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Technical analysis of the second biennial update report of Namibia submitted on 10 November 2016

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 (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, were to submit their first biennial update report (BUR) by December 2014. Further, paragraph 41(f) of that decision states that non-Annex I Parties shall submit a BUR every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. As mandated, the least developed country Parties and small island developing States may submit BURs at their discretion. This summary report presents the results of the technical analysis of the second BUR of Namibia conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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Contents

I. Introduction and process overview

A. Introduction

1. The process of international consultation and analysis (ICA) consists of two steps: the technical analysis of the submitted biennial update report (BUR), resulting in a summary report for each BUR analysed; followed by a workshop for the facilitative sharing of views under the Subsidiary Body for Implementation.

2. According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. Further, paragraph 41(f) of that decision states that non-Annex I Parties shall submit a BUR every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report.

3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to be conducted for non-Annex I Parties commencing within six months of the submission of the Parties' first BURs. 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. Namibia submitted its first BUR on 2 December 2014, which was analysed by a team of technical experts (TTE) in the first round of technical analysis of BURs from non-Annex I Parties, conducted on 18–22 May 2015. After the publication of its summary report, Namibia participated in the first workshop for the facilitative sharing of views, convened in Bonn, Germany, on 20–21 May 2016.

5. This summary report presents the results of the technical analysis of the second BUR of Namibia undertaken by the 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. Namibia submitted its second BUR on 10 November 2016.

7. The technical analysis of the BUR took place from 22 to 26 May 2017 in Bonn, Germany, 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: Mr. Rodrigue Abourou-Otogo (former member of the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) from Gabon), Ms. Laurence Ahoussou (member of the CGE from Canada), Mr. Kamal Djemouai (former member of the CGE from Algeria), Mr Jacques Kouazounde (Benin), Ms. Sarah Kuen (European Union). Mr. Abourou-Otogo and Ms. Kuen were the co-leads. The technical analysis was coordinated by Ms. Veronica Colerio and Ms. Kyoko Miwa (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 Namibia engaged in consultation[1] on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Namibia's second BUR, the TTE prepared and shared a draft summary report with Namibia on 10 August 2017 for its review and comment. Namibia, in turn, provided its feedback on the draft summary report on 29 August 2017.

9. The TTE responded to and incorporated the Party's comments referred to in paragraph 8 above and finalized the summary report in consultation with Namibia on 31 October 2017.

[1] This consultation was conducted through teleconferencing.

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 chapter II.B below);

(b) A technical analysis of the information reported in the BUR, specified in the "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention" (hereinafter referred to as the UNFCCC reporting guidelines on BURs) (decision 2/CP.17, annex III), and any additional technical information provided by the Party concerned (see chapter 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 chapter II.D below).

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

B. Extent of information reported

12. The elements of information referred to in paragraph 10(a) above include: the national greenhouse gas (GHG) inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and the progress made in their implementation; information on domestic measurement, reporting and verification (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 12 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 reporting on each of the required elements are provided in annex I.

14. The TTE notes improvements in the reporting in the second BUR compared with the first BUR. Information on GHG inventories, mitigation actions and their effects, needs and support reported in the second BUR demonstrates that the Party has taken into consideration the areas for enhanced transparency noted by the TTE in the summary report on the technical analysis of its first BUR. These include: the provision of updated activity data used for all estimated categories of the GHG inventories; detailed descriptions of individual mitigation actions covering the sectors industrial processes and product use (IPPU), agriculture, forestry and other land use (AFOLU) and waste, in addition to the energy sector; and explanations on the challenges to develop a domestic MRV system. Regarding the areas for enhanced transparency noted by the TTE in the summary report of the technical analysis in the context of the first BUR that were not addressed in the second BUR, Namibia identified these as areas for enhancing national capacity.

C. Technical analysis of the information reported

15. The technical analysis referred to in paragraph 10(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 technical analysis focused 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 Intergovernmental Panel on Climate Change (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 national communications, including, among other things, information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis. In their national communications, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5.

19. In accordance with decision 17/CP.8, annex, paragraph 3, Namibia reported in its second BUR the following information on national circumstances: a description of national development priorities, objectives and circumstances, including demography, geography, climate, economic and social profiles that may affect the Party's ability to deal with mitigating and adapting to climate change. The TTE noted that, instead of providing the information in a tabular format as encouraged by decision 17/CP.8, annex, paragraph 4, Namibia used illustrative formats, such as graphs, to present some of the information, such as that on population. Namibia also provided a summary of relevant information by sector and key industries.

20. According to the Namibia Population and Housing Census 2011, the total population of Namibia in 2011 was estimated at 2,113,077, growing by 15.4 per cent since 2001. Fifty-seven per cent of the population lived in rural areas and depended on subsistence agriculture. However, the population of the urban areas has been showing a significant increasing trend (an annual rate of 4.0 per cent), growing by 50.0 per cent since 2001. Since 2010, real gross domestic product (GDP) growth rate was relatively stable; however, in the BUR, Namibia indicates a downward trend in the most recent year, from 6.5 per cent in 2014 to 5.3 per cent in 2015. The GDP at current prices amounted to 146,619 million Namibia dollars (NAD) in 2015.[2] The main contributor to national GDP was the tertiary industries (58.3 per cent) followed by the primary industries with 18.7 per cent and the secondary industries with 15.8 per cent. The most dominant energy source in Namibia is imported liquid fuel (mainly petrol and diesel) which accounts for about 63 per cent of total net energy consumption, followed by electricity accounting for 17 per cent of total net energy consumption. Coal covers 5 per cent of energy consumption, and the other sources of energy are solar, wood and wind energy, among others. Currently, Namibia's electricity demand stands at 597 MW, and this is growing at an annual rate of 3 per cent. Namibia currently has three major power generation stations with an installed capacity of about 500 MW, and imports electricity from South Africa and other neighbouring countries to fill the gap created by demand.

21. In its second BUR, Namibia explained that its policy framework for its long-term development plan is embedded in its Vision 2030 document.[3] The National Development Plan (NDP) has been periodically updated to translate the vision into implementation

[2] 1 USD = 12.759 NAD, according to the World Bank official exchange rate (local currency unit per USD, period average). See http://data.worldbank.org/indicator/PA.NUS.FCRF.

[3] Government of the Republic of Namibia (GRN). 2004. *Namibia Vision 2030: Policy framework for long-term national development*. Windhoek, Namibia.

strategies. Namibia's effort to integrate climate policies into the development policy framework and to establish supportive institutional arrangements is ongoing.

22. Namibia described in its second BUR the existing institutional arrangements for the preparation of its national communications and BURs. The description covers key aspects of the institutional arrangements. Reporting on the thematic areas was outsourced. The Climate Change Unit (CCU) in the Department of Environmental Affairs of the Ministry of Environment and Tourism (MET) is responsible for overseeing the entire process through to approval of the final report by all stakeholders. As a formalized and multi-sectoral committee, the National Climate Change Committee (NCCC), established in 2001 by MET, provides the necessary support to CCU.

23. Sectoral MRV activities rest with the respective ministries through their relevant directorates. CCU, supported by NCCC, is responsible for the implementation and coordination of sector-specific and cross-sectoral activities. These existing arrangements have been followed on an ad-hoc basis for the preparation of previous national communications. However, in view of the requirement for the national communication and the biennial update reporting, Namibia recognizes the need for a permanent structure to ensure the sustainable production and the quality of these reports. The TTE notes that Namibia transparently reported its institutional arrangements and how it strives to ensure the preparation of future BURs on a continuous basis.

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

24. As indicated in table 1 in annex I, Namibia 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 "Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention", contained in the annex to decision 17/CP.8.

25. Namibia submitted its second BUR in 2016 and the GHG inventory reported is for the year 2012, which is consistent with the reporting time frame. Namibia submitted a second national inventory report (NIR2) on a stand-alone basis as an accompanying document to the second BUR. The NIR2 provides the information on GHG emissions by sources and removals by sinks for a full time series for the period 2000 to 2012 for all reported categories. The TTE commends Namibia for the effort and improvements made in the 2012 inventory.

26. GHG emissions and removals for the 2012 inventory were estimated using methodologies from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines) and the IPCC Inventory Software.[4]

27. The information on which methodologies and tiers were used, emission factors (EFs), activity data (AD) and their sources was reported transparently in the NIR2. The TTE noted that Namibia applies a tier 2 method or a mix of tier 1 and tier 2 for some key categories, such as enteric fermentation, and for land-use categories identified as key, uses the Agriculture and Land Use National Greenhouse Gas Inventory Software from Colorado State University. The TTE commends Namibia for its effort to apply higher tier methods.

28. The total GHG emissions for 2012 reported in the BUR is consistent with the information reported in the annexes to the NIR2, including and excluding land use, land-use change and forestry (LULUCF), amounted to 5,223 and 12,684.6 kilotonnes of carbon dioxide equivalent (kt CO_2 eq) respectively, an increase of 130.6 and 39.0 per cent, respectively, since 2000. The GHG emissions excluding LULUCF reported for 2012 include 3,394.5 kt CO_2, 274.1 kt CH_4 and 11.4 kt nitrous oxide (N_2O). In its second BUR, Namibia did not report emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6), and the second BUR does not include table 2, which, according to decision 2/CP.17, annex III, paragraph 9, should be included in the information reported on GHG inventories. During the technical analysis, the Party clarified that the AD and information required to choose the EFs of fluorinated gases (F-gases) are not available. Namibia explained that there is no existing system to collect AD for F-gases

[4] Available at http://www.ipcc-nggip.iges.or.jp/software/.

for inventory purposes; however, it intends to compile emissions when the AD become available. In its feedback to the draft summary report, Namibia indicated that it will consider including table 2, for reporting F-gases, in its next submission. The TTE noted that the provision of a summary table using notation keys for the F-gases would enhance the transparency of the GHG inventory. Other emissions reported include 36.3 kt NOx, 369.2 kt carbon monoxide, 21.6 kt non-methane volatile organic compounds and 2.9 kt sulphur dioxide in 2012.

29. The summary tables contained in annex to the NIR provide the numerical data of GHG inventories of Namibia for the period between 2000 and 2012. Table 2.5 of the NIR shows the categories that are reported using the notation keys "not applicable" (NA), "not estimated" (NE), "not occurring" (NO) or "estimated elsewhere" (EE) in the inventory of 2012. Further, when comparing table 2.5 with the summary tables in the annex to the NIR, many of the cells that are reported as "zero" in the summary tables in the annex to NIR should actually be reported as "NA", "NE" or "NO". The TTE considers that the use of notation keys in the summary tables will increase the transparency of the reporting of the GHG inventory in the NIR. In its feedback to the draft summary report, Namibia explained that "zero" appears in place of notation keys because a direct copy of the estimation sheet from the IPCC Inventory Software was used for the reporting in the second BUR. The Party indicated its intention to consider the use of notation keys in its future submissions.

30. Namibia reported a summary table of emissions/removals in the LULUCF sector (table 2.55 in the second BUR) in accordance with the 2006 IPCC Guidelines. Namibia also provided additional explanations and tables, for example, the annual changes in areas of land use as used in the land matrix for the years 2000 and 2011 (table 2.49 in the second BUR). The TTE noted that Namibia's second BUR, including table 2.49, provided information comparable with 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 National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines).

31. The shares of emissions that different sectors contributed to the total GHG emissions excluding LULUCF in 2012 are (from annex 13 of the NIR2): energy, 23.4 per cent; industrial processes, 4.1 per cent; agriculture, 71.3 per cent; and waste, 1.3 per cent. LULUCF in Namibia is a net sink (7,461.6 kt CO_2 eq), with the total sink of 25,451.7 kt CO_2 eq offsetting emissions of 17,990.0 kt CO_2 from the LULUCF sector.

32. GHG emissions in 2012 from the energy sector amounted to 2,979 kt CO_2 eq. The TTE noted that it is not clear whether the emission estimates reported in the second BUR cover all fuel types used. The TTE considers that indicating, in tables 4.2 and 4.3 in the BUR, all possible fuels for each category and using the notation key "NO" for the fuels not used in the country would increase the transparency of the BUR and the NIR2 for this sector. In its feedback to the draft summary report, Namibia indicated its intention to consider the use of the notation key "NO" in the tables 4.2 and 4.3 in the BUR during the process of developing its next BUR and national communication.

33. Emissions from the IPPU sector amounted to 523 kt CO_2 eq in 2012, comprising CO_2 emissions from cement and lime production, zinc production, and lubricant use and paraffin wax use. The estimation of CO_2 emissions from cement production was included in the inventory for the first time as cement production started in 2011 (130.4 kt CO_2 eq in 2011 and 231.4 kt CO_2 eq in 2012).

34. For the AFOLU sector excluding LULUCF, GHG emissions are estimated at 9,037.5 kt CO_2 eq, with enteric fermentation, direct N_2O emissions from managed soil and indirect N_2O from managed soil being identified as key categories. CH_4 and N_2O emissions from manure management and biomass burning owing to wildfires, as well as CO_2 from urea application are also reported. The tier 2 method was applied for cattle and dairy cows for both enteric fermentation and manure management, while the tier 1 method was applied for other animal groups. Animal populations, sources of AD, how parameters were developed, and assumption used are explained in the NIR2. The TTE noted that, where the tier 2 method was applied, the provision of the actual values of key parameters in the NIR2 (e.g. feeding situations, gross energy intake, methane conversion factors), would enhance the transparency of the estimates for the sector. In its feedback to the draft summary report,

Namibia indicated its intention to consider providing the information suggested on where the tier 2 method was applied in its next BUR and national communication.

35. For the categories under LULUCF, Namibia reported GHG emissions and removals for 2000–2012. LULUCF is the largest sector in the GHG inventory of Namibia in terms of both CO_2 emissions and removals, with forest land remaining forest land, forest land converted to grassland, and land converted to forest land being the key categories. The overall net removals from the LULUCF sector have decreased from removals of 26,190.6 kt CO_2 in 2000 to 7,461.6 kt CO_2 in 2012. The key contributors of this trend are the continuous decrease of net removals by forest land since 2000.

36. For the waste sector, Namibia reported total emissions of 162 kt CO_2 eq, comprising CH_4 emissions from solid waste disposal sites (SWDS), CO_2, CH_4 and N_2O emissions from incineration and open burning of waste, and CH_4 and N_2O emissions from wastewater treatment and discharge. The TTE noted that the sources of AD used, profiles of waste disposal and management, as well as the estimation methods for SWDS and wastewater treatment and discharge are clearly explained. The TTE noted that including information on the methodology and AD used for estimating emissions from open burning of waste would further enhance the transparency of the inventory. In its feedback to the draft summary report, Namibia indicated its intention to consider providing the information suggested in its next BUR and national communication, although the lack of AD remains a challenge.

37. During the technical analysis, Namibia clarified that recalculations were carried out for the categories where the methodological or AD changes had taken place since the previous inventory, for example: the application of the latest version of the IPCC model published in 2016 (waste sector); and the application of more detailed data on fertilizer (agriculture sector). The second BUR/NIR2 does not provide inventories back to the inventory year of 1994 that was included in the Party's first national communication. Namibia explained that this is because the methodologies and AD used for the 1994 inventory in the first national communication are not consistent with those used for the period 2000 to 2012. In its feedback to the draft summary report, Namibia informed the TTE of its plan to include the inventory years 1995 to 1999 in its next national communication in order to address an issue raised by the TTE of the first BUR. The TTE noted that the transparency of the report could be enhanced by recalculating the GHG inventories back to 1994 by using the methods provided by the 2006 IPCC Guidelines for the time series consistencies and recalculations, and by mapping the categories used under the Revised 1996 IPCC Guidelines and the 2006 IPCC Guidelines.

38. Namibia described the institutional framework for the preparation of its 2012 GHG inventory. MET spearheaded the process of GHG inventory compilation in cooperation with other ministries and stakeholders. The same arrangements used for the previous inventory compilation process were applied, and new stakeholders and data providers were identified in order to move to tier 2 methods for some categories.

39. Namibia reported a key category analysis for both the level of and the trend in emissions. The BUR provides general information on quality assurance/quality control (QA/QC) measures for its GHG inventory process. In the NIR, Namibia implies that even though QA/QC procedures have been followed throughout the inventory process, systematic records as per the 2006 IPCC Guidelines have not been developed owing to the lack of personnel, insufficient capacity and because the inventory management system is still being developed. The TTE noted that Namibia provides the inventory improvement plan in its BUR (section 2.1.11), which addresses various aspects of inventories such as the inventory development and management, QA/QC systems, data collection and refinement and the development of EFs. The TTE commends Namibia for its efforts to improve its inventories.

40. Namibia reported information on CO_2 fuel combustion using both the sectoral and reference approaches. In the second BUR (p. 55), the difference between the reference approach and the sectoral approach for 2012 is 3.8 per cent. Namibia implies that the difference between emission estimates using the reference approach and those with the sectoral approach for some years could be due to the inconsistencies between import-export data of fuels and unrecorded fuels entering the country.

41. Information, including final emission estimates and data sources, was reported for international aviation and marine bunker fuels as a memo item. Namibia indicates that both

activity areas consumed significant amounts of fossil fuel imported to the country. However, the TTE noted that neither the second BUR nor the NIR indicate the methodologies used to estimate these emissions. In its feedback to the draft summary report, Namibia indicated its intention to consider including this information in its next BUR and national communication.

42. Namibia reported information on its use of global warming potential (GWP) values consistent with those provided by the IPCC in its Second Assessment Report based on the effects of GHGs.

43. Namibia reported information on the uncertainty analysis (level) of its national GHG inventory, excluding the forestry and other land use categories. The uncertainty analysis is based on the tier 1 approach and covers all source categories and all direct GHGs. The results obtained, as reported in the BUR, revealed that the overall uncertainty for emissions is 5.9 per cent excluding forestry and other land use for inventory year 2012.

44. In paragraphs 31, 35 and 38 of the summary report of the technical analysis of Namibia's first BUR (FCCC/SBI/ICA/2015/TASR.1/NAM), the TTE noted the areas where transparency of reporting on methodology could be further enhanced. The TTE noted that Namibia took into consideration this area of improvement in its second BUR, and commends the Party for enhancing the transparency of the information reported.

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

45. As indicated in table 2 in annex I, Namibia 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.

46. The information reported provides a clear and comprehensive overview of the Party's mitigation actions and their effects, including its national context. In its second BUR, Namibia frames its national mitigation planning and actions in the context of its intended nationally determined contribution (INDC), aiming at a reduction of about 89 per cent of GHG emissions by 2030 compared with the 'business as usual' (BAU) scenario. The TTE notes that the projected GHG emissions to be avoided in 2030 are expected to reach 20,235 kt CO_2 eq per year according to the measures contributing to mitigation as per the INDC presented in table 3.1 of the BUR, inclusive of sequestration under the LULUCF and compared with the BAU scenario. The INDC envisages mitigation in the AFOLU, energy, IPPU and waste sectors, with the primary reductions anticipated in the AFOLU sector which has a mitigation potential of 18,693 kt CO_2 eq per year in 2030. Reductions from domestically funded actions were estimated to exceed 216 kt CO_2 eq in 2015. Namibia has developed a Climate Change Strategy and Action Plan (CCSAP) for the period 2013–2020 which aims at mainstreaming climate change adaptation and mitigation in national development goals. The strategy guides the implementation of sectoral options, such as the preparation of a renewable energy policy.

47. Namibia reported its main mitigation priorities, as well as a broad summary of mitigation actions per IPCC sector both in textual and in tabular formats, including aggregate estimates of anticipated or achieved GHG reductions in key areas of action (see paras. 49 to 51 below). Namibia also included information on major barriers to implementing the mitigation actions and lessons learned in each sector. For example, Namibia reports in its BUR that implementing mitigation actions in the AFOLU sector is challenging owing to the lack of data and the complexities associated with multiple stakeholders at multiple scales. In the waste sector, Namibia explains that the implementation of mitigation actions requires a high level of administrative and technical capacity and appropriate incentives to encourage industries to reduce or recycle waste rather than dispose of it through traditional channels. The TTE commends Namibia for providing contextual information that facilitates the understanding of the Party's mitigation efforts.

48. The Party also reported a detailed summary of its mitigation actions in tabular format. Consistent with decision 2/CP.17, annex III, paragraph 12(a), Namibia reported in tables 3.2, 3.3, 3.4 and 3.5 of the BUR: the name, description, objective and nature of

mitigation actions or groups of actions; coverage (sector and gases); and quantitative goals and progress indicators. Namibia also reported information on the status of these mitigation actions, the implementing entities, the assumptions and the methodologies used to quantify the results achieved/anticipated, and their results (including estimated GHG reductions) for many activities and co-benefits. In its feedback to the draft summary report, Namibia indicated its intention to further improve the reporting on the status of implementation of mitigation actions in its next BUR. The TTE noted Namibia's efforts to enhance transparency compared with its first BUR, by providing information on quantitative goals for more actions. The TTE noted that Namibia includes the information on methodologies and assumptions in the same column, and for some actions, methodology is indicated but assumptions are not, or vice versa. The TTE noted that the transparency of information could be further enhanced in future BURs by reporting in different columns on methodologies and assumptions; by reporting estimated GHG reductions; and by providing information on the time of completion, or the horizon for implementation, for all mitigation actions In its feedback to the draft summary report, Namibia indicated that it would consider providing this information in its next BUR and national communication, while noting the time constraints on collecting the necessary data for the mitigation actions.

49. Eight mitigation actions were reported for the AFOLU sector, aiming to address emissions from enteric fermentation and from soil degradation, increase afforestation and decrease deforestation, and restore grassland. For example, Namibia reported on its mitigation actions to afforest 5,000 ha per year and reforest 20,000 ha per year with expected removals of 578 kt CO_2 eq per year and 1,779 kt CO_2 eq per year, respectively, in 2030, which will also contribute to a reduction in land degradation. A 75 per cent reduction in the rate of deforestation in 2030 is expected to avoid emissions and to bring co-benefits such as the creation of local employment. These mitigation actions, which mostly consist of policies, are included in the Party's INDC and are largely planned or in the early stages of development. The TTE noted that the GHG reduction estimates provided in the BUR are based on reduction potentials included in the INDC, however, in most cases, Namibia indicated in the second BUR that no methodology for estimating GHG reductions was applied or that such methodologies or assumptions have not yet been identified. The TTE commends Namibia's intention to provide the information on the assumptions or methodologies used to identify the potential emission reductions that were presented in the INDC in its next BUR in order to enhance the transparency of its reporting.

50. Thirty-eight mitigation actions were reported for the energy sector. These actions focus on the shift from fossil fuels to renewable energy sources in energy production, improved energy efficiency and demand-side management to reduce fuel consumption in the road transportation sector. The expected annual GHG emission reductions from the energy sector amount to 972.6 kt CO_2 eq (achieved and measured), with an additional potential of 1,301 kt CO_2 eq per year (conditional) in 2030. They range from policies to programmes, nationally appropriate mitigation action (NAMA) interventions (proposals submitted to the NAMA registry), and projects. The renewable energy policy is one of the main strategies in Namibia's CCSAP and this policy aims at increasing the share of renewable energy sources (hydro, solar, wind and biomass) in electricity production from 33 per cent in 2010 to approximately 70 per cent in 2030. For example, Namibia is working with Angola on the 300 MW Baynes Hydropower Project, expected to be commissioned in 2024, which will increase the renewable energy generation capacity.

51. The Party noted the limited potential for mitigation in the IPPU and waste sectors because of the country's industrialization and population levels. Namibia reported one mitigation action in the IPPU sector, the reduction of emissions from the production of clinker by replacing clinker with extenders. Two waste-to-energy projects are reported in the waste sector. One of the projects aims at transforming 50 per cent of municipal solid waste to electricity and compost in three municipalities. Namibia, in the BUR, noted that successful implementation of waste-to-energy projects depends on effective stakeholder incentives to ensure municipal and industrial waste is brought to the management sites so as to be used as an input to energy generation. Therefore, the TTE considers that capacity-building could be sought for identifying, as part of the design of mitigation actions, the most effective stakeholder incentives.

52. Namibia provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. One of the waste-to-energy mitigation actions consists of the implementation of three clean development mechanism (CDM) projects with a total annual GHG reduction of 7,869 t CO_2 eq.

53. Namibia continues to build and improve its domestic MRV system for mitigation actions and their effects. The Party has reported information on its domestic MRV arrangements, consistent with decision 2/CP.17, annex III, paragraph 13. A Mitigation Working Group (MWG) has been established comprising institutions responsible for collecting and reporting data related to mitigation actions by sector, and data reporting templates have been created for the use of MWG members and consultants. A mitigation action and MRV workshop was held in 2016 for the refinement of data collection templates as part of reporting on mitigation actions and their effects in the second BUR. Further, Namibia reported on the structure of its MRV system based on the voluntary general guidelines for domestic MRV of domestically supported NAMAs contained in decision 21/CP.19. In particular, Namibia outlined the institutional roles and responsibilities regarding data collection and reporting, as well as planned efforts to further formalize the reporting of relevant data, including by establishing memoranda of understanding between relevant institutions.

54. In paragraphs 45 and 46 of the summary report on the technical analysis of Namibia's first BUR (FCCC/SBI/ICA/2015/TASR.1/NAM), the TTE noted where transparency of reporting on assumptions and methodologies to analyse the impacts of mitigation actions could be enhanced. The current TTE noted that Namibia partially took this analysis into consideration in presenting the information on mitigation actions in tables 3.2, 3.3, 3.4 and 3.5 of its second BUR, and commends the Party for enhancing the transparency of the information reported.

4. Cross-cutting domestic measurement, reporting and verification

55. As indicated in table 2 in annex I, Namibia reported in its BUR, in accordance with paragraph 13 of the UNFCCC reporting guidelines on BURs, a description of its domestic MRV arrangements.

56. Namibia presented information in chapter 4 on its ongoing work in designing and establishing a domestic MRV system. Namibia already has its own monitoring and evaluation process in place for the implementation of NDPs, and reports that it is currently making effort to integrate climate change MRV elements into the existing monitoring and evaluation process. During the technical analysis week, Namibia clarified that at the time of submission of its second BUR the MRV system was not yet in place.

57. The process for the preparation of BURs on a continuous basis began under the responsibility of the MET (see para. 25 above), and the NAMA MRV process is now designed and proposed in the submission of the Party's first NAMA to the UNFCCC. Regarding the MRV of needed and received support, information is provided by the National Planning Commission and the Ministry of Finance. The TTE noted that those three activities represent the structure and organization of the domestic MRV system of Namibia, the establishment and functioning of which is ongoing.

58. Namibia also reported its effort to enhance the capacity to participate in REDD-plus,[5] which includes: the development of a system for MRV on the changes in forest cover and related carbon emissions; and participation in the REDD-plus capacity-building project for the SADC region.

[5] In decision 1/CP.16, paragraph 70, the Conference of the Parties encouraged developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities: reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks.

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

59. As indicated in table 3 in annex I, Namibia 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.

60. Namibia's BUR provided evidence of the efforts made by the Party to implement the Convention (such as on GHG inventory preparation, designing and implementing mitigation actions, and establishing a domestic MRV system). The TTE noted that significant progress has been made since the first BUR in enhancing the transparency of the reported information. However, many of the gaps, barriers and needs that were identified in the first BUR and the third national communication have not yet been overcome. Namibia indicated in the second BUR that in the absence of tangible support, the capacity-building needs remain as already identified in the first BUR; that is, the Party has not been able to make significant progress on them. For example, the funding for capacity-building of national experts has been covered by the grant provided by the Global Environment Facility (GEF); however, it was marginal and could be allocated only for the area of reporting, namely for the preparation of the BUR, mainly of GHG inventories and the assessment of outcomes of mitigation actions.

61. In the second BUR, Namibia identified a number of recurrent barriers that it faced during the preparation of the second BUR, including: the lack of capacity for coordinating the institutions involved; inadequate institutional and technical skills; the difficulty of maintaining a motivated staff; staff availability within collaborating institutions; the absence of incentives and adequate funds to develop and maintain the system to develop national communications and BURs; and staff turnover.

62. Regarding developing the system and building domestic capacity for responding to the MRV requirements under the UNFCCC, Namibia in the second BUR indicated challenges related to the need for formalizing the roles and responsibilities of the institutions involved and to the lack of data as well as resources for data collection and management. The collection of data for the compilation of GHG inventories has not been formalized in the system. Currently, the establishment of a memorandum of understanding to formalize data collection is being sought between CCU and the Namibian Statistics Agency, which has the legal framework to require data, or, if this is not possible, between CCU and each ministry.

63. Concerning the update of the GHG inventory for the continuous reporting of the BURs, Namibia involved more national experts and tasked the capacity-building for those experts to external consultants through, among other things, workshops. However, the Party indicated in the second BUR that the preparation of the GHG inventory is still a very difficult exercise because resources and human capacities continue to be a limiting factor.

64. Namibia also indicated in the second BUR the challenge presented by the lack of capacity to undertake mitigation assessment. One of the barriers related to the design and implementation of mitigation actions that Namibia indicated in the second BUR is a lack of data that are necessary to assess GHG emission reductions potential/achieved and to assess the sustainable development co-benefits of mitigation actions.

65. Namibia indicated that financial support for enhancing the technical capacity to implement mitigation projects remains a void that should be filled urgently. The TTE noted that Namibia reported transparently, in tabular format (BUR, table 5.1), a list of the technical and capacity-building needs as well as support received and additional support needs. The TTE noted that table 5.1 indicates that no additional support is reported since the first BUR for the activities listed, such as the promotion of renewable energy, including solar power (e.g. for a small scale and a large scale power plant); energy efficiency programmes for buildings and other areas; and afforestation, reforestation and reducing emissions from deforestation and forest degradation. However, technical assistance for the assessment of the degradation of forests was received from the German Development Bank through GIZ. Namibia stressed the urgent need for a substantial amount of funding to support the implementation of mitigation actions. Namibia further stressed that the amounts and timing are important aspects to take into consideration, especially for the

implementation because such mitigation actions are aligned with the country's development strategy and agenda.

66. In terms of technology needs and needs for technology transfer, Namibia, in the BUR, explained that a study on its technology needs and needs for technology transfer, related to mitigation and adaptation actions, is ongoing. Therefore, the Party indicated the need for support for in-depth technology needs assessments for mitigation. Table 5.3 of the second BUR includes the required needs for technology transfer for mitigation and adaptation projects. However, for most of the projects, mainly those relating to renewable energy deployments, waste to energy, and transportation, specific technology needs were not indicated.

67. In terms of financial support, Namibia reported in table 5.2 of the BUR, the information on status, source of the support, the support needed and received (in United States dollars), and additional support needed. However, the TTE noted that it is not clear what the status in table 5.2 indicates. For example, in the first BUR, the activity "barrier removal to RE program in 2005" was indicated as completed; however, the same amount for the same activity is again listed as completed in table 5.2 of the second BUR. The TTE noted that reporting clearly what "status" means would increase the transparency of future reports. Furthermore, the TTE noted that GEF and the World Bank are the two institutions listed as multilateral donors, and other channels are indicated as "government". In its feedback to the draft summary report, Namibia clarified that the "government" channel of funding represents funds provided by the Government of Namibia from its own resources to co-finance the implementation of the GEF-funded projects. The Party further indicated that clarification on the amount of these funds would be provided in future reports. In many of the activities where two donors are indicated, the sum of the amount received exceeds the amount needed; however, no explanation is provided on how those amounts relate to each other. For example, for the completed activity "barrier removal to Namibian renewable energy programme Phase I", support needed was USD 2,600,000, while support received is reported as USD 2,600,000 from GEF and USD 4,730,000 from government fund. The TTE considered that the transparency of the information reported could be further enhanced by clarifying the relationship between the amounts received from the GEF and "government" in table 5.2.

68. Namibia had already highlighted its difficulties in compiling information on support received due to the lack of a centralized database for all support received for climate change activities (FCCC/SBI/ICA/2015/TASR.1/NAM, para. 49). Therefore, the TTE reiterated the consideration in the summary report of the technical analysis of the first BUR that Namibia could make further improvements in tracking financial, technical and capacity-building support received with additional capacity-building measures, such as those related to methodologies for tracking financial support. The TTE also noted that the activities listed in table 5.2 of the second BUR are almost the same as the activities reported in the first BUR, and for some cases such as "CBEND biomass electricity generation plant", it is not clear whether or not the information of the support received had been updated since the first BUR. The TTE noted that the transparency of the report could be further enhanced by providing the years for which the financial support was received. In its feedback to the draft summary report, Namibia informed the TTE of its plan to improve the reporting of this information.

69. Concerning the support for the preparation and the submission of the BUR, Namibia reported that each BUR preparation had received from the GEF USD 352,000 and that the Government of Namibia provided in-kind support to the value of USD 50,000 for both BURs. An example of technical support that Namibia reported is the Africa workshop on GHG inventory management system organized by the UNFCCC with the IPCC and the GEF and hosted by Namibia in 2016. Since 2014, Namibia is a participant in the "peer-to-peer initiative for the African Region on BUR reports of the International Partnership on mitigation and MRV" funded by GIZ. Under the initiative, participating countries share their experiences and lessons learned in accessing funding and the preparation of BURs. The TTE noted that it is not clear whether the support for many of the activities reported in table 5.2 had been provided since the first BUR or before the first BUR, because the same information is already provided in the first BUR. The TTE noted that the transparency of

the report could be enhanced by indicating the information that has been updated since the previous BUR. In its feedback to the draft summary report, Namibia indicated its intention to further enhance the transparency of its reporting by investigating the information reported in table 5.2 for the preparation of its third BUR.

D. Identification of capacity-building needs

70. In consultation with Namibia, the TTE identified the following capacity-building needs related to the facilitation of the preparation of subsequent BURs and participation in ICA:

(a) Capacity-building to develop BURs continuously, to the required standards and frequency (paras. 23, 39, 61 and 63);

(b) Institutional capacity-building to create an enabling environment to remove barriers and speed up the process of implementing mitigation projects (para. 61);

(c) Capacity-building to enhance work on new mitigation measures and the preparation of project proposals (para. 64);

(d) Continuous institutional and technical capacity-building for different levels and sectors to remove barriers to and facilitate the coordination of the reporting, to the required standards and frequency (paras. 23 and 61);

(e) Institutional capacity-building for data collection, especially the data necessary for the design and implementation of mitigation actions in the AFOLU sector (para. 47);

(f) Institutional capacity-building to deal with complexities to work with multiple stakeholders at different levels when designing and implementing mitigation actions in the AFOLU sector (para. 51);

(g) Institutional capacity-building to identify measures aiming at incentivizing stakeholders to design mitigation actions related to waste to energy (paras. 47 and 51);

(h) Capacity-building to enhance the transparency of the report on mitigation actions for all sectors, by separating methodologies and assumptions used to identify potential emission reductions, and providing quantified information on GHG reductions, as well as information on the time of completion, or the horizon for implementation (paras. 48 and 49);

(i) Urgent enhancement of technical and capacity-building for the implementation of mitigation projects (updated list included in table 5.1, pp. 126–129 of the BUR) (para. 65);

(j) Estimation of GHG emission reductions anticipated from, or achieved through, mitigation actions and policies (paras. 48 and 49);

(k) Local capacity-building to enable the transition to a sustainable domestic MRV system managed and delivered by Namibian public and private sector institutions (p. 121 of the BUR) (paras. 53, 60, 62 and 63);

(l) Capacity-building for reporting GHG inventories, including:

(i) The provision of information on country-specific methods and higher tiers used for the emission estimates, such as country-specific EFs, parameters, assumptions, and models used (para. 34);

(ii) The use of notation keys in the inventory summary tables (paras. 28, 29 and 32);

(iii) Recalculation for the whole time series back to the previous years/national communications (i.e. 1994) ensuring time-series consistency using the methodologies provided by the 2006 IPCC Guidance (para. 37);

(iv) Systematic recording of QA/QC activities (para. 39);

(v) Estimation of F-gases, including the collection of AD by creating a system to collect AD for inventory purposes (para. 28);

(m) Institutional capacity to develop the MRV system, including the formalization of the arrangements, incentivizing ministries to keep the system working, and setting up an archiving system of MRV (para. 62);

(n) Capacity for tracking and reporting on financial, technical and capacity-building support received more transparently and in a tabular format (paras. 67–69).

71. The TTE noted that, in addition to those identified during the technical analysis, Namibia, in section 5 of the BUR, provided detailed, straightforward tables, which cover topics such as reporting, mitigation actions, the national GHG inventory and adaptation. These tables list the gaps, barriers, needs and priority for each of the topics. For example, Namibia explains that it is still facing challenges in developing BURs continuously to the required standards and frequency, and indicates the needs of capacity-building for various aspects including the capacity to obtain data on the GHG emission reductions and the sustainable development co-benefits of mitigation actions, as well as a lack of capacity to conduct assessments (pages. 97 and 123 of the BUR). Table 5.1 of the BUR provides the information on specific areas/activities for which the additional technical and capacity-building are required, and it covers from the areas of BUR reporting, GHG inventory, implementation of mitigation projects, and others, such as: the technical assistance for data collection (e.g. satellite images to produce reliable land-use maps and to generate data on land-use changes over the period 1990 to 2015 at 5-year intervals); the assessment of specific mitigation technologies and the implementation of solar home systems, solar water heaters, photovoltaic pumps; and capacity-building of professionals to support studies and engineers to work in the construction industry, forestry and other sectors. The preparation of a guidebook on the preparation of the BUR, promotion materials for mitigation actions (e.g. waste generation reduction and composting) are also included in table 5.1 of the BUR.

72. The TTE noted that a series of capacity-building needs was identified in the first BUR (FCCC/SBI/ICA/2015/TASR.1/NAM), and in paragraph 56 of the summary report of the technical analysis of Namibia's first BUR the TTE, in consultation with Namibia, identified capacity-building needs. The current TTE noted that those capacity-building needs are still relevant.

III. Conclusions

73. The TTE conducted a technical analysis of the information reported in the second BUR of Namibia in accordance with the UNFCCC reporting guidelines on BURs. The TTE concludes that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs and provides an overview of: national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis; the national inventory of anthropogenic emissions by sources and removal by sinks of all GHGs not controlled by the Montreal Protocol, including an NIR; mitigation actions and their effects, including partial information on 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 Namibia on efforts to develop MRV systems (see para. 56 above); efforts and constraints to collect data and information to develop national GHG inventories (see para. 38 above); an ongoing study on its technology needs and needs for technology transfer related to mitigation and adaptation actions, and constraints and gaps to make progress on those efforts (see para. 66 above); and support received and capacity-building needs. Further, in providing its feedback to the draft summary report, Namibia indicated its intention to enhance the transparency of its reporting of the information highlighted by the TTE; namely, for GHG inventories (see paras. 28, 29, 32, 34, 36, 37 and 41 above), for mitigation actions and their effects (see paras. 48, 49 and 51 above) and for the constraints and the financial support received and capacity-building

needs (see paras. 60 and 67–69 above). The TTE concluded that the information analysed is mostly transparent.

74. Namibia reported information on institutional arrangements relevant for the preparation of BURs. Namibia's effort to internalize climate policies into a development policy framework, and to establish the related institutional arrangements is ongoing. It has taken significant steps to consolidate institutional arrangements that allow for the regular preparation of BURs. These include organizational improvements and knowledge-sharing procedures to facilitate sectoral information transfer. The TTE commends Namibia for the progress made and noted that the efforts to shift from outsourcing to internalizing its MRV system, as outlined in its BUR, would contribute to regular reporting to the UNFCCC.

75. In its second BUR and NIR2, Namibia reported information on its national GHG inventory for the years 2000–2012. This included GHG emissions and removals of CO_2, CH_4 and N_2O for all relevant sources and sinks, as well as the precursor gases. Estimates of F-gases were not provided owing to difficulties in obtaining the necessary data. The inventory was developed on the basis of the 2006 IPCC Guidelines for individual key categories. The total GHG emissions for 2012 were reported as 12,684.6 kt CO_2 eq (excluding LULUCF) and 5,223 kt CO_2 eq (including LULUCF). Eight key categories were identified by level, with CO_2 and CH_4 and the AFOLU sector identified as the main gases and key category, respectively.

76. Namibia reported information on mitigation actions and their effects, including the mitigation goal of GHG emission reductions of about 89 per cent at the 2030 time-horizon compared with the BAU scenario as per the INDC. These mitigation actions were categorized in the context of sectors. Estimated GHG emission reductions of over 216 kt CO_2 eq in 2015 were reported. The following GHG emission reductions in 2030 were reported for the sectors: energy, annual GHG emission reductions amounting to 972.6 kt CO_2 eq (achieved and measured) with an additional potential of 1,301 kt CO_2 eq per year (conditional); IPPU, potential annual GHG emission reductions amounting to 36 kt CO_2 eq in 2030; waste, expected annual GHG emission reductions amounting to 7,900 kt CO_2 eq from CDM waste-to-energy projects, with an additional annual potential of 205 t CO_2 eq (conditional) in 2030; and AFOLU, potential annual GHG emission reductions amounting to 18,693 kt CO_2 eq in 2030 (conditional).

77. Namibia reported information on key constraints, gaps and related needs. Information on support received and needed was reported specific to mitigation actions. Namibia also reported the challenge of establishing a standardized and sustainable system for monitoring the financial support received. Information on technology needs and technology transfer needed and received was also reported in the BUR. Namibia indicated three key areas as challenges: developing BURs continuously, to the required standards and frequency; creating an enabling environment to remove barriers and speed up the process of implementing mitigation projects; and augmenting institutional, organizational and individual capacity for the implementation of mitigation actions, including the design of new mitigation measures and the preparation of project proposals. Namibia explained the need for specific capacity-building for various activities, including the collection of data on GHG emission reductions and the sustainable development co-benefits of mitigation actions, and mitigation assessments. The Party also explained the challenges faced in updating GHG inventories and mitigation actions in the second BUR, which included a lack of incentives and adequate funds to develop and maintain the system to develop national communications and BURs, and staff turnover.

78. The TTE, in consultation with Namibia, identified 18[6] capacity-building needs that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and to participate in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention.

[6] This refers to the number of capacity-building needs listed in chapter II.D.

Annex I

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

Table 1
Identification of the extent to which the elements of information on greenhouse gases are included in the second biennial update report of Namibia

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years	Yes	Namibia submitted its second BUR in November 2016; the inventories reported are for 2000–2012
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established by the latest UNFCCC guidelines for the preparation of national communications from non-Annex I Parties approved by the COP or those determined by any future decision of the COP on this matter	Yes	Namibia used the 2006 IPCC Guidelines
Decision 2/CP.17, annex III, paragraph 5	The updates of the sections on the 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 emission factor may be made in the subsequent full national communication	Yes	
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:	Yes	
	(a) Tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF	Yes	In its BUR, the tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF are not provided, but comparable information was reported

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
	(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 the previous national communications	Partly	The time series reported in the BUR did not include 1994, which was reported in the first national communication
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their national communications are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000)	Partly	This information is not reported for the year 1994
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:		
	(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 the annexes to the second BUR
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF_6)	No	
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex	NA	The Party submitted its second NIR together with the second 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	Yes	
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO_2	Yes	
	(b) CH_4	Yes	
	(c) N_2O	Yes	

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	No	
	(a) HFCs	No	
	(b) PFCs	No	
	(c) SF_6	No	
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emission by sources of other GHGs, such as:		
	(a) CO	Yes	
	(b) NO_x	Yes	
	(c) NMVOCs	Partly	Emissions of NMVOCs from industrial processes are not estimated because there is no system to collect activity data for inventory purposes
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO_x, included in the Revised 1996 IPCC Guidelines may be included at the discretion of the Parties	Yes	The Party reported SO_2
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible, and if disaggregated data are available, to estimate and report CO_2 fuel combustion emissions using both the sectoral and the reference approach, and to explain any large differences between the two approaches	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	Final emission estimates and data sources are provided in the second BUR although the NIR does not indicate the methodologies used to estimate emissions
	(b) Marine bunker fuels	Yes	Final emission estimates and data sources are provided in the second BUR although the NIR does not indicate the methodologies used to estimate emissions
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO_2 eq should use the GWP provided by the IPCC in its Second Assessment Report based on the	Yes	The Party used the GWP provided in the IPCC Fourth Assessment Report

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
	effects of GHGs over a 100-year time-horizon		
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of emission factors and activity data. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, emission factors and activity data 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	Namibia used the 2006 IPCC Guidelines, and the EMEP/EEA air pollutant emission inventory guidebook is used as supplemental
	(b) Explanation of the sources of emission factors	Yes	Namibia used the 2006 IPCC Guidelines
	(c) Explanation of the sources of activity data	Yes	Namibia used the 2006 IPCC Guidelines
	(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	In its BUR, Namibia did not report emissions and removals from country-specific sources and/or sinks that are not part of the 2006 IPCC Guidelines
	(i) Source and/or sink categories		
	(ii) Methodologies		
	(iii) Emission factors		
	(iv) Activity data		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building	Yes	Challenges to prepare the GHG inventories and the inventory improvement plan are reported
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	Partly	Summary tables equivalent to table 1 are included in the second NIR; however, it is not clear why the appropriate notation keys

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
	GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information which is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated		were not used and "zero" is indicated instead. Table 2 is not provided
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	No	
	(c) Methodologies used, if any, for estimating these uncertainties	Yes	

Note: The parts of the "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention" on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, paragraph 41(g), and paragraphs 3–10. Further, as per paragraph 3 of those guidelines, Parties not included in Annex I to the Convention (non-Annex I Parties) are to submit updates of their national GHG inventories in accordance with paragraphs 8–24 of the "Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention", 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.

Abbreviations: BUR = biennial update report, COP = Conference of the Parties, EMEP/EEA = the European Monitoring and Evaluation Program/European Environment Agency, GHG = greenhouse gas, GWP = global warming potential, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, NA = not applicable, NIR = national inventory report, NMVOC = non-methane volatile organic compound, non-Annex I Parties = Parties not included in Annex I to the Convention, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, 2006 IPCC Guidelines = *2006 IPCC Guidelines for National Greenhouse Gas Inventories*.

Table 2
Identification of the extent to which the elements of information on mitigation actions are included in the second biennial update report of Namibia

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in a tabular format, on actions to mitigate climate change, by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases 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	Partly	Information on the

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
	mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators		quantitative goals for some mitigation actions in the energy sector was not reported
	(b) Information on:		
	(i) Methodologies	Partly	Either or both methodologies and assumptions were not reported for most actions in the AFOLU and IPPU sectors and for some actions in the energy and waste sectors
	(ii) Assumptions	Partly	See (b)(i) above
	(c) Information on:		
	(i) Objectives of the action	Yes	
	(ii) Steps taken or envisaged to achieve that action	Yes	
	(d) Information on the:		
	(i) Progress of implementation of the mitigation actions	Partly	The Party did not indicate the status of implementation for a small number of actions
	(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	The estimated outcomes or the emission reductions of several mitigation actions are not reported
	(e) Information on international market mechanisms	Yes	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on the description of domestic measurement, reporting and verification 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, paragraphs 11–13.

Abbreviation: AFOLU = agriculture, forestry and other land use, IPPU = industrial processes and product use, non-Annex I Parties = Parties not included in Annex I to the Convention.

Table 3

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

Decision	*Provision of the reporting requirements*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on*:*		
	(a) Constraints and gaps	Yes	
	(b) Related financial, technical and capacity-building needs	Yes	

Decision	*Provision of the reporting requirements*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide:		
	(a) Information on financial resources received; information on technology transfer and information on 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 biennial update report	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) Technology needs, which are nationally determined	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, paragraphs 14–16.

Abbreviations: non-Annex I Parties = Parties not included in Annex I to the Convention.

Annex II

Documents and information used during the technical analysis

Reference documents

"Composition, modalities and procedures of the team of technical experts for undertaking the technical analysis of biennial update reports from Parties not included in Annex I to the Convention". Annex to decision 20/CP.19. Available at http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=12.

"Modalities and guidelines for international consultation and analysis". Annex IV to decision 2/CP.17. Available at http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

"UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention". Annex III to decision 2/CP.17. Available at http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf.

"Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention". Annex to decision 17/CP.8. Available at http://unfccc.int/resource/docs/cop8/07a02.pdf#page=2.

First biennial update report of Namibia. Available at http://unfccc.int/8722.php.

Third national communication of Namibia. Available at http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php.