidelines.
	(b) Underlying assumptions;	Yes	Upper values of the ranges in the 2006 IPCC Guidelines were used.
	(c) Methodologies used, if any, for estimating these uncertainties.	Yes	Expert judgment was used for a few sources.

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



for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8. The scope of such updates should be consistent with the non-Annex I Party's capacity and time constraints and the availability of its data, as well as the level of support provided by developed country Parties for biennial update reporting.

Table I.2

**Identification of the extent to which the elements of information on mitigation actions are included in the first biennial update report of Cambodia**

<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 mitigation actions was not reported.
	(b) Information on:		
	(i) Methodologies;	Partly	Information on methodologies for some mitigation actions was not reported.
	(ii) Assumptions;	Partly	Information on assumptions for some mitigation actions was not reported.
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Yes	
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Partly	Information on the status of implementation for some mitigation actions was not reported.
	(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	Information on emission reductions for some mitigation actions was not reported.
	(e) Information on international market mechanisms.	Yes	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	

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

Table I.3

**Identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the first biennial update report of Cambodia**

<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;	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 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	
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.	No	

*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/gp/landuse/gp/landuse.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 Cambodia. Available at <https://unfccc.int/BURs>.

NC1 and NC2 of Cambodia. Available at <https://unfccc.int/non-annex-I-NCs>.

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