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## **Technical analysis of the first biennial update report of Oman submitted on 23 December 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 Oman, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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## Abbreviations and acronyms

AD	activity data
AFOLU	agriculture, forestry and other land use
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CER	certified emission reduction
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
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HWP	harvested wood products
ICA	international consultation and analysis
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance	<i>Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories</i>
IPCC good practice guidance for LULUCF	<i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i>
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NAMA	nationally appropriate mitigation action
NC	national communication
NDC	nationally determined contribution
NMVOG	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
SO <sub>2</sub>	sulfur dioxide
TTE	team of technical experts
UNEP-ROWA	United Nations Environment Programme Regional Office for West Asia
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

## I. Introduction and process overview

### A. Introduction

1. The process of ICA consists of two steps: a technical analysis of the submitted BUR and a facilitative sharing of views under the Subsidiary Body for Implementation, resulting in a summary report and a record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. The least developed countries and small island developing States may submit 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 small island developing States 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 Oman, 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, Oman submitted its first BUR on 23 December 2019 as a stand-alone update report.
6. In its BUR, the Party clarified that the disbursement of funds from the GEF for preparing its first BUR and NC2 was made in May 2014. In May 2015, the project contract for preparing the first BUR and NC2 was signed between the implementing agency of the GEF (UNEP-ROWA) and Sultan Qaboos University – the entity carrying out all the project activities. However, the migration by UNEP-ROWA to a new financial management system led to a delay in the implementation of the project activities, which did not start until February 2016.
7. A desk analysis of Oman's BUR was conducted from 22 to 26 June 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: Asia Adlan Mohamed Abdalla (Sudan), Luis Caceres Silva (former member of the Consultative Group of Experts from Ecuador), Ruleta Camacho Thomas (former member of the Consultative Group of Experts from Antigua and Barbuda), Elena Gavrilova (North Macedonia), Naofumi Kosaka (Japan), Nara Lee (Republic of Korea), Georges Mitri (Lebanon), Rosa Maria Rivas Palma (New Zealand) and Alexander Valencia (Colombia). Mr. Mitri and Ms. Rivas Palma were the co-leads. The technical analysis was coordinated by Jihye Choi, Luca Birigazzi and Sohail Pasha (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 Oman 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 Oman's first BUR, the TTE prepared and shared a draft summary report with Oman on 21 September 2020 for its review and comment. Oman, in turn, provided its feedback on the draft summary report on 29 September 2020.

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

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

9. The TTE responded to and incorporated Oman's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 29 September 2020.

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

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

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

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

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

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

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

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

12. The elements of information referred to in paragraph 10(a) above include the national GHG inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and information on progress in their implementation; information on domestic MRV; and information on support needed and received.

13. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 12 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is partially consistent with the UNFCCC reporting guidelines on BURs. Specific details on the extent of the information reported for each of the required elements are provided in annex I.

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

14. The technical analysis referred to in paragraph 10(b) above aims to increase the transparency of information reported by Parties on mitigation actions and their effects, without engaging in a discussion on the appropriateness of those actions. Accordingly, the focus of the technical analysis was on the transparency of the information reported in the BUR.

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

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

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

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

18. Oman reported in its first BUR information on its national circumstances, including a description of national development priorities, objectives and circumstances, including features of geography, climate and economy that might affect the Party's ability to deal with mitigating and adapting to climate change, as well as information regarding national circumstances and constraints on the specific needs and concerns arising from the adverse effects of climate change and/or the impact of the implementation of response measures, as referred to in Article 4, paragraph 8, and, as appropriate, Article 4, paragraphs 9–10, of the Convention.

19. Oman reported in its first BUR information on elements of its existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The Ministry of Environment and Climate Affairs, established by royal decree 90 of 9 September 2007, is the government entity mandated to carry out all activities and functions necessary to ensure the protection of the environment and climate system in Oman. It is responsible for monitoring and assessing climate change in coordination with the competent authorities, as well as issuing laws pertaining to the environment. In 2015, the Ministry commenced development of the National Strategy for Adaptation and Mitigation to Climate Change 2020–2040. One of the actions outlined in the strategy is the establishment of a national climate MRV system that is consistent with various UNFCCC reporting requirements and guidelines.

20. Oman reported in its BUR that the setting up of the MRV system commenced in 2016 with the issuance, through ministerial decision 20/2016, of a climate affairs regulation on data collection and reporting, including modalities of stakeholder engagement. The decision, specifically its article 3, empowered the Directorate-General of Climate Affairs under the Ministry of Environment and Climate Affairs to carry out tasks relevant to MRV, including administrative and regulatory action in response to national and international requirements regarding climate change management.

21. Oman described three significant steps it has taken in developing a legal framework for strengthening institutional capacity and regulatory enforcement of its MRV system: (1) official set-up of the system, entailing the issuance of ministerial decision 20/2016 and the appointment of the Directorate-General of Climate Affairs as the overall coordinating entity; (2) institutional set-up of the system, including determining the organizational structure of the Directorate-General, assigning tasks and implementing new programmes for specialized MRV activities; and (3) procedural set-up of the system, involving the development of standardized templates and procedures that will facilitate data collection, monitoring and reporting at both the national and organization level. Further, the Party reported that a national GHG inventory system was adopted by the Directorate-General in 2019. The system was not used for preparing Oman's first BUR, but the Party plans to use it for preparing future national GHG inventories and national reports.

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

22. As indicated in table I.1, Oman reported information on its GHG inventory in its BUR partially 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.

23. Oman submitted its first BUR in 2019 and the GHG inventory reported is for 2015. The GHG inventory is consistent with the requirements for the reporting time frame.

24. GHG emissions and removals for the BUR covering the 2015 inventory were estimated using tier 1 methodology from the 2006 IPCC Guidelines. The TTE commends Oman for using the most recent IPCC guidelines available.

25. Information on AD and EFs used and their sources was reported in the BUR, including sector-specific information on the sources of AD used in calculating the GHG inventory. The Party reported on the use of default tier 1 EFs from the 2006 IPCC Guidelines and GWP values from the AR5; a key source analysis; and GHG emission trends by gas and by category.

26. Information on the Party's total GHG emissions by gas for 2015 is outlined in table 1 in Gg CO<sub>2</sub> eq. It shows an increase in emissions of 463.6 per cent since 1994 (20,719 Gg CO<sub>2</sub> eq). GHG emissions including land and HWP for 2015 are 0.03 Gg CO<sub>2</sub> eq higher than GHG emissions excluding land and HWP for the same year.

Table 1  
**Greenhouse gas emissions by gas of Oman for 2015**

<i>Gas</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq) including land and HWP<sup>a</sup></i>	<i>% change 1994–2015</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq) excluding land and HWP<sup>a</sup></i>	<i>% change 1994–2015</i>
CO <sub>2</sub>	58 564.72 <sup>b</sup>	423.6	58 564.69 <sup>b</sup>	423.6
CH <sub>4</sub>	23 100.67	564.5	23 100.67	564.5
N <sub>2</sub> O	490.73	–91.9	490.73	–91.9
HFCs <sup>c</sup>	12 858.84	NA	12 858.84	NA
PFCs <sup>c</sup>	1 056.69	NA	1 056.69	NA
SF <sub>6</sub> <sup>c</sup>	NO	NA	NO	NA
Other	NA	NA	NA	NA
<b>Total</b>	<b>96 071.65</b>	<b>463.6</b>	<b>96 071.62</b>	<b>463.6</b>

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

<sup>b</sup> CO<sub>2</sub> emissions for AFOLU category 3.B (land) amounted to 0.026 Gg (see paras. 35–36 below).

<sup>c</sup> HFCs, PFCs and SF<sub>6</sub> were not estimated for 1994.

27. Oman applied notation keys in tables where numerical data were not provided. The use of notation keys was not consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. In the summary tables, only “NA” was used and its use was not explained in the BUR. Notation keys were not reported for CO, NMVOCs, NO<sub>x</sub>, SO<sub>2</sub>, HFCs, PFCs or SF<sub>6</sub>, but rather “0.00” was reported; and it was unclear to the TTE whether emissions of these gases were not occurring or not estimated. During the technical analysis, the Party clarified that CO, NMVOCs, NO<sub>x</sub> and SO<sub>2</sub> emissions were not estimated given that the focus of the first BUR is on providing an accurate inventory of the six gases covered under the Convention. Oman also clarified that HFC and PFC emissions occur only in certain categories of the industrial processes and other product use sector – namely, categories 2.C.3 (aluminium production) for PFCs and 2.F.1.a (refrigeration and stationary air conditioning) for HFCs – and that SF<sub>6</sub> emissions do not occur at all in the country.

28. Comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF and the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines was not reported in the BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that it considered the IPCC good practice guidance for LULUCF irrelevant because emissions from LULUCF accounted for only 4 per cent of the total GHG emissions in 2015 (the majority of emissions were from the livestock sector, for which the Ministry of Agriculture and Fisheries holds detailed information); and Oman's climate is hyperarid as there are no forests in the country. Oman also clarified that it had been uncertain as to whether information on the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines should be provided in the BUR.

29. The shares of emissions that different sectors contributed to the Party's total GHG emissions excluding land and HWP (category 3.B and, if reported, 3.D), as calculated by the TTE using information from the BUR, in 2015 are reflected in table 2.

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

<i>Sector</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq)</i>	<i>% share</i>	<i>% change 1994–2015<sup>a</sup></i>
Energy	61 487.66	64.0	370.9
Industrial processes and product use	29 180.62	30.4	4 815.4
AFOLU	1 465.74	1.5	–77.7
Livestock (category 3.A)	1 215.93	1.3	NA
Land (category 3.B)	0.03	0.0	NA
Aggregate sources and non-CO <sub>2</sub> emissions sources on land (category 3.C)	249.78	0.3	NA
HWP and other emissions (category 3.D)	NO	NA	NA
Waste	3 937.64	4.1	692.9

<sup>a</sup> “NA” is indicated where calculation was not possible because the 1994 emissions were not reported in the BUR.

30. Oman reported information on its use of GWP values consistent with those provided by the IPCC in its AR5 based on the effects over a 100-year time-horizon of GHGs.

31. For the energy sector, information was clearly reported on GHG emissions, methodological tier levels, AD and their sources, EFs, key categories and other aspects specific to the sector. Fugitive emissions associated with oil and gas production comprised the greatest share of sectoral GHG emissions. The Party reported in its BUR that emissions (in CO<sub>2</sub> eq) from energy use increased more than fourfold in 1994–2015, primarily because of increased energy use for electricity generation, water desalination and process heat in manufacturing industries.

32. For the industrial processes and other product use sector, information was clearly reported on GHG emissions, methodological tier levels, AD and their sources, EFs, key categories and other aspects specific to the sector. The primary source category of emissions in the sector was refrigeration and stationary air conditioning. Sectoral emissions (in CO<sub>2</sub> eq) increased by almost 50 times, or about 20 per cent per year, in 1994–2015. The Party reported that the increase was observed mainly because HFC and PFC emissions were not estimated for 1994 as well as because industrial production increased from 1994 to 2015.

33. For categories 3.A (livestock) and 3.C (aggregate sources and non-CO<sub>2</sub> emissions sources on land) under the AFOLU sector from the 2006 IPCC Guidelines, enteric fermentation (CH<sub>4</sub>) was identified as the key category and the most relevant emissions source in the sector.

34. Emissions for some categories under the agriculture sector, such as 3.A.2 (manure management) and 3.C.1 (biomass burning), were not clearly reported in Oman’s BUR. The emissions were reported as “0.00” and it was unclear to the TTE whether emissions for these categories were not occurring or not estimated. During the technical analysis, the Party clarified that the emissions were not estimated.

35. For category 3.B (land) under the AFOLU sector, Oman reported annual GHG emissions and removals for 2015 that amounted to 0.026 Gg CO<sub>2</sub> eq and came entirely from category 3.B.2 (cropland).

36. Information on emissions and removals of GHGs for categories 3.B.1 (forest land), 3.B.3 (grassland), 3.B.4 (wetlands), 3.B.5 (settlements), 3.B.6 (other land) and 3.D.1 (HWP) was not clearly reported in Oman’s BUR. The emissions were reported as “0.00” and it was unclear to the TTE whether emissions for these categories were not occurring or not estimated. During the technical analysis, the Party clarified that the AFOLU sector was responsible for only a minor share of national GHG emissions in 2015 and reporting on these categories is not a priority given the country’s hyperarid climate, absence of forests and limited farmland, as well as the small contribution of the sector to the gross domestic product.

37. For the waste sector, information was clearly reported on GHG emissions, methodological tier levels, AD and their sources, EFs, key categories and other aspects

specific to the sector. Waste-related GHG emissions were associated with solid waste disposal and with wastewater treatment and discharge from domestic and industrial sources.

38. The BUR provides an update to the GHG inventory reported in the Party's NCI, which addressed anthropogenic emissions and removals for 1994. The update was carried out using methodologies contained in the 2006 IPCC Guidelines. The previous national inventory was prepared using the Revised 1996 IPCC Guidelines and the IPCC good practice guidance. The Party identified improvements in the information reported such as the inclusion of emissions of HFCs and PFCs.

39. Information on GHG emissions for 1994 in summary table format was not reported in Oman's BUR. The total GHG emissions for 1994 were provided by sector only. The disaggregated values for categories 3.A, 3.B and 3.C under the AFOLU sector were not provided in the BUR. During the technical analysis, the Party clarified that it had been uncertain as to whether this information should be provided in the BUR.

40. Oman described in its BUR the institutional framework for the preparation of its 2015 GHG inventory. The Party reported that the Ministry of Environment and Climate Affairs is the governmental body responsible for its climate change policy and GHG inventory. The BUR was prepared with the support of UNEP-ROWA, which also assisted Oman in designing its GHG inventory system. The Party identified the improvement of creating a national GHG inventory system to support national reporting under the Convention and the Paris Agreement and to facilitate data collection and aggregation from public and private entities in accordance with the IPCC format.

41. Oman clearly reported that a key category analysis was performed for the level of emissions. A total of 13 key categories and their respective GHGs were identified and reported in tables 3–6 of the Party's BUR.

42. The BUR provides information on QA/QC measures for all sectors. The information reported includes QA/QC activities related to data collection and emission calculation. The Party reported that QA/QC and verification procedures were developed in line with the 2006 IPCC Guidelines. The national expert team applied the QC checklist from the 2006 IPCC Guidelines and external experts were involved in QA. The TTE commends Oman for providing information in accordance with the 2006 IPCC Guidelines.

43. Oman reported information on CO<sub>2</sub> fuel combustion using only the sectoral approach. During the technical analysis, Oman clarified that it was able to provide CO<sub>2</sub> emissions from fuel combustion estimated using the reference approach but had been uncertain as to whether this information should be included in the BUR. Further, the Party clarified that this information will be provided in subsequent BURs.

44. Information was clearly reported on international aviation and marine bunker fuels. For 2015, emissions from these sources amounted to 3,994.68 Gg, with 71.6 per cent of them originating from international waterborne navigation and the remaining 28.4 per cent from international aviation.

45. Oman reported information on the uncertainty assessment of its national GHG inventory. The Party reported that a tier 1 uncertainty analysis was carried out for each sector in accordance with the IPCC good practice guidance. The reasons for the high uncertainty of AD, as well as action items for reducing uncertainty in subsequent inventories, were reported by sector.

46. Information on the overall level of uncertainty of the GHG inventory and the uncertainty by sector (in per cent) was not reported in the BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that it had been uncertain as to whether this information should be provided.

47. The TTE noted that the transparency of the information reported on GHG inventories could be enhanced by addressing the areas noted in paragraphs 27, 28, 34, 36, 39, 43 and 46 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

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

49. The information reported provides an overview of the Party's mitigation actions and their effects. In its BUR, the Party reported information on its national context and framed its national mitigation planning and actions in the context of the National Strategy for Adaptation and Mitigation to Climate Change 2020–2040. Oman's mitigation actions focus mainly on promoting renewable energy sources.

50. Oman reported that in 2017 and 2018 it rolled out regulations and projects aimed at harnessing the potential of solar and wind resources. In 2018 it adopted a policy aimed at achieving, at a minimum, renewable energy penetration of 10 per cent of electricity generation by 2025. A renewable energy development plan, including wind, solar and waste-to-energy mitigation actions, was established to implement this policy. According to the Party, the plan will secure more than 2,600 MW electricity by 2025 and reduce GHG emissions by 5,737.55 Gg CO<sub>2</sub> eq, which represents an abatement of about 26.5 and 6.0 per cent of total GHG emissions in 2000 and 2015, respectively. During the technical analysis, Oman informed the TTE that it was on track to fulfilling its NDC, which is to reduce its total emissions by 2 per cent by 2030, as long as the expected international financial and technical support is received.

51. The Party provided information in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. Nine mitigation actions relating to solar and wind power and waste-to-energy are outlined in the context of Oman's renewable energy development plan.

52. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Oman reported the names of mitigation actions relating to energy, as well as the goal of the renewable energy development plan (see para. 50 above), which is relevant for all these actions. Other information, such as the projected time frame for implementation and estimated outcomes, was also reported in the BUR (table 4.1).

53. Information on the nature of the actions, coverage, quantitative goals and progress indicators was not reported. During the technical analysis, Oman clarified that quantitative goals were not considered when developing the renewable energy projects. Further, the Party clarified that it lacked the capacity to develop progress indicators and collect the corresponding information.

54. Four of the planned mitigation actions reported relate to solar energy. For one of these actions, the Ibri II solar independent power producer project, information on the results expected to be achieved was reported as both estimated GHG emission reductions and estimated outcomes. According to the Party, the country's first large-scale photovoltaic farm, in Ibri, is expected to be in operation by 2021 and has a planned installation capacity of up to 500 MW. The plant will help to reduce GHG emissions by approximately 1,103.37 Gg CO<sub>2</sub> eq.

55. Four planned mitigation actions relate to wind energy. The progress of implementation was reported for one of these actions, the Dhofar I wind independent power producer project, which is currently under development. The wind farm is expected to be fully operational by 2020, and it will be the first wind farm in Oman and indeed the Persian Gulf region. Information on the results expected to be achieved was reported as an estimated outcome of 50 MW electricity generation, which represents 7 per cent of Dhofar's installed power generation capacity. According to the Party, the farm is expected to generate power for 16,000 homes.

56. The mitigation action planned for the waste sector focuses on improving waste management infrastructure and is a waste-to-energy project (Waste to Energy 1). The Party reported that it is on track to improving its waste management infrastructure by converting 300 sites where rubbish is dumped to engineered landfills. Oman reported that the overarching objective for the waste sector is to divert 60 per cent of waste from landfills to sorting facilities by 2022, a figure it expects to increase to 80 per cent by 2040. The progress

of implementation of the waste-to-energy mitigation action was reported as under development, with the estimated outcome being production of 50 MW by the power plant by 2023.

57. Information on methodologies and assumptions for the three groups of mitigation actions related to energy (solar, wind and waste-to-energy) was not reported in Oman's BUR. During the technical analysis, the Party clarified that it developed mitigation scenarios in the context of its national energy development strategy. However, this information was reported only in its NC2, as Oman had been uncertain as to whether it should be reported in the BUR. The Party explained that approximate cumulative GHG abatement potential was calculated for all nine mitigation actions using a "GHG savings from renewable energy" approach. During the technical analysis, the Party provided the TTE with documents containing information clarifying the mitigation scenarios it had developed.

58. Information on steps taken or envisaged to achieve the mitigation actions and on the progress of implementation of the actions was provided for only three of the nine projects included in table 4.1 of the BUR. Information on the objectives of the mitigation actions was reported only for the waste sector action. During the technical analysis, the Party clarified that it did not provide details for the other projects as there was no official information available as to whether they would be implemented or postponed due to financial and economic conditions.

59. Oman did not provide information on its involvement in international market mechanisms. During the technical analysis, the Party clarified that four projects had been registered under the clean development mechanism: (1) recovery and exploitation of associated gas in Al Safah Field, block 9 (by the Ministry of Oil and Gas) (some CERs sold in 2019 and early 2020); (2) waste management for the production of compost in Al Amarat (by Haya Water) (CERs not sold); (3) renewable energy solutions in buildings throughout Oman (by Petroleum, Chemicals and Mining Company (a Saudi Arabian company)) (CERs not sold); and (4) a programme of activities in renewable energy in Oman and other Middle Eastern countries (by Petroleum, Chemicals and Mining Company) (CERs not sold). Oman indicated that it intends to include market-based mechanisms in its NDC updates.

60. Oman reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Oman has in place a domestic MRV system for national GHG inventories only. The TTE noted that few of the institutional arrangements for the MRV system are relevant to the MRV of mitigation actions, including their development and implementation. The procedures for carrying out tasks related to the MRV of mitigation actions are not included in the BUR.

61. The TTE noted that the transparency of the information reported on mitigation actions could be enhanced by addressing the areas noted in paragraphs 53 and 57–59 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**

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

63. Oman 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, Oman identified limitations related to the organization, collection, accessibility and availability of data relevant to the GHG inventory as constraints.

64. The TTE noted that information on constraints and gaps related to reporting on areas other than the GHG inventory was not included in the BUR. During the technical analysis, the Party clarified that it had identified gaps and constraints in other areas, including the limited data, information and expertise available for undertaking vulnerability and adaptation assessment; the limited experience of national experts with methods and tools that support decision-making informed by climate risk in key sectors; the insufficient budget for effectively addressing the scope and magnitude of climate change impacts; the inadequate

regulatory framework for supporting effective adaptation planning; and the insufficient budget for deploying large-scale renewable energy, energy efficiency and emission reduction projects in the oil and gas sector and other industries.

65. Further, during the technical analysis, Oman clarified that it had identified some solutions for overcoming the constraints and gaps referred to in paragraph 64 above, including making detailed cost–benefit and cost-effectiveness analyses for vulnerable sectors, prioritizing adaptation projects for funding into short- and long-term portfolios, mainstreaming climate change in national policy dialogues and practices, enhancing information on climate change impacts and communicating it to the public, developing an innovative financing model for low-carbon projects and enhancing the national capacity for MRV.

66. Oman reported in its BUR that sustaining and further enhancing its MRV system for continuous national reporting under the Convention and the Paris Agreement would require continued capacity-building for a large number of stakeholders as well as financial support from international organizations.

67. Oman provided a brief description of the areas of its technical and capacity-building needs for sustainable GHG inventory preparation and the accounting of mitigation measures in its BUR (section 5.2). Regarding financial needs, only qualitative information was provided in the chapter on the GHG inventory. During the technical analysis, the Party clarified that it had planned to assess financial needs within the framework of its national adaptation project, supported by the GCF, and to include preliminary results from the project in its BUR, but the review process of the GCF has been delayed since 2018, when Oman submitted the project.

68. Oman reported information on financial resources, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, Oman reported that it received from the GEF USD 300,000 for preparing its initial NC and USD 852,000 for preparing both its first BUR and its NC2. In 2018 Oman received USD 300,000 from the GCF in readiness and preparatory support. It did not receive any further financial resources, but the Party reported that it has allocated considerable domestic funding for undertaking adaptation and mitigation actions and, more recently, for developing its National Strategy for Adaptation and Mitigation to Climate Change 2020–2040. The information reported indicates that Oman received capacity-building and technical support from UNEP-ROWA for preparing its first BUR and NC2.

69. Information on nationally determined technology needs and technology transfer received was not reported in Oman’s BUR. During the technical analysis, the Party clarified that it had not received any substantial technology support; it received support only for developing an online national GHG inventory system under the GEF support for preparing its first BUR and NC2 referred to in paragraph 68 above.

70. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the areas noted in paragraphs 64, 67 and 69 above, which could facilitate a better understanding of the information reported on needs and support received.

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

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

- (a) Understanding and meeting BUR reporting requirements;
- (b) Improving the national GHG inventory by:
  - (i) Estimating emissions of precursor and indirect gases, as well as short-lived climate pollutants;
  - (ii) Introducing higher-tier methodologies for estimating GHG emissions;
- (c) Improving the information provided on mitigation actions and their effects by:

- (i) Reporting on quantitative goals and progress indicators with respect to paragraph 12(a) of the UNFCCC reporting guidelines on BURs;
- (ii) Reporting on methodologies and assumptions;
- (iii) Reporting on implementation and progress of implementation;
- (iv) Reporting on objectives;
- (v) Developing an MRV system for mitigation actions that encompasses, inter alia, approaches to monitoring progress in implementing actions, reaching targets and achieving emission reductions;
- (vi) Developing and implementing NAMAs;
- (d) Developing indicators for adaptation and climate modelling at a fine scale.

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

- (a) Introducing higher-tier methodologies (tiers 2–3) for estimating GHG emissions;
- (b) Applying MRV of GHG emission reductions arising from implementing NAMAs;
- (c) Implementing NAMAs as a component of its NDC;
- (d) Developing a system for reporting on SF<sub>6</sub> importation and consumption.

### III. Conclusions

73. The TTE conducted a technical analysis of the information reported in the first BUR of Oman in accordance with the UNFCCC reporting guidelines on BURs and concludes that the information reported is partially consistent. It provides an overview of national circumstances and institutional arrangements relevant to the preparation of NCs on a continuous basis; the national inventory of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol; 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 Oman on mitigation scenario development in the context of the national energy development strategy. The TTE concluded that the information analysed is partially transparent.

74. Oman reported information on the institutional arrangements relevant to the preparation of its BURs. It has taken significant steps to establish and strengthen its institutional arrangements and national MRV system, and has a regulatory framework in place that will ensure preparation of its national GHG inventories and national reports on a continuous basis.

75. In its first BUR, submitted in 2019, Oman reported information on its national GHG inventory for 2015. This included GHG emissions and removals of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O for all relevant sources and sinks. The inventory was developed on the basis of the 2006 IPCC Guidelines and included an analysis for individual key categories. The total GHG emissions for 2015 were reported as 96,072 CO<sub>2</sub> Gg eq (excluding LULUCF) and 96,072 Gg CO<sub>2</sub> eq (including LULUCF). Thirteen key categories and main gases were identified, with CH<sub>4</sub> and fugitive emissions (from oil and gas) identified as the main gas and key category, respectively, followed by CO<sub>2</sub> and energy industries. Estimates of HFCs and PFCs were provided for the industrial processes and other product use sector.

76. Oman reported information on mitigation actions and their effects in both tabular and narrative format. The actions are framed in the context of a renewable energy development plan, launched in 2018, which aims to secure more than 2,600 MW electricity generation by

2025 and abate about 26.5 and 6.0 per cent of total GHG emissions in 2000 and 2015, respectively. Oman reported nine planned actions in the energy and waste sectors, with their projected time frame for implementation and estimated outcomes. Information on the estimated emission reductions was provided for only one of the nine mitigation actions, information on the progress of implementation for only three, and information on the objective for only one (the waste sector action). The Party also reported information on its MRV arrangements.

77. Information on methodologies and assumptions was not provided owing to challenges in understanding the UNFCCC reporting guidelines on BURs and obtaining the necessary data, as clarified by the Party during the technical analysis.

78. Oman reported information on key constraints, gaps and related needs only for the GHG inventory, including limitations related to data organization, collection, accessibility and availability. Information was reported on the technical and capacity-building support received. The Party also reported that it received financial support of approximately USD 852,000 from the GEF for preparing its first BUR and NC2 and USD 300,000 from the GCF in readiness and preparatory support. Information on nationally determined technology needs and technology transfer received was not reported as the Party had not received any technology support, as clarified by the Party during the technical analysis.

79. The TTE, in consultation with Oman, identified the 10 capacity-building needs listed in chapter II.D above and needs for capacity-building that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. Oman identified the following as priority capacity-building needs:

- (a) Understanding and meeting BUR reporting requirements;
- (b) Improving the national GHG inventory by estimating emissions of precursor and indirect gases, as well as short-lived climate pollutants;
- (c) Improving the information provided on mitigation actions and their effects by:
  - (i) Reporting on methodologies and assumptions;
  - (ii) Developing an MRV system for mitigation actions that encompasses, inter alia, approaches to monitoring progress in implementing actions, reaching targets and achieving emission reductions;
  - (iii) Developing and implementing NAMAs;
- (d) Developing indicators for adaptation and climate modelling at a fine scale.

## Annex I

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

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	Yes	Oman submitted its first BUR in December 2019; the GHG inventory reported is for 2015.
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established in the latest UNFCCC guidelines for the preparation of NCs from non-Annex I Parties approved by the Conference of the Parties or those determined by any future decision of the Conference of the Parties on this matter.	Yes	Oman used the 2006 IPCC Guidelines.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Yes	The 2006 IPCC Guidelines were used for reporting the GHG inventory for the first BUR of Oman.
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.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Partly	Annex 8 to the BUR includes a summary table containing subcategory totals only.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Yes	
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).	No	
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	Yes	The Party included table 1 as an annex to its BUR (table 7.1).

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);		
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).	Yes	The Party included table 2 as an annex to its BUR (table 8.1).
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	NA	No additional sector-specific information was provided.
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.	Partly	Information on Oman's institutional arrangements and national MRV system was reported in the BUR. However, procedures and arrangements for collecting and archiving data were not described.
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO <sub>2</sub> ;	Partly	Emissions were estimated only for some subcategories.
	(b) CH <sub>4</sub> ;	Partly	Emissions were estimated only for some subcategories.
	(c) N <sub>2</sub> O.	Partly	Emissions were estimated only for some subcategories.
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	
	(b) PFCs;	Yes	
	(c) SF <sub>6</sub> .	Yes	
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;	No	
	(b) NO <sub>x</sub> ;	No	
	(c) NMVOCs.	No	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as sulfur oxides, and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	No	
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	No	The information was reported only for the sectoral approach.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	and to explain any large differences between the two approaches.		
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	Yes	
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO <sub>2</sub> eq should use the GWP provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	NA	The Party used the GWP values provided in the AR5.
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Oman 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	Partly	Only the notation key “NA” was used. Notation keys were not reported for CO, NMVOCs, NO <sub>x</sub> , SO <sub>2</sub> , HFCs, PFCs or SF <sub>6</sub> , but rather “0.00” was reported (see para. 27 of this document).



<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	numerical data are not provided, Parties should use the notation keys as indicated.		
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:		
	(a) Level of uncertainty associated with inventory data;	No	
	(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 Oman**

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Yes	
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Partly	The names, time frames for implementation and estimated outcomes of the nine mitigation actions in table 4.1 of the BUR were provided. However, information on the nature of the mitigation actions and their coverage, quantitative goals and progress indicators was not provided for any of the projects listed or described.
	(b) Information on:		
	(i) Methodologies;	No	
	(ii) Assumptions;	No	
	(c) Information on:		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	(i) Objectives of the action;	Partly	Information on objectives was reported for only one of the nine projects.
	(ii) Steps taken or envisaged to achieve that action;	Partly	Brief information on the steps taken or envisaged was provided for only three of the nine projects included in table 4.1 of the BUR.
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Partly	Information on status of implementation was provided for only three of the nine projects.
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Partly	Information on steps taken or envisaged was provided for only three of the nine projects.
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	Information on estimated emission reductions was provided for only one of the nine projects.
	(e) Information on international market mechanisms.	No	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	

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

Table I.3

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

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on:		
	(a) Constraints and gaps;	Partly	In the BUR, the Party provided information on constraints and gaps related to GHG inventory preparation only.
	(b) Related financial, technical and capacity-building needs.	Partly	Information on technical and capacity-building needs was provided in the BUR (section 5.2). For financial needs, only qualitative information was provided in the chapter on the GHG inventory.
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 GCF and	Partly	Information on technical support received was not explicitly provided; however, other information reported indicated that the Party had received

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Assessment of whether the information was reported</i>	<i>Comments on the extent of the information provided</i>
	multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.		technical and capacity-building support from UNEP-ROWA for the preparation of its first BUR and NC2.
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;	No	
	(b) Technology support received.	No	

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

## Annex II

### Reference documents

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

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

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

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

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

#### C. Information provided by the Party

The following documents<sup>1</sup> were provided by the Party in response to requests for technical clarification during the technical analysis:

The Sultanate of Oman. 2017. *Oman Energy Master Plan 2040*. Progress report.

The Sultanate of Oman. Public Authority for Electricity and Water. 2013. *Project for Energy Conservation Master Plan in the Power Sector in the Sultanate of Oman*. Final Report.

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<sup>1</sup> References reproduced as received from the Party.