



United Nations

FCCC/SBI/ICA/2020/TASR.1/MDV



Framework Convention on  
Climate Change

Distr.: General  
20 October 2020

English only

---

## **Technical analysis of the first biennial update report of Maldives submitted on 24 November 2019**

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


### *Summary*

According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention, consistently with their capabilities and the level of support provided for reporting, were to submit their first biennial update report by December 2014. 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 Maldives, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

GE.20-13850(E)



\* 2 0 1 3 8 5 0 \*

Please recycle 



## 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
CBIT	Capacity-building Initiative for Transparency
CGE	Consultative Group of Experts
CH <sub>4</sub>	methane
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
EF	emission factor
ETF	enhanced transparency framework under the Paris Agreement
GEF	Global Environment Facility
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
ICA	international consultation and analysis
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance	<i>Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories</i>
IPCC good practice guidance for LULUCF	<i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i>
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NC	national communication
NDC	nationally determined contribution
NE	not estimated
NMVOC	non-methane volatile organic compound
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
NO <sub>x</sub>	nitrogen oxides
N <sub>2</sub> O	nitrous oxide
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF <sub>6</sub>	sulfur hexafluoride
SIDS	small island developing State(s)
SO <sub>x</sub>	sulfur oxides
TTE	team of technical experts
UNEP	United Nations Environment Programme
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
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 SIDS may submit BURs 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 SIDS and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. This summary report presents the results of the technical analysis of the first BUR of Maldives, undertaken by a TTE in accordance with the provisions on the composition, modalities and procedures of the TTE under ICA contained in the annex to decision 20/CP.19.

### B. Process overview

5. In accordance with the mandate referred to in paragraph 2 above, Maldives submitted its first BUR on 24 November 2019 as a stand-alone update report.
6. During the technical analysis, the Party clarified that following its submission of the NC1 on 5 November 2001, a lack of human resources and limited technical capacity prevented it from submitting the NC2 for 15 years. The NC2 was originally submitted on 13 October 2016 and was later revised and resubmitted on 28 August 2018. The Party informed the TTE that it had to complete the NC2 before preparing its first BUR, given that NCs require more comprehensive information. The BUR was prepared upon submission of the NC2.
7. Following the submission of the Party's first BUR, an erratum was submitted on 14 January 2020, which focused on corrections to information reported in the BUR on mitigation actions and their effects.
8. A desk analysis of Maldives's BUR was conducted from 9 to 13 March 2020<sup>1</sup> 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: Amr Osama Abdel-Aziz (Egypt), Patience Thelma Melfah Damptey (former member of the CGE from Ghana), Sorin Deaconu (Romania), Takeshi Enoki (former member of the CGE from Japan), Celeste Gabriela Gonzalez Pereira (Paraguay), Ajay Raghava (former member of the CGE from India), Ching Tiong Tan (Malaysia), Lilia Taranu (Republic of Moldova), Jongikhaya Witi (South Africa) and Tania Zamora (former member of the CGE from Peru). Mr. Deaconu and Mr. Tan were the co-leads. The technical analysis was coordinated by Tomoyuki Aizawa, Alma Jean and Jeonghyun Emily Park (secretariat).
9. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Maldives engaged in consultation<sup>2</sup> on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of the Party's first BUR, the TTE prepared and shared a draft summary report with

<sup>1</sup> Owing to the circumstances related to the coronavirus disease 2019, the technical analysis of the BUR submitted by Maldives had to be conducted remotely.

<sup>2</sup> The consultation was conducted via teleconferencing.

Maldives on 11 June 2020 for its review and comment. Maldives, in turn, provided its feedback on the draft summary report on 18 September 2020.

10. The TTE responded to and incorporated Maldives's comments referred to in paragraph 9 above and finalized the summary report in consultation with the Party on 15 October 2020.

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

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

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

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

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

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

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

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

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

14. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 13 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs. Specific details on the extent of the information reported for each of the required elements are provided in annex I.

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

15. The technical analysis referred to in paragraph 11(b) above aims to increase the transparency of 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.

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

17. The results of the technical analysis are presented in the remainder of this chapter.

**1. Information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis**

18. As per the scope defined in paragraph 2 of the UNFCCC reporting guidelines on BURs, the BUR should provide an update to the information contained in the most recently submitted NC, including information on national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis. In their NCs, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5, and they could report similar information in their BUR, which is an update of their most recently submitted NC.

19. Maldives reported in its first BUR the following information on its national circumstances: a description of national development priorities, objectives and circumstances, including information on 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, as referred to in Article 4, paragraph 8, and, as appropriate, Article 4, paragraphs 9–10, of the Convention.

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

21. Maldives 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 roles and responsibilities of the overall coordinating entity, the involvement and roles of other institutions and experts, mechanisms for information and data exchange, and provisions for public consultation and other forms of stakeholder engagement. Maldives reported that its Ministry of Environment leads the process of preparing the BUR, and the Climate Change Department within the Ministry coordinates both the NC and the BUR. The Party provided comprehensive information on the working groups that participate in the process, including the data they provide and their specific contributions to the BUR.

22. Maldives reported in its first BUR that it lacks a comprehensive national MRV system and that individual departments collect data and track progress on an ad hoc basis during the implementation of projects. Information reported on the data collection that takes place includes the roles, mandates, types of data, methods for collection and means of verification (BUR, annex 9.7). Maldives conducted a gap analysis of the existing MRV system, which revealed a dire need to establish a robust national MRV system. Detailed information was reported on five key gaps related to the legal, institutional and procedural arrangements for the system; the availability and management of GHG data for the system; and indicators for mitigation actions (BUR, table 26). Regarding building a system for tracking and managing GHG emission data for policy development and mitigation action, the gap analysis identified two specific needs: to improve the involvement of government institutions in the system, and to increase the expertise of officials supporting the system, including its technical and organizational aspects (BUR, section 7.2). Maldives is currently working with partners to design a comprehensive national MRV system for mitigation. On the basis of the gaps identified, and taking into consideration its national circumstances, the Party clearly reported seven recommendations for various aspects of institutional arrangements to enhance its existing MRV system (BUR, section 7.3).

23. Maldives reported information on its current initiatives to enhance the existing MRV system so that it will comply with the ETF (BUR, section 7.3.1). These initiatives relate to compiling the GHG inventory, conducting MRV of mitigation actions and tracking the NDC. The Party also reported information on its tracking of support needed and received, including the components and output under the CBIT and funding from the GEF. The CBIT project aims to strengthen the Party's capacity to implement a formal MRV system and enhance the capacity of institutions to monitor and evaluate adaptation actions. Further, the Party reported that the CBIT will support the enhancement of the technical capacity of public institutions and other non-State actors to develop guidelines for tracking finance and promote enabling

conditions for implementing these guidelines. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

24. As indicated in table I.1, Maldives 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.

25. Maldives submitted its first BUR in 2019 and the GHG inventory reported is for 2011–2015. The GHG inventory is consistent with the requirements for the reporting time frame.

26. GHG emissions and removals for the BUR covering the 2011–2015 inventories were estimated using the tier 1 methodology from the 2006 IPCC Guidelines, while in some cases the IPCC good practice guidance was applied, as appropriate. The TTE commends the Party for using the 2006 IPCC Guidelines.

27. Information on AD and EFs used for 2011–2015 and their sources was clearly reported in the BUR, including information on the recalculation of the 2011 GHG inventory. In table 10 of the BUR, Maldives included descriptions by gas of the estimation methods used and noted that default EFs were applied. The AD sources are described in section 3.2 and table 7 of the BUR.

28. Information on the Party’s total GHG emissions by gas for 2011–2015 is outlined in table 1 in Gg CO<sub>2</sub> eq. It shows an increase in emissions of 19.8 per cent since 2011.

Table 1

### Greenhouse gas emissions by gas of Maldives for 2011–2015

Gas	GHG emissions (Gg CO <sub>2</sub> eq) excluding LULUCF		% change 2011–2015
	2011	2015	
CO <sub>2</sub>	1 236.97	1 476.89	19.4
CH <sub>4</sub>	31.79	42.27	33.1
N <sub>2</sub> O	13.02	16.88	29.8
HFCs	NE	NE	NA
PFCs	NO	NO	NA
SF <sub>6</sub>	NO	NO	NA
Other	NA	NA	NA
<b>Total</b>	<b>1 281.79</b>	<b>1 536.04</b>	<b>19.8</b>

29. Information on other emissions, including of CO, NO<sub>x</sub>, NMVOCs and SO<sub>x</sub>, was reported as “NE”. During the technical analysis, the Party informed the TTE that it allocated its limited resources to estimating the main GHGs rather than these other emissions.

30. Maldives 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. The Party’s clear use of notation keys enabled the TTE to understand the information reported.

31. Maldives reported comparable information addressing the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines.

32. The Party did not report comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF, but the reason was clear to the TTE. In the BUR, the Party reported emissions from and removals by LULUCF as “NE” because the country does not have a large-scale agriculture or husbandry sector or any large forests (which could be cleared for land use).

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

Table 2  
**Shares of greenhouse gas emissions by sector of Maldives for 2015**

<i>Sector</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq)</i>	<i>% share</i>	<i>% change 2011–2015</i>
Energy	1 472.05	95.8	19.8
Industrial processes and product use	NO, NE	NA	NA
Agriculture	NA, NE	NA	NA
LULUCF	NE	NA	NA
Waste	63.99	4.2	35.9

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

35. For the energy sector, Maldives reported that energy industries accounted for 67 per cent of the total sectoral GHG emissions, followed by transport (25 per cent) and other subsectors (4 per cent). AD for the energy sector were obtained from energy balance reports, power production companies, regional airports, tourism statistics yearbooks, and population data and vehicle registration details from the National Bureau of Statistics. In addition, data on liquefied petroleum gas usage were obtained from the companies Maldives Gas and Villa Gas, fuel import and re-export customs data, and statistics on fuel sold from Maldives Airports Company Ltd. Maldives reported that the main fuels used in the country are diesel, gasoline, jet kerosene and liquefied petroleum gas. The Party noted in its BUR that data on fugitive emissions are not assessed or recorded by the energy industries. These emissions are considered insignificant and therefore are not included in the sector's emission estimates.

36. For the industrial processes and other product use sector, HFC emissions were reported as "NE" and other gases as "NO". However, the Party provided relevant clarification in the BUR, namely that the country does not have any industries that could be categorized under this sector. Regarding HFC emissions that can be emitted from daily use of air-conditioning equipment, the Party indicated in the BUR that relevant data, such as data on equipment lifetime and leakage, were not available so emissions for the category refrigeration and air conditioning could not be estimated. During the technical analysis, Maldives clarified that customs import data on HFCs are available.

37. For the agriculture sector, Maldives reported CO<sub>2</sub> emissions as "NA" and CH<sub>4</sub> and N<sub>2</sub>O emissions as "NE" for 2011–2015. For the LULUCF sector, Maldives reported annual GHG emissions and removals for 2011–2015 as "NE" for the reason described in paragraph 32 above. During the technical analysis, the Party informed the TTE that there is a capacity-building need to improve the reporting of emissions and removals for these sectors.

38. For the waste sector, information was clearly reported on tier levels, AD and their sources, EFs, key categories, notation keys used and other aspects specific to the sector. The information reported indicates that incineration and open burning of waste is the only source of GHG emissions from this sector, accounting for 4 per cent of total emissions. CH<sub>4</sub> and other gases (CO, NO<sub>x</sub>, NMVOCs and SO<sub>x</sub>) emissions from solid waste disposal on land were reported as "NO", and CO<sub>2</sub> and N<sub>2</sub>O emissions for this category were reported as "NA". CH<sub>4</sub>, N<sub>2</sub>O and other gases from wastewater handling were reported as "NE", and CO<sub>2</sub> for this category was reported as "NA".

39. The BUR provides an update to some of the GHG inventories reported in the Party's NC2, which addressed anthropogenic emissions and removals for 1994 and 2011. The update was carried out for 2011–2015 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent five-year time series. In the BUR, the Party reported that it has made significant efforts to improve the 2011 inventory, including by applying a sectoral approach for the first time to estimate CO<sub>2</sub> emissions from fuel combustion and establishing data collection and quality management procedures for sectoral agencies (BUR, section 3.5.3).

40. Information on the update of the GHG inventory for 1994 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 because data for 1994 were not available, it did not attempt to recalculate the inventory for that year using the 2006 IPCC Guidelines.

41. Maldives described in its BUR the institutional framework for the preparation of its 2015 GHG inventory. The Party reported that the Ministry of Environment is the governmental body responsible for its climate change policy and GHG inventory, which was prepared with the support of UNEP. The Greenhouse Gas Inventory and Research Center of Korea also assisted with training related to the GHG inventory by sharing knowledge on the MRV process for compiling sectoral inventories, particularly for the energy and waste sectors, and supporting the application of methods for improving the existing GHG inventory of Maldives.

42. Maldives clearly reported that a key category analysis was performed for the level of emissions (2011–2014) and the trend in emissions (2012–2014), using 2011 as the base year. For 2014, four key categories, all in the energy sector, were identified both for the level and trend.

43. The TTE was unable to understand why the Party did not use 1994 as the base year when conducting a trend assessment of key categories. During the technical analysis, the Party informed the TTE that the data required for estimating the 1994 inventory were not available. The most recent GHG inventory used as a base year was the 2011 inventory, which was complete and more accurate than earlier inventories. This inventory was prepared as part of the NC2, for which a key category analysis was carried out using a level assessment. The Party therefore decided that in order to follow up and build on the key category analysis carried out in the NC2, 2011 would be used as the base year for the trend key category analysis in the first BUR.

44. The BUR provides information on QA/QC measures for all sectors. Details on the following QA/QC activities were reported: the field surveys conducted to assess the fuel usage of the tourism industry (resorts and safaris); the use of electricity-based indicators by the tourism industry to estimate its fuel use for power generation; the verification of fuel consumption for civil aviation using data from the customs authority; and the audits carried out to verify the amount of waste generated per capita in the country. The TTE commends Maldives for providing information on QA/QC measures in accordance with the IPCC good practice guidance. The Party identified improvements in the information reported, such as those related to the data collection procedure and data quality. In addition, the Party's institutional capacity for data collection, management and analysis was enhanced.

45. Maldives clearly reported information on CO<sub>2</sub> emissions from fuel combustion using both the sectoral and the reference approach. The information reported indicates that the combustion emissions estimated under the sectoral and reference approach from gas/diesel oil, which comprise the largest emissions source, are 1,162.13 and 1,199.05 Gg CO<sub>2</sub>, respectively. The difference between the estimates using the two approaches for CO<sub>2</sub> emissions from gas/diesel oil, was reported as 3.74 and –3.08 per cent for 2014 and 2015, respectively. An analysis of the two approaches revealed that estimates for CO<sub>2</sub> emissions from motor gasoline vary between the reference and sectoral approach by 13.9 and –11.7 per cent for 2014 and 2015, respectively (BUR, table 16), indicating there are significant inconsistencies in the time-series data for motor gasoline, which is mainly used for road transportation.

46. The Party reported in the BUR that while the emission estimates for 2001–2010 used the reference approach only, the inventories for 2011–2015 included information on both sectoral and reference approaches. However, Maldives did not clearly report why it was not able to report information on the sectoral approach for 2001–2010. During the technical analysis, the Party clarified that insufficient AD were available for this time period and it therefore decided not to estimate CO<sub>2</sub> emissions using the sectoral approach.

47. Information was clearly reported on international aviation and marine bunker fuels. Maldives reported estimates of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions for international aviation. CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions from marine bunker fuels were reported as “NE”.



48. Information on the Party's reasons for not estimating emissions from marine bunker fuels was not clearly reported in the BUR. During the technical analysis, the Party clarified that information on marine bunker fuels was not available.

49. Maldives reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and covers source categories and direct GHGs. The results obtained, as reported in the BUR, reveal that the level uncertainty for emissions is 4.6 per cent (excluding LULUCF) and the trend uncertainty is 4.7 per cent (excluding LULUCF).

50. The Party provided information on the level and trend uncertainty analysis for the 2011–2015 time series. The TTE was unable to determine from the information provided why the 1994 inventory could not be used to perform the level and trend uncertainty analysis for the entire time series (1994–2015). During the technical analysis, the Party clarified that data for 1994 were not available, and therefore no efforts were made to estimate emissions or uncertainty for that year.

51. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 37, 43, 46, 48 and 50 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**

52. As indicated in table I.2, Maldives 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.

53. The information reported provides a clear and comprehensive overview of the Party's mitigation actions and their effects. In its BUR, Maldives reported information on its national context, indicating that it has embraced low-carbon growth in order to achieve energy security, reduce pollution and show leadership in addressing climate change. Its national mitigation planning and actions are framed in the context of its NDC targets,<sup>3</sup> which were prepared on the basis of the Greenhouse Gas Abatement Cost Model and are applicable only to the energy sector. Maldives reported its unconditional target to reduce GHG emissions by 10 per cent below the 'business as usual' baseline by 2030, which could be increased to 24 per cent within the same time frame with adequate international support.

54. Maldives reported that its NDC target is presented as a deviation from the 'business as usual' scenario. To assess the impact of both ongoing projects and projects planned since the submission of the NDC, the Party reported that it revisited its 'business as usual' baseline during preparation of its first BUR. The Long-range Energy Alternatives Planning Model was used to reassess the baseline, and the new baseline determined from this assessment was compared with the emissions calculated for the BUR, previous GHG emission estimates and NDC projections. According to the new projection, in a 'business as usual' scenario, emissions are expected to increase by 163 per cent by 2030 compared with the 2011 level. This result, which is consistent with reported emissions, is 0.72 per cent higher than the projection for 2030 developed for the NDC.

55. Maldives reported that climate change has been mainstreamed in and integrated into its development plans, including mitigation. Most of the mitigation actions are in the power generation sector given that the Party reported GHG emissions from this sector will increase by 292 per cent by 2030 compared with the 2011 level under the baseline projection. The Party indicated that it is on track to achieve its unconditional target of a 10 per cent reduction in emissions compared with the 'business as usual' scenario; however, a significant increase in mitigation efforts across all sectors will be required to achieve its conditional target of a GHG emissions reduction of 24 per cent below the baseline. The Party also reported the policies and national plans that are relevant to climate change.

<sup>3</sup> Maldives submitted its NDC on 22 April 2016.

56. The Party reported a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11, including information on 13 mitigation measures related to renewable energy (e.g. promoting the use of solar photovoltaic technology) and waste-to-energy. The Party also reported information in narrative format on its mitigation actions related to the key sectors energy, transport and waste. During the technical analysis, the Party informed the TTE that, in respect of the transport sector, the gap between the information required and the information available for reporting is significant and that non-government efforts that have mitigation outcomes are not recorded or reported under the current system.

57. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Maldives reported the names of all 13 mitigation actions, coverage (sector and gases) and progress indicators (BUR, section 4.3). These actions are classified on the basis of selection criteria into three groups: solar photovoltaic projects, energy efficiency mitigation actions and waste-to-energy projects (BUR, section 9.6.2). A clear description of mitigation actions, as well as information on quantitative goals, was provided in the BUR. While there is no obligation to report on the approach to selecting mitigation actions, the Party reported that they were selected on the basis of certain criteria. The TTE commends Maldives for reporting this information on its mitigation actions.

58. Maldives reported information on methodologies and assumptions used in the Long-range Energy Alternatives Planning Model, which was used for building the baseline and mitigation scenarios. This information is relevant to all 13 mitigation actions. The Party provided additional information in the annex to the BUR that enabled the TTE to better understand the information reported. Maldives also reported information on the objectives and the results achieved for all actions. Information on the progress of implementation of the mitigation actions included co-benefits of the actions, such as increased energy security, new green jobs and decreased pollution levels.

59. In the energy sector, two mitigation actions focused mainly on improving energy efficiency, while another nine focused on promoting renewable energy sources to increase capacity for photovoltaic generation. The Party reported information on the steps envisaged for the four ongoing actions and the results of implementing its mitigation actions as estimated emission reductions. The two mitigation actions focused on energy efficiency – the introduction of energy efficiency labelling for domestic appliances and the distribution of light-emitting diode bulbs to the public at zero cost – began in 2015 and 2011, respectively, and are ongoing. By 2030, the anticipated GHG emission reductions resulting from these mitigation actions amount to 136,113 and 76,948 t CO<sub>2</sub> eq per year, respectively.

60. The other nine mitigation actions aim to increase photovoltaic generation capacity and began between 2009 and 2012; some have been completed and others are ongoing. By 2030, the largest anticipated GHG emission reductions are from the Preparing Outer Islands for Sustainable Energy Development project and the Accelerating Sustainable Private Investment in Renewable Energy project, amounting to 27,252 and 21,600 t CO<sub>2</sub> eq per year, respectively.

61. Information on the steps taken or envisaged to achieve the actions and on progress and underlying steps taken or envisaged was not clearly reported for the seven completed mitigation actions in the energy sector. During the technical analysis, the Party clarified that it considered this information did not apply to completed actions. The Party also clarified that it needs capacity-building to improve its reporting on steps taken and envisaged, covering various types of projects from different donors, which often follow different reporting schemes.

62. Two waste-to-energy projects were reported in the waste sector, both of which began in 2018 and are ongoing. Maldives reported that the objective of the two projects is to provide regional waste management solutions by installing waste-to-energy plants on the island of Thilafushi (8 MW waste-to-energy plant) and in Addu City (1.5 MW waste-to-energy plant). The Party reported information on the steps envisaged for these two actions. The estimated GHG emission reductions for these projects are 11,617 and 2,904 t CO<sub>2</sub> eq per year, respectively, by 2030. The Party also reported that these actions will lead to co-benefits such as decreased pollution and increased energy security. The Party noted that the Government has launched the “Saafu-Raajje” (Clean Maldives) initiative, which is aimed at increasing

public awareness and changing public behaviour, and established a public company for developing and managing the waste management facilities in the country.

63. In addition to the mitigation actions reported in tabular and narrative format, Maldives included information on the impact of the mitigation actions on its NDC (BUR, sections 4.3.1, 4.4, and 9.6), indicating that the mitigation actions would contribute to an emission reduction of 6.9 per cent by 2030 compared with the ‘business as usual’ scenario. Further, the reported trajectory of mitigation actions of both the public and the private sectors indicates that Maldives is on track to achieve its unconditional NDC target of a 10 per cent emission reduction by 2030 compared with the ‘business as usual’ scenario, as well as a conditional 24 per cent reduction. The TTE commends the Party for reporting this information.

64. Maldives reported information on opportunities for enhanced action. The Party reported that while it is on track to achieve its conditional target of a 24 per cent emission reduction by 2030 compared with the ‘business as usual’ scenario, there is a need for greater ambition. According to the Party, its goal can be achieved by promoting and/or facilitating mitigation actions by private sector and other non-government actors and by collaborating with and receiving assistance from international partners. In this regard, Maldives reported the focus of non-governmental actors is on renewable energy, energy efficiency, transport and waste. In chapter 4 of its BUR, the Party outlined relevant information, including on how enhanced ambition might be facilitated. The TTE commends the Party for reporting this information.

65. Maldives provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. Since 2012, Maldives has had an agreement with the Government of Japan on establishing Joint Crediting Mechanism projects. Maldives documented two such projects approved by its designated national authority. These two projects generated emission reductions estimated at 155 t CO<sub>2</sub> eq in 2019. The statistics reported on Joint Crediting Mechanism projects in the BUR include total projects, sectors covered and quantity of certified emission reductions issued for Maldives.

66. Maldives reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Maldives is in the process of developing and designing a domestic MRV system for mitigation actions (see chaps. 2 and 7 of the BUR and tables 47 and 48 of its annex). The Party reported that it is working with partners, including under the CBIT in preparing for implementing the ETF, to design a comprehensive domestic MRV system for mitigation. During the technical analysis, the Party provided details on its plans to enhance domestic MRV, including its own recommendations for bridging capacity gaps in coordination, staffing, stakeholder consultation, regulatory frameworks and reporting.

67. The TTE noted that the transparency of the information reported on mitigation actions could be further enhanced by addressing the areas noted in paragraphs 56 and 65 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**

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

69. Maldives clearly reported information on constraints and gaps, and related financial, technical and capacity-building needs in accordance with decision 2/CP.17, annex III, paragraph 14. In its BUR, Maldives identified its small size and lack of access to alternative energy as constraints. In table 26 of the BUR, Maldives reported on gaps and challenges in the existing MRV system in terms of technical capacities with respect to legal, institutional and procedural arrangements; the availability and management of GHG data for the system; and indicators for mitigation actions. With regard to the GHG inventory, the Party noted that some of the key data needed were not available or had not been collected, while some of the collected data were not in a usable format. Other gaps identified related to three needs: to establish formal arrangements, including legal agreements, with relevant sectors for data-

sharing; to gain access to established platforms for data collection; and to obtain clear mandates for data collection, handling and analysis.

70. In table 25 of the BUR, Maldives reported on its financial, technical and capacity-building needs in the areas of adaptation, including building climate resilience in infrastructure, meteorology, health, tourism, agriculture and water security; mitigation, including enhancing the quality of the GHG inventory for the energy sector; and transparency, including enhanced reporting on adaptation, mitigation and the GHG inventory. The Party also reported that it would receive support under the CBIT aimed at strengthening its capacity to implement a formal MRV system and enhancing the capacity of its institutions to monitor and evaluate adaptation actions.

71. Table 27 of the BUR includes information on the expected outcomes and activities for tracking the NDC and mitigation actions, while table 28 shows information on tracking support received under the CBIT.

72. Maldives noted that its gaps and constraints are primarily in the areas of tracking the progress of implementation of its mitigation actions and using the 2006 IPCC Guidelines to prepare its GHG inventory. With respect to adaptation and resilience, the Party identified mostly financial needs and some capacity-building needs within sectors such as infrastructure, coastal protection, agriculture, fisheries, water and health. With regard to the implementation of mitigation actions and the Party's NDC, financial needs were identified in the areas of reducing GHG emissions, switching to renewable energy sources and improving waste management systems in the health-care sector.

73. The Party reported in table 5 of the BUR that its financial, technical and capacity-building needs related to preparing for implementing the ETF are in the areas of adaptation and climate resilience, tracking the progress of implementation of mitigation actions and its NDC, and reporting related to the ETF.

74. Maldives 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 Maldives reported that it received financial support from the GEF, which included allocation for preparing both its first BUR (USD 342,000) and its NC2 (USD 480,000). The information reported indicates that Maldives received capacity-building and technical support from UNEP to facilitate its use of the 2006 IPCC Guidelines for preparing its GHG inventory. In tables 19–22 of the BUR, the Party reported on donor-funded adaptation, mitigation and cross-cutting projects and on the overall climate finance landscape, including donor and own contributions. The Party indicated that about 30 per cent of donor-funded climate support was allocated to adaptation, while 59 per cent was allocated to mitigation and the remaining 11 per cent was allocated to cross-cutting efforts. Table 23 of the BUR outlines information on non-monetized capacity-building and technology transfer support received from bilateral and multilateral donors for adaptation, mitigation and cross-cutting activities.

75. Maldives 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. Tables 5 and 25 of the BUR identify technology transfer needs in areas such as integrated national systems for disaster management information, communication and coordination, solar water heaters and meteorological services.

## **5. Any other information**

76. The BUR includes a chapter entitled "Other Information" that describes the Party's transformational policy initiatives to address climate change. These initiatives include the National Spatial Plan for 2020–2040, which aims to bring about decentralized development through connectivity and accessibility, particularly in the national transportation network. Other initiatives include building climate-resilient communities, leading the international initiative on climate-smart and climate-resilient islands that was developed to support SIDS, and protecting biosphere reserves to address biodiversity loss.

## D. Identification of capacity-building needs

77. In consultation with Maldives, 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) Collecting AD for agriculture and LULUCF sectors to estimate emissions and sinks from agriculture and land-based activities, including forestry, and applying IPCC methods for this sector;
  - (ii) Applying IPCC methodologies and EFs to quantify CO, NO<sub>x</sub>, NMVOCs and SO<sub>x</sub> emissions using existing fuel consumption AD;
  - (iii) Collecting data to enable the application of the sectoral approach to estimate CO<sub>2</sub> emissions from fuel combustion for 1994–2010;
  - (iv) Applying the relevant methodologies and the assumptions required to estimate emissions from HFC use in refrigeration and air-conditioning systems;
  - (v) Collecting data and using splicing techniques to compile AD for the inventory for the entire time series;
  - (vi) Collecting data for estimating emissions associated with marine bunker fuels;
- (b) In the area of mitigation actions and their effects:
  - (i) Improving progress monitoring and reporting, enabling the best use of existing data collection mechanisms and strengthening relevant skills, where needed;
  - (ii) Enhancing the technical and managerial skills of relevant government staff (and, possibly, non-government staff) in respect of data collection and reporting;
  - (iii) Engaging all relevant stakeholders through consultations with a view to eliciting and taking into consideration their input, thus increasing their buy-in;
  - (iv) Improving coordination of the MRV process by incorporating contributions from all relevant governmental agencies and non-governmental entities;
  - (v) Improving the technical skills of government officials to enable them to conduct a review of the existing regulatory framework, with the aim of streamlining and complementing existing laws and regulations and strengthening related governmental processes and entities;
  - (vi) Improving the data collection process by enabling all stakeholders (i.e. all public and private power producers) to provide all relevant data in a consistent and timely manner as part of the effort to establish a systematic data collection system;
  - (vii) Using collected data in reporting in accordance with the relevant guidelines (i.e. when establishing baselines associated with mitigation actions or for QA/QC processes related to the GHG inventory);
  - (viii) Improving government modalities for collecting data from the transport sector, including modalities to collect information beyond basic data (e.g. number of vehicles) that will support the establishment of baselines;
  - (ix) Reporting and classifying information on the progress of a broad range of projects and the steps taken (i.e. the various projects funded by different donors and projects associated with different reporting schemes, especially those without a quantified goal);
  - (x) Understanding the type of information (methodologies, processes and targets) to be reported with regard to market-based actions and the approaches for reporting information on market-based mechanisms and the associated emission reduction units;
- (c) In the area of needs and support:
  - (i) Categorizing and tracking climate finance data, including training on related methodologies;

- (ii) Costing and quantifying financial needs;
- (iii) Sharing best practices with similar countries.

78. The TTE noted that, in addition to those identified during the technical analysis, in its BUR (tables 5 and 25), Maldives reported several capacity-building needs related to the ETF, covering the following areas:

- (a) GHG inventory preparation;
- (b) The reporting of mitigation actions and tracking of the NDC;
- (c) Adaptation to climate change, and climate resilience;
- (d) Transparency reporting.

### III. Conclusions

79. The TTE conducted a technical analysis of the information reported in the first BUR of Maldives 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; 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 the Party that enabled the TTE to gain a better understanding of national GHG emissions by sources and removals by sinks, mitigation actions and their effects, and constraints and gaps, and related technology, financial, technical and capacity-building needs. The TTE concluded that the information analysed is mostly transparent. Overall, the TTE found that the information provided in Maldives' first BUR is well organized, detailed, transparent and consistent in most areas in respect of the UNFCCC reporting guidelines on BURs. The TTE commends the Party for its efforts.

80. Maldives reported information on the institutional arrangements relevant to the preparation of its BURs. The Climate Change Department of the Ministry of Environment coordinated the preparation of the first BUR. The Climate Change Department collaborated with multi-stakeholder working groups when preparing the BUR and has taken significant steps to create institutional arrangements that allow for the sustainable preparation of BURs. Maldives is working with partners on designing a comprehensive MRV system for mitigation actions that also complies with the ETF.

81. In its first BUR, submitted in 2019, Maldives reported information on its national GHG inventory for 2011–2015. This included GHG emissions of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O for all relevant sources. The inventory was developed on the basis of the tier 1 methodology from the 2006 IPCC Guidelines, while in some cases the IPCC good practice guidance was applied, as appropriate. The total GHG emissions for 2015 were reported as 1,536.04 Gg CO<sub>2</sub> eq (excluding LULUCF). The 2011 inventory was updated in the BUR but the 1994 inventory was not, as data were not available. The Party reported that while the emission estimates for inventories for 2001–2010 used the reference approach only, the inventories for 2011–2015 included information on both sectoral and reference approaches. Four key categories and main gases were identified, namely energy industries, water-borne navigation, civil aviation and road transportation (for liquid fuels and CO<sub>2</sub>), in terms of level and trend during the key category analysis. Estimates of fluorinated gases were not provided owing to difficulties in obtaining the necessary data, as clarified by the Party in the BUR. Maldives did not estimate emissions and sinks from AFOLU as there is no AFOLU sector in the country. Other gases emissions, including CO, NO<sub>x</sub>, NMVOCs and SO<sub>x</sub>, were reported as “NE”.

82. Maldives reported information on mitigation actions and their effects in both tabular and narrative format, including emission reduction targets and the baseline and mitigation scenarios for 2010–2030, and framed its national mitigation planning and actions in the

context of its NDC targets. The mitigation actions focus on improving energy efficiency and promoting renewable energy sources for the energy sector and establishing waste-to-energy plants for the waste sector. By 2030, the largest anticipated GHG emission reductions from energy and waste sector actions amount to 136,113 and 11,617 t CO<sub>2</sub> eq per year, respectively. Maldives reported the co-benefits of its mitigation actions, including helping to phase out compact fluorescent lamps (which include trace levels of mercury), attracting investment for mitigating the increased future capacity of power generation, and increasing energy security. Maldives also reported information on its international market mechanisms and MRV arrangements. During the technical analysis, the Party noted that it requires capacity-building in several areas in order to improve its reporting on mitigation actions.

83. Maldives reported information on key constraints, gaps and related needs, including in the areas of adaptation and resilience, implementation of mitigation actions and preparation of GHG inventories, as well as other gaps relevant to institutional arrangements. Information was reported on the technical, technology transfer and capacity-building support received, including grants and concessional loans from donors and bilateral support from other countries for adaptation and mitigation activities and projects on cross-cutting issues. The Party also reported that it received financial support of approximately USD 342,000 from the GEF for preparing its first BUR. The Party further reported information on technology needs and the transfer of technology received, including information on non-monetized capacity-building and technology transfer support received from bilateral and multilateral donors.

84. The TTE, in consultation with Maldives, identified the 19 capacity-building needs listed in chapter II.D above and needs for capacity-building that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. Maldives identified the following as priority capacity-building needs:

- (a) Applying the relevant methodologies and the assumptions required to estimate emissions from HFC use in refrigeration and air-conditioning systems;
- (b) Improving progress monitoring and reporting, enabling best use of existing data collection mechanisms and strengthening relevant skills where needed;
- (c) Enhancing the technical and managerial skills of relevant government staff (and, possibly, non-government staff) in respect of data collection and reporting;
- (d) Engaging all relevant stakeholders through consultations with a view to eliciting and taking into consideration their input, thus increasing their buy-in;
- (e) Improving coordination of the MRV process by incorporating contributions from all relevant governmental agencies and non-governmental entities;
- (f) Improving the technical skills of government officials to enable them to conduct a review of the existing regulatory framework, with the aim of streamlining and complementing existing laws and regulations and strengthening related governmental processes and entities;
- (g) Improving the data collection process by enabling all stakeholders (i.e. all public and private power producers) to provide all relevant data in a consistent and timely manner, as part of the effort to establish a systematic data collection system;
- (h) Using collected data in reporting in accordance with the relevant guidelines (i.e. when establishing baselines associated with mitigation actions or for QA/QC processes related to the GHG inventory);
- (i) Improving government modalities for collecting data from the transport sector, including modalities to collect information beyond basic data (e.g. number of vehicles) that will support the establishment of baselines;
- (j) Categorizing and tracking climate finance data, including training on related methodologies;
- (k) Costing and quantifying financial needs;
- (l) Sharing best practices with similar countries.

## Annex I

## Extent of the information reported by Maldives 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 Maldives**

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Maldives submitted its first BUR in November 2019; the GHG inventories reported are for 1994 and 2001–2015.
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established in the latest UNFCCC guidelines for the preparation of NCs from non-Annex I Parties approved by the Conference of the Parties or those determined by any future decision of the Conference of the Parties on this matter.	Yes	Maldives used a combination of the 2006 IPCC Guidelines and the IPCC good practice guidance.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Yes	The Party reported that it updated its 2011–2015 GHG inventories using the 2006 IPCC Guidelines and used the reference approach to update AD in order to estimate emissions from fuel combustion activities for 2001–2010.
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;	No	Comparable information was not reported. The Party reported that it does not have a large-scale agriculture and husbandry sector and that there are no large forests (which could be cleared for land use); therefore, it does not estimate emissions from AFOLU.
	(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.	Partly	The Party reported a consistent time series for 2011–2015 on the basis of sectoral data, and the reference approach was used to report energy sector emissions for 2001–2010. The time series reported in the BUR did not include 1994–2000.
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	Partly	The Party reported summary information tables of previous inventories for the 2011 inventory year included in the



<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	information tables of inventories for previous submission years (e.g. for 1994 and 2000).		NC2. The information on 1994 that was reported in the NC1 is not reported in tabular format; however, the total emissions for 1994 are provided as text in the relevant GHG inventory chapter.
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of a national inventory report 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 9.1.
	(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 9.1.
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	NA	
Decision 17/CP.8, annex, paragraph 12	Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.	Yes	
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.	Yes	
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO <sub>2</sub> ;	Yes	
	(b) CH <sub>4</sub> ;	Yes	
	(c) N <sub>2</sub> O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	Yes	
	(a) HFCs;	Yes	The Party reported total HFC emissions as "NE" in the summary tables in annex 9.1 to the BUR. The emissions for categories 2.C and 2.E were reported as "NO", those for category 2.F as "NE" and those for other categories as "NA".
	(b) PFCs;	Yes	The Party reported total PFC emissions as "NO" in the summary tables in annex 9.1 to the BUR. The emissions for

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	(c) SF <sub>6</sub> .	Yes	categories 2.C, 2.E and 2.F were reported as “NO” and those for other categories as “NA”. The Party reported total SF <sub>6</sub> emissions as “NO” in the summary tables in annex 9.1 to the BUR. The emissions for categories 2.C, 2.E and 2.F were reported as “NO” and those for other categories as “NA”.
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as:		
	(a) CO;	Yes	The Party reported CO emissions as “NE” in the inventory summary tables in annex 9.1 to the BUR.
	(b) NO <sub>x</sub> ;	Yes	The Party reported NO <sub>x</sub> emissions as “NE” in the inventory summary tables in annex 9.1 to the BUR.
	(c) NMVOCs.	Yes	The Party reported emissions of NMVOCs as “NE” in the inventory summary tables in annex 9.1 to the BUR.
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO <sub>x</sub> , and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	Yes	The Party reported SO <sub>x</sub> emissions as “NE” in the inventory summary tables in annex 9.1 to the BUR.
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible, and if disaggregated data are available, to estimate and report CO <sub>2</sub> fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	Yes	
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	No	The Party clarified in the BUR that emissions from marine bunker fuels are reported as “NE”.
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO <sub>2</sub> eq should use the GWP values provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	Yes	The Party used the GWP provided in the AR2.
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no/NA</i>	<i>Comments on the extent of the information provided</i>
	country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Maldives used the 2006 IPCC Guidelines. Tier 1 methodology was used for all sectors.
	(b) Explanation of the sources of EFs;	Yes	
	(c) Explanation of the sources of AD;	Yes	
	(d) If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:	NA	
	(i) Source and/or sink categories;		
	(ii) Methodologies;		
	(iii) EFs;		
	(iv) AD;		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1 and 2 of the guidelines annexed to decision 17/CP.8 in reporting its national GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information that is as complete as possible. 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	
	(b) Underlying assumptions;	Yes	
	(c) Methodologies used, if any, for estimating these uncertainties.	Yes	

*Note:* The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paras. 3–10 and 41(g). Further, as per para. 3 of those guidelines, non-Annex I Parties are to submit updates of their national GHG inventories in accordance with paras. 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8. The scope of such updates should be consistent with the non-Annex I Party's capacity and time constraints and the availability of its data, as well as the level of support provided by developed country Parties for biennial update reporting.

Table I.2

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

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Yes	
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Yes	Information on names and descriptions of the mitigation actions are included in the BUR.
	(b) Information on:		
	(i) Methodologies;	Yes	
	(ii) Assumptions;	Yes	
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Partly	Maldives reported completed mitigation actions as “NA” or left the relevant entry blank. For two ongoing mitigation actions (the Preparing Outer Islands for Sustainable Energy Development project and the Accelerating Sustainable Private Investment in Renewable Energy project), the Party classified the steps taken as being in phase 1, 2 or 3. For the other ongoing mitigation actions (FAHI-ALI programme, Standard Labelling Programme, Greater Male Environmental Improvement and Waste Management Project and Islands Waste-to Energy Project), Maldives either did not include information on the steps taken or envisaged to achieve the actions or included limited information in this regard.
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Yes	Maldives reported on the status of all mitigation actions, classifying them as completed or ongoing.
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Yes	

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Yes	
	(e) Information on international market mechanisms.	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 Maldives**

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on:		
	(a) Constraints and gaps;	Yes	
	(b) Related financial, technical and capacity-building needs.	Yes	
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide:		
	(a) Information on financial resources received, technology transfer and capacity-building received;	Yes	
	(b) Information on technical support received from the GEF, Parties included in Annex II to the Convention and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.	Yes	
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on:		
	(a) Nationally determined technology needs;	Yes	
	(b) Technology support received.	Yes	

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

## Annex II

### Reference documents

#### A. Reports of the Intergovernmental Panel on Climate Change

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

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

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

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

#### B. UNFCCC documents

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

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

---