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## **Technical analysis of the first biennial update report of Jordan submitted on 8 November 2017**

### **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. 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 first BUR of Jordan 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

2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>
AD	activity data
AFOLU	agriculture, forestry and other land use
BUR	biennial update report
CDM	clean development mechanism
CGE	Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention
CH <sub>4</sub>	methane
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
COP	Conference of the Parties
EF	emission factor
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
ICA	international consultation and analysis
IPCC	Intergovernmental Panel on Climate Change
IPCC good practice guidance	<i>Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories</i>
IPCC good practice guidance for LULUCF	<i>Good Practice Guidance for Land Use, Land-Use Change and Forestry</i>
IPPU	industrial processes and product use
LEAP	Long-range Energy Alternatives Planning System
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NC	national communication
NE	not estimated
NMVOG	non-methane volatile organic compound
NO	not occurring
N <sub>2</sub> O	nitrous oxide
non-Annex I Parties	Parties not included in Annex I to the Convention
NO <sub>x</sub>	nitrogen oxides
PFC	perfluorocarbon
QA	quality assurance
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF <sub>6</sub>	sulfur hexafluoride
SO <sub>x</sub>	sulfur oxides
TTE	team of technical experts
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”

## **I. Introduction and process overview**

### **A. Introduction**

1. The process of ICA consists of two steps: a technical analysis of the submitted BUR and a facilitative sharing of views under the Subsidiary Body for Implementation, resulting in a summary report and record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014.
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 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. This summary report presents the results of the technical analysis of the first BUR of Jordan 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. Jordan submitted its first BUR on 8 November 2017. The BUR does not include an explanation as to why it was submitted after December 2014; however, during the technical analysis, Jordan clarified that this was due to a delay in accessing the funds for the preparation of BURs, as well as administrative and institutional barriers.
6. The technical analysis of the BUR took place from 5 to 9 March 2018 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: Ms. Estefania Ardila Robles (member of the CGE from Colombia), Rocio Danica Condor (Italy), Ms. Liudmila Hristova Naydenova (Netherlands), Ms. Sekai Ngarize (Zimbabwe), Ms. Anne Nyatichi Omambia (former member of the CGE from Kenya), Ms. Lilian Portillo (former member of the CGE from Paraguay), Mr. Ioannis Sempos (Greece) and Mr. Arda Uludag (Turkey). Ms. Ngarize and Mr. Sempos were the co-leads. The technical analysis was coordinated by Ms. Anna Sikharulidze and Ms. Alma Jean (secretariat).
7. 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 Jordan engaged in consultation<sup>1</sup> on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Jordan's first BUR, the TTE prepared and shared a draft summary report with Jordan on 4 June 2018 for its review and comment. Jordan, in turn, provided its feedback on the draft summary report on 24 June 2018.
8. The TTE responded to and incorporated the Party's comments referred to in paragraph 7 above and finalized the summary report in consultation with Jordan on 16 July 2018.

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<sup>1</sup> The consultation was conducted via teleconference.

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

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

9. 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 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).

10. The remainder of this chapter presents the results of each of the three parts of the technical analysis of Jordan's BUR outlined in paragraph 9 above.

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

11. The elements of information referred to in paragraph 9(a) above include the national GHG inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and the progress made in their implementation; information on domestic MRV; and information on support needed and received.

12. According to decision 20/CP.19, annex, paragraph 15(a), in undertaking the technical analysis of the submitted BUR, the TTE is to identify the extent to which the elements of information listed in paragraph 11 above have been included in the BUR of the Party concerned. The TTE considers that the reported information is mostly consistent with the UNFCCC reporting guidelines on BURs. Specific details on the extent of the information reported for each of the required elements are provided in annex I.

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

13. The technical analysis referred to in paragraph 9(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.

14. 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.

15. 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**

16. As per the scope defined in paragraph 2 of the UNFCCC reporting guidelines on BURs, the BUR should provide an update to the information contained in the most recently submitted NC, including information on national circumstances and institutional

arrangements relevant to the preparation of NCs on a continuous basis. In their NCs, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5.

17. In accordance with decision 17/CP.8, annex, paragraph 3, Jordan reported in its first BUR information on national circumstances related to a description of national and regional development priorities, objectives and circumstances, including information on features of its geography, climate and economy that may affect the 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, in Article 4, paragraphs 9 and 10, of the Convention.

18. In addition, as encouraged in decision 17/CP.8, annex, paragraph 4, Jordan provided a summary of relevant information regarding its national circumstances in tabular format and provided graphs to illustrate information on its demographic profile, economic structure and activities.

19. Jordan transparently described in its BUR the existing and planned institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, such as the legal status and roles and responsibilities of the coordinating entity, which is the Climate Change Directorate under the Ministry of Environment; mechanisms for information and data exchange; provisions for public consultation and other forms of stakeholder engagement; and future improvement plans.

20. Jordan has reported on its proposed domestic MRV system based on the national circumstances and national priorities, which is built on existing domestic systems and capacities. It will cover three main areas: the MRV for GHG emissions, the MRV of mitigation actions and the MRV of support needed and received; Jordan has used charts and organigrams to illustrate the suggested design. The information presented includes the institutional arrangements, procedures, methodologies, resource requirements and time frame of the proposed system. The overall MRV system will be coordinated by the Ministry of Environment, where all information from each of the three areas will inform the Climate Change Directorate and Green Economy Unit. Further, Jordan reports that a national effort supported by the World Bank's Partnership for Market Readiness is ongoing and aims to design and implement the detailed multilevel MRV system. The MRV system design is being developed in consultation with different national stakeholders and it is anticipated to be completed soon.

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

21. As indicated in table 1 in annex I, Jordan reported information on its GHG inventory in its BUR mostly in accordance with paragraphs 3–10 of the UNFCCC reporting guidelines on BURs and paragraphs 8–24 of the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties, contained in the annex to decision 17/CP.8.

22. Jordan submitted its first BUR in 2017 and the GHG inventories reported therein are for the years 2010 and 2012, which is more than four years prior to the date of submission. During the technical analysis, Jordan clarified that the project document for the BUR preparation was approved by the Global Environment Facility and United Nations Development Programme in April 2015 and was expected to last for 18 months. However, implementation did not start until December 2015, and institutional and administrative delays led to submission in 2017, which increased the interval between BUR submission year and GHG inventory year.

23. GHG emissions and removals for the BUR submission covering the years 2010 and 2012 were estimated by applying a tier 1 methodology from the 2006 IPCC Guidelines for all source and sink categories, through the IPCC Inventory Software (versions 2.16 and 2.17).

24. With regard to the methodologies used, information was reported transparently, including the specific methodology and the tier levels and sources of AD used for each category and subcategory. However, information on the actual values of the AD used for the estimation of emissions and removals for the years 2010 and 2012 was not reported in the BUR. The information on updated AD was not reported in the BUR for the years reported in the last NCs as well. During the technical analysis, Jordan clarified that the AD used for 2010 and 2012 are available as an output from the IPCC Inventory Software, but were not annexed to the BUR because it was thought that only overall emission summaries need to be reported. The full inventories of 2010 and 2012 with their AD were reviewed externally by the Global Support Programme for Preparation of National Communications and Biennial Update Reports by non-Annex I Parties. As for the updates on previous inventories, Jordan clarified that they were not reported due to time constraints and the fact that Jordan needs to recalculate emission estimates using the 2006 IPCC Guidelines. Jordan also clarified that the new MRV system, which is under development, will form the framework for developing future inventories and will enable it to include such information in future NCs and BURs. The TTE noted that providing updated data on the activity levels used for estimating emissions in the BUR could facilitate a better understanding of the information reported.

25. The total GHG emissions for 2012 reported in the BUR, including AFOLU, amounted to 27,997.73 Gg CO<sub>2</sub> eq, an increase of 21.0 per cent since 2010 (23,140.06 Gg CO<sub>2</sub> eq). The GHG emissions including AFOLU reported for 2012 include 24,112.43 Gg CO<sub>2</sub>, 2,035.27 Gg CO<sub>2</sub> eq of CH<sub>4</sub> and 450.71 CO<sub>2</sub> eq of N<sub>2</sub>O. Jordan reported emissions of HFCs as 1,399.33 Gg CO<sub>2</sub> eq in 2012. Emissions of PFCs and SF<sub>6</sub> were reported as either “NA” or “NO”. During the technical analysis, the Party clarified that SF<sub>6</sub> does not occur within the country, according to information received from Jordan Chamber of Industry, universities, research centres, major hospitals and the National Electric Power Company. The TTE noted that including this information about SF<sub>6</sub> emissions in the BUR could facilitate a better understanding of the information reported.

26. Other emissions reported include 221.33 Gg of NMVOCs. Only NMVOC emissions resulting from the solvents subsector (sectors with IPCC category codes 2D3, 2D4 and 2H2) were estimated.

27. Jordan applied notation keys in tables 1 and 2 (tables 2.21 and 2.22 in the BUR) where numerical data were not provided. The use of notation keys was consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. In addition, the notation key “NE” was reported for some categories with adequate explanation provided in the BUR.

28. Jordan reported information in the tables included in annex 3A.2 that was partly comparable to the IPCC good practice guidance for LULUCF and the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines. The tables included in annex 3A.2 contain a more detailed level of disaggregation of sectors/subsectors compared to the information reported in the BUR and include information about annual change in carbon stocks per carbon pool and other parameters, which was not reported in the BUR. Concerning the sectoral tables, the level of disaggregation by sector/subsector presented in the BUR is partly comparable to and less detailed than the sectoral report tables annexed to the Revised 1996 IPCC Guidelines for all sectors except IPPU.

29. The shares of emissions that different sectors contributed to total GHG emissions including AFOLU as reported by the Party in 2012 are energy, 81 per cent; IPPU, 12 per cent; AFOLU, 1 per cent; and waste, 6 per cent.

30. GHG emissions in 2012 from the energy sector amounted to 22,756.83 Gg CO<sub>2</sub> eq. As indicated in paragraph 24 above, information is not clearly reported on the actual values of the AD, such as fuel used in the country, which created difficulties in understanding the information reported. However, Jordan reported on the factors underlying emission trends: rapid economic growth, population growth and the successive influx of refugees over the last decade have all imposed additional demands on energy resources.

31. Industrial process emissions amounted to 3,368.47 Gg CO<sub>2</sub> eq in 2012. HFC emissions from the IPPU sector increased 275 per cent between 2010 and 2012. The TTE

noted that Jordan did not report HFC emission estimates on a gas-by-gas basis (i.e. disaggregated estimates by chemical expressed in unit of mass (Gg)), as indicated in table 2 of the annex to decision 17/CP.8 (e.g. HFC-23, HFC-134). During the technical analysis, Jordan clarified that it did not report HFCs on a gas-by-gas basis due to data unavailability at such a disaggregated level and that gas-by-gas reporting could be performed when data are available from the related entities. The TTE noted that the estimation of HFC emissions is very sensitive to the specific gases used as substitutes to ozone depleting substances for refrigeration, air conditioning and fire protection due to the large differences of the GWP of each HFC gas. The TTE further noted that estimating and reporting HFC emissions on a gas-by-gas basis in the BUR could facilitate a better understanding of the information reported.

32. For the AFOLU sector, Jordan reported GHG emissions of 237.29 Gg CO<sub>2</sub> eq for 2012, with CH<sub>4</sub> from enteric fermentation and CO<sub>2</sub> removals from forest land remaining forest land being identified as key categories and the most relevant emission sources in the sector. Removals from the AFOLU sector were reported as 254.17 Gg CO<sub>2</sub> in 2012, which was a decrease of 7.4 per cent compared to 2010 levels (274.56 Gg CO<sub>2</sub>). Jordan used tier 1 EF from the 2006 IPCC Guidelines.

33. For the waste sector, Jordan reported emissions of 1,635.14 Gg CO<sub>2</sub> eq, with CH<sub>4</sub> from solid waste disposal sites being the only key category. Emissions from waste incineration and wastewater treatment and discharge were also reported. Furthermore, in the BUR Jordan provided a description of the challenges related to the solid waste management sector that underlie the emissions of the sector. Namely, Jordan lacks integrated practices for the collection, transportation, transfer, treatment and disposal of municipal solid waste. Municipal and industrial solid waste is primarily dumped in landfills. Most of the official dumpsites are not properly designed or operated, as demonstrated by their lack of proper linings, leachate collection systems or landfill gas management systems.

34. The emissions from 2006, which were reported in NC3 using the Revised 1996 IPCC Guidelines, were reported in the BUR but without being recalculated. The emissions from 1994 and 2000 were not reported, although they were included in Jordan's NC1 and NC2, respectively. During the technical analysis, Jordan clarified that it encountered constraints in terms of the time spent providing a consistent time series of emissions/removals back to the years reported in the previous NCs, the emissions/removals from 1994, 2000 and 2006, by applying the 2006 IPCC Guidelines and the unavailability of historical data. The TTE noted that the use of surrogate data and/or other splicing techniques from the 2006 IPCC Guidelines or IPCC good practice guidance can help fill gaps in historical AD, generate a consistent time series and facilitate a better understanding of the information reported.

35. Jordan reported in its BUR a comprehensive description of the current institutional framework for the preparation of its 2010 and 2012 GHG inventories, the related gaps and constraints, information on the role of the institutions involved and a suggested new MRV framework aimed to support the continuous and sustainable GHG inventory preparation. The suggested new MRV framework for the GHG inventory is part of a multi-tiered MRV system that also includes the MRV of mitigation and the MRV of support. The Ministry of Environment is the focal point for all issues relevant to the UNFCCC.

36. Jordan reported a key category analysis was performed for the level of emissions. The BUR provides information on QA activities. The national GHG inventory was subjected to two levels of review: an internal review by the project management team throughout the lifetime of the project and an international review coordinated by the Global Support Programme. The TTE commends Jordan for providing information about QA activities in accordance with the IPCC good practice guidance.

37. Jordan reported information on CO<sub>2</sub> emissions from fuel combustion using both the sectoral and the reference approach. The difference between the two approaches is relatively small, namely 1.14 per cent for 2010 and 2 per cent for 2012.



38. Information was reported on international aviation and marine bunker fuels for the years 2010 and 2012. In 2012, international aviation amounted to 959.20 Gg CO<sub>2</sub> eq, and international waterborne navigation amounted to 56.70 Gg CO<sub>2</sub> eq.

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

40. Jordan reported information on the uncertainty assessment (level and trend) of its national GHG inventory. The uncertainty analysis is based on the tier 1 approach and covers all source categories and all direct GHGs. The trend analysis uses 2010 as its base year. The results obtained, as reported in the BUR, revealed that the level uncertainty for emissions is 5 per cent and the trend uncertainty is 6 per cent of the average trend of a 21 per cent increase in emissions from 2010 to 2012.

41. The TTE noted that the transparency of the information reported could be further enhanced by addressing the areas noted by the TTE in paragraphs 24, 25, 28, 31 and 34 above, which could enable the TTE to better understand the information reported.

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

42. As indicated in table 2 in annex I, Jordan 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.

43. The information reported provides a clear and comprehensive overview of Jordan's mitigation actions and their effects, including national context. In its BUR, Jordan frames its national mitigation planning and actions in the context of the Jordan 2025 national strategy launched in 2015 and the new energy strategy of 2015–2025. Jordan reports that 39 GHG mitigation projects have been proposed in several sectors and subsectors, including primary energy, renewable energy, energy efficiency, waste and agriculture. In its BUR, Jordan provided a GHG mitigation abatement cost analysis for these 39 proposed projects, which indicates that the most feasible options are mitigation options in the energy sector.

44. In its BUR, Jordan also reported information on emission projections under its baseline and mitigation scenarios. Jordan reported that, in case the mitigation actions reported in its BUR under mitigation scenarios will be implemented, estimated cumulative emission reductions of 7.85 and 9.32 Mt CO<sub>2</sub> eq will be achieved in 2025 and 2040, respectively. However, some aspects of the methodology were not clearly reported. Specifically, it was not clear how the projections were calibrated for the base year for both the baseline and the mitigation scenarios, as the base year for the mitigation analysis is 2015, while the latest GHG inventory for Jordan as reported in its BUR is for 2012. During the technical analysis, Jordan clarified that it developed projections for the period 2015–2040 based on the country's strategies outlined in paragraph 43 above. These projections also served as an update to its NC3. The GHG inventory was developed separately for 2015 as a part of mitigation analysis, applying in some cases different methodologies compared to the ones applied for the GHG inventory (as discussed in paragraph 51 for the waste sector).

45. Jordan provided a summary of its mitigation actions in tabular format. Jordan reports information for individual actions and groups of actions for the energy, IPPU, AFOLU and waste sectors presented as text, tables and charts within the BUR and as appendix A to the BUR. Jordan reports actions that are planned, yet to be planned, an idea or an idea/yet to be implemented. However, except for the energy sector, where Jordan presents its renewable energy projects that are currently under development in table 3.3, it does not provide information on mitigation actions that are already implemented, ongoing or committed through national policies and strategies, although it is clear from the BUR that these actions exist. During the technical analysis, Jordan clarified that it reported information on its mitigation analysis in a tabular format only for valid possible projects and options, and as an update of its NC3. The TTE notes that the provision of information on implemented, adopted and ongoing mitigation actions in the BUR could facilitate a better understanding of the information reported.

46. Consistent with decision 2/CP.17, annex III, paragraph 12(a), Jordan reported names and descriptions of its mitigation actions; the nature of the actions; coverage by sectors, subsectors and gases; and quantitative goals until 2040. However, Jordan did not provide information on progress indicators for all mitigation actions. During the technical analysis, Jordan clarified that it does not have a tracking and verification system for GHG emission reductions for its mitigation projects across all sectors. The TTE notes that the provision of information on progress indicators in the BUR could facilitate a better understanding of the information reported.

47. Mitigation actions were reported for the energy sector, including information on the objectives, methodologies and underlying assumptions. Jordan uses the LEAP model as a methodology for performing mitigation analysis for the energy sector. The reported mitigation actions are mainly in the areas of primary energy generation, energy efficiency and promotion of renewable energy development. Since most of Jordan's mitigation actions are either ideas or in the planning stage, information on the steps taken to implement the mitigation actions was not reported. Regarding the mitigation actions under development in the energy sector, Jordan reports that the expected total renewable energy capacity by the end of 2020 will be approximately 1350 MW, representing 25 per cent of all installed capacity and contributing to 20 per cent of generated electricity. For the planned primary energy mitigation projects, key examples highlighted in the BUR are loss reduction in electricity transmission and in the distribution network, which can lead to a significant reduction in fuel consumption and an emission reduction of 8,435,000 t CO<sub>2</sub> eq over the next 23 years. The natural gas distribution network in Amman, Zarqa and Aqaba has an estimated emission reduction of 3,442,000 t CO<sub>2</sub> eq for the next 20 years. Further, the demand-side management action aims to reduce overall energy consumption with an estimated GHG emission reduction of 2,842,000 t CO<sub>2</sub> eq during the next 22 years.

48. For the transport sector Jordan reports in its BUR two mitigation options that were considered in the NC3 as part of its baseline scenario: emission reduction by using hybrid cars for public passengers and emission reduction by Amman–Zarqa Bus Rapid Transit. Jordan reports that it does not suggest any new projects in the transport sector in the BUR because of a lack of expertise at the national level, as well as a lack of clarity in responsibilities and mandates among acting institutions within the sector. Therefore, Jordan does not provide information on the methodologies, underlying assumptions and results achieved for these mitigation actions in this sector.

49. Mitigation actions were reported for the IPPU sector and are detailed in table A.25. The table includes information on the methodologies and underlying assumptions used for these mitigation actions. These mitigation actions are mainly in the areas of use of steel slag and/or fly ash to substitute the raw materials needed to produce clinker at the selected cement plants with a potential emission reduction of 226.9 Gg CO<sub>2</sub> eq at the end of the project duration (2018–2040) and an increase of the percentage of pozzolana in local cement production. The mitigation option with the most significant emission reduction is the catalytic reduction of N<sub>2</sub>O inside the ammonia burner of the nitric acid plant, aimed to reduce 1,433.3 Gg CO<sub>2</sub> eq over the project duration (2019–2040). Jordan reported its mitigation measures for the IPPU sector as mitigation options/ideas that have not yet been implemented. With regard to the methodology for developing emission projections in the IPPU sector, the TTE noted that the mitigation analysis for both baseline and mitigation scenarios does not include emissions of HFCs, although they are included in the GHG inventory. During the technical analysis, Jordan clarified that these gases are not considered significant in Jordan because they are not one of the key sources and are thus considered negligible and not a priority to the country.

50. Mitigation actions were reported for the AFOLU sector, including measures for agriculture and land use in table A.26 of the BUR. The table includes information on the methodologies and underlying assumptions used for each of these mitigation actions. The mitigation actions cover the restoration of rangelands with a cumulative emission reduction potential of 7,112 t CO<sub>2</sub> eq and protection of natural rangelands (area 100,000 dunum<sup>2</sup>)

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<sup>2</sup> 1 dunum equals 1000 m<sup>2</sup>.

with a cumulative emission reduction of 11,853 t CO<sub>2</sub> eq for 15 productive years and a reforestation project with a cumulative emission reduction of 8,278.91 t CO<sub>2</sub> eq for 10 productive years. Jordan reported that these mitigation measures are planned or are project ideas yet to be implemented.

51. Mitigation actions were reported for the waste sector, including information on the methodologies and underlying assumptions used for these planned mitigation actions. Two mitigation actions are reported in waste: (1) capture of CH<sub>4</sub> emissions from selected landfills in Jordan (Ankider, Madaba, Dulail, Karak and Salt) with a potential emission reduction of 7,696,205 t CO<sub>2</sub> eq for the project duration (2019–2043) and (2) anaerobic digestion of sludge at selected wastewater treatment plants (Baq'a, Salt, Madaba, Ramtha, Wadi and Alarab), with a total emission reduction potential of 1,286,716 t CO<sub>2</sub> eq for the project duration (2019–2043). Jordan reported that these two mitigation measures for waste projects are planned. With regard to the methodology for developing projections for the waste sector, the TTE noticed the inconsistency between waste emissions for solid waste in the GHG inventory, where Jordan reported that the emissions were 1,488 Gg CO<sub>2</sub> eq, and in the mitigation analysis in the BUR, where they were 2,961 Gg CO<sub>2</sub> eq. During the technical analysis, Jordan clarified that the difference in the waste sector was attributed to using two different methodologies for estimating emissions, namely the first-order decay method for the GHG inventory and the mass balance method for mitigation assessment. The TTE noted that providing information on methodologies used for estimating emissions for mitigation assessment in the BUR could facilitate a better understanding of the information reported.

52. Jordan provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. Jordan has reported that it has 15 CDM projects approved by its designated national authority, of which four are registered with the UNFCCC. Jordan further reported on the challenges faced in implementing the CDM projects, which included (1) a limited technical capacity among local experts on project identification and development including crediting methodologies and (2) the lack of local credible designated operational entities to verify the projects. To enable the TTE to better understand the information reported, Jordan provided detailed information of its 15 CDM projects in tabular format during the technical analysis, including the name and a brief description of the project, expected emission reductions, project value and date of the project design document. For the four registered CDM projects, the total expected emission reductions are 1,190,239 t CO<sub>2</sub> eq.

53. The TTE noted that the transparency of the information reported could be further enhanced by addressing the areas noted by the TTE in paragraphs 45, 46, 48, 51 and 52 above, which could enable the TTE to better understand the information reported.

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

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

55. In its BUR Jordan reported updated information from previous NCs on gaps and constraints, as well as related financial, technical and capacity-building needs, and identified new information in the process of preparing its first BUR, including the recommendations and resources required to overcome barriers. In its BUR Jordan identified that technical capacity-building is needed in the process of preparing GHG inventories and identifying GHG mitigation measures. The Party further highlighted capacity-building needs in relation to raising the capacities of stakeholders to produce bankable viable projects and raising the awareness of bankers of technical project evaluation and assessment. The main gaps and constraints Jordan reported in the process of preparing the NCs are the lack of sustainability, institutional arrangements, data collection and quality of data. Jordan reports that the complex nature of mitigation actions and initiatives being developed and implemented within the UNFCCC has been a challenge and that the various features of CDM, nationally appropriate mitigation actions, low-emission development strategies, intended nationally determined contributions and other mitigation tools make it

difficult for a holistic planning perspective in climate change mitigation. The steps identified by Jordan in the BUR to address the gaps and constraints include training national experts on IPCC methodologies and other methodologies related to mitigation and institutional arrangements to ensure a continuous process of preparing GHG inventories and NCs.

56. Jordan reported information on financial resources, technology transfer, capacity-building needs and technical support received from the Global Environment Facility and other bilateral and multilateral institutions consistent with decision 2/CP.17, annex III, paragraph 15, in a tabular form. Further, the Party reported that it has benefited from participating in training workshops and received technical support from the Global Support Programme. Jordan reported that it received USD 352,000 from the Global Environment Facility for the preparation of its first BUR.

57. Jordan reported information on its technology needs and the technology support received. A technology needs assessment was prepared by the Ministry of Environment for the period 2015–2017 that includes nationally determined climate change technology needs in the areas of mitigation and adaptation, as well as barriers, an enabling framework and technology action plans for priority areas. The key sectors identified are energy, agriculture, transport and water. The technology needs assessment was the basis for the technology needs reported in the BUR. However, information on technology support received is not clearly reported in the BUR. During the technical analysis, Jordan indicated that it faced gaps in available data due to insufficient knowledge in terms of project labelling and archiving. The TTE notes that the transparency of information reported could be enhanced by distinguishing between technology support received from other sources.

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

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

(a) Enhance technical capacity on using surrogate data and other splicing techniques from the 2006 IPCC Guidelines that can help fill gaps of historical data and generate a consistent time series;

(b) Develop technical capacity for data collection and estimation of emissions of HFCs on a gas-by-gas basis, particularly capacity-building needs related to collecting data from equipment disposal and processing raw data from the custom departments and other national and/or international sources;

(c) Develop technical capacity to perform key source category analysis, particularly capacity-building needs for executing level and trend analysis, and to use the outcomes of the key category analysis;

(d) Develop technical capacity to perform uncertainty analysis, particularly capacity-building needs for the quantification of uncertainties of AD and EFs and other parameters of each source/sink category, and to use the outcomes of uncertainty analysis;

(e) Enhance technical capacity to conduct ongoing surveys to provide accurate data and to integrate climate change questions in existing energy surveys that mainly focus on energy;

(f) Enhance capacity for data collection, project labelling and tracking information for reporting the technology support received;

(g) Enhance technical capacity for developing national EFs and using higher tier methods in the categories defined as key and particularly in the AFOLU and waste sectors;

(h) Enhance technical capacity to report on mitigation actions that are already implemented or ongoing across all sectors;

(i) Enhance technical capacity for establishing a verification and tracking system of GHG reductions for various mitigation actions across all sectors;

(j) Enhance capacity in reporting progress and the underlying steps envisaged for the planned mitigation actions and when they will be implemented;

(k) Enhance capacity for analysing emission reductions during the implementation period for each mitigation action.

59. The TTE noted that, in addition to those identified during the technical analysis, Jordan reported the following capacity-building needs in section 5.3 of its BUR covering the following areas:

(a) GHG inventory preparation, including:

(i) Applying the 2006 IPCC Guidelines and IPCC Inventory Software;

(ii) Estimating emissions of indirect GHGs such as NO<sub>x</sub>, NMVOC, CO and SO<sub>x</sub>;

(iii) Recalculating emission estimates for years reported in previous NCs;

(iv) Developing national EFs and using higher tier methodologies;

(b) GHG mitigation measures, including:

(i) Expanding the expertise base and the knowledge capacity for conducting mitigation analysis through an extensive training program;

(ii) Using the LEAP model for mitigation assessment;

(iii) Generating programme-based scenarios rather than project-based scenarios using the model;

(iv) Enhancing capacity among stakeholders relevant to the transport sector in the development of mitigation actions and their assessment;

(v) Carrying up-to-date surveys to provide necessary data for mitigation assessment on a continuous basis.

### III. Conclusions

60. The TTE conducted a technical analysis of the information reported in the first BUR of Jordan 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 the national circumstances and institutional arrangements relevant to the preparation of BURs and NCs; the national inventory of anthropogenic emissions by sources and removal 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; domestic MRV; and any other information relevant to the achievement of the objective of the Convention. During the technical analysis, additional information was provided by Jordan on the registered CDM projects. The TTE concluded that the information analysed is mostly transparent.

61. Jordan reported information on the institutional arrangements relevant to the preparation of BURs. The Climate Change Directorate of the Ministry of Environment is the coordinating branch at the national level for all climate change related activities, including the implementation of the provisions of the UNFCCC. To facilitate the exchange of data among the institutions a National Committee on Climate Change was established, and the mandate of this Committee is under review with the purpose of enhancing its role. Further, Jordan reports that a national effort is ongoing, supported by the World Bank's Partnership for Market Readiness, to develop a multilevel MRV system. The TTE noted that the plans to improve the overall MRV system of GHG inventory emissions, the MRV system on mitigation measures and the MRV system on support, as outlined in its BUR, would contribute to achieving sustainable reporting to the secretariat.

62. In its first BUR, submitted in 2017, Jordan reported information on its national GHG inventory for the years 2010 and 2012. 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. Concerning the precursor gases, only NMVOC emissions resulting from the solvents subsector were estimated. Estimates of HFC emissions were provided, while emissions of PFCs and SF<sub>6</sub> were reported as either “NO” or “NA”. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2012 were reported as 27,997.73 CO<sub>2</sub> eq. Thirteen key categories were identified. Various fuel combustion activities associated with CO<sub>2</sub> emissions were among the top four sources and accounted for around 73 per cent of emissions. The solid waste disposal, IPPU and AFOLU subsectors, which are associated with CO<sub>2</sub>, CH<sub>4</sub> and HFCs emissions, accounted for the balance, along with some small fuel combustion subcategories.

63. Jordan reported information on mitigation actions and their effects, including the baseline and mitigation scenarios for 2015–2040. Jordan frames its national mitigation planning and actions in the context of the national strategy Jordan 2025 launched in 2015 and the new energy strategy of 2015–2025. Jordan reports actions that are planned, yet to be planned, an idea, or an idea/yet to be implemented. Actions are reported in several sectors and subsectors, including primary energy, renewable energy, energy efficiency, waste and agriculture. The key mitigation actions that are planned and have the highest expected emission reductions include reducing transmission and distribution network losses (cumulative reductions of 8,435 Gg CO<sub>2</sub> eq between 2017 and 2022) and capturing CH<sub>4</sub> emissions from selected landfills (7,696 Gg CO<sub>2</sub> eq between 2019 and 2043). Jordan reported that if the mitigation actions reported in its BUR are implemented, the cumulative GHG emission reductions will achieve 7.85 Mt CO<sub>2</sub> eq in 2025 and 9.32 Mt CO<sub>2</sub> eq in 2040.

64. Jordan reported updated information in its first BUR on key constraints, gaps and related needs, including the recommendation to address them. The information reported in the BUR clearly identifies the needs related to developing the national GHG inventory and the GHG mitigation measures. Information on support received and needed was reported for mitigation and adaptation actions. Jordan also reported the challenge of establishing a standardized and sustainable system for monitoring the financial support received due to a lack of available information. Information on nationally determined technology needs was reported while information on technology support received was not clearly reported in the BUR.

65. The TTE, in consultation with Jordan, identified 11 capacity-building needs listed in chapter II.D above that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. The Party identified the capacity-building needs in paragraph 58(a–f) above as immediate, high-priority needs and the capacity-building needs in paragraph 58(g–k) above as medium-priority needs.

1.

**Annex I****Extent of the information reported by Jordan in its first biennial update report**

Table 1

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

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/ no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, paragraph 41(g)	The first BUR shall cover, at a minimum, the inventory for the calendar year no more than four years prior to the date of the submission, or more recent years if information is available, and subsequent BURs shall cover a calendar year that does not precede the submission date by more than four years.	No	Jordan submitted its first BUR in November 2017; the GHG inventories reported are for 2010 and 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 NCs from non-Annex I Parties approved by the COP or those determined by any future decision of the COP on this matter.	Yes	Jordan 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 EF may be made in the subsequent full NC.	No	The AD used for the estimation of emissions and removals for the years 2010 and 2012 were not reported in the BUR. The BUR did not contain updated AD for the years reported in the NC3.
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) Tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF; (b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Partly  Partly	Partially comparable information to tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF was reported in the first BUR.  Partially comparable information to sectoral tables annexed to the Revised 1996 IPCC Guidelines was reported in the first BUR.
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 NCs.	Partly	Jordan has included in the first BUR a national inventory for the years 2010 and 2012 using the 2006 IPCC Guidelines. The emissions for 2006, which were reported in the NC3 using the Revised 1996 IPCC Guidelines, were reported in the BUR but without being recalculated. Data for 1994 and 2000 were not reported, although they were included in Jordan's NC1 and NC2, respectively.
Decision 2/CP.17, annex III,	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables	Partly	This information is reported for 2006, but not for 1994 and 2000.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/ no/NA</i>	<i>Comments on the extent of the information provided</i>
paragraph 8	of inventories for previous submission years (e.g. for 1994 and 2000).		
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 GHG inventories), including:		
	(a) Table 1 (National GHG inventory of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol and GHG precursors);	Yes	Comparable information was reported in table 2.21 for 2010 and table 2.22 for 2012.
	(b) Table 2 (National GHG inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).	Partly	Jordan did not report emission estimates on a gas-by-gas basis.
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	NA	
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.	Yes	
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO <sub>2</sub> ;	Yes	
	(b) CH <sub>4</sub> ;	Yes	
	(c) N <sub>2</sub> O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	Yes	PFC and SF <sub>6</sub> emissions were reported as "NA" or "NO".
	(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.	Partly	Jordan reported only NMVOC emissions associated to the solvents subsector.
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO <sub>x</sub> , included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	No	



<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/ no/NA</i>	<i>Comments on the extent of the information provided</i>
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible and if disaggregated data are available, to estimate and report CO <sub>2</sub> fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	Yes	
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	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 Second Assessment Report based on the effects of GHGs over a 100-year time-horizon.	Yes	
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	Jordan used the tier 1 method from the 2006 IPCC Guidelines for all source/sink categories by using the IPCC Inventory Software (versions 2.16 and 2.17).
	(b) Explanation of the sources of EFs;	Yes	Jordan used the default EFs from 2006 IPCC Guidelines for all source/sink categories.
	(c) Explanation of the sources of AD;	Yes	Appendix B includes a detailed list of the type and sources (entities) of AD that are needed for the GHG inventory.
	(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;		

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/ no/NA</i>	<i>Comments on the extent of the information provided</i>
	(iv) AD;		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1 and 2 of the guidelines annexed to decision 17/CP.8 in reporting its national GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information that is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated.	Yes	Notation keys were used.
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:		
	(a) Level of uncertainty associated with inventory data;	Yes	
	(b) Underlying assumptions;	Yes	
	(c) Methodologies used, if any, for estimating these uncertainties.	Yes	

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

Table 2

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

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in a 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.	Partly	Jordan has provided information in a tabular format for its planned and proposed ideas of mitigation actions in all sectors. However, except for electricity generation, the Party has not reported in a tabular format mitigation actions that are implemented or ongoing.
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	Partly	Progress indicators were not reported.

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
	progress indicators;		
	(b) Information on:		
	(i) Methodologies;	Yes	Jordan has reported mostly the methodology used for developing a baseline scenario and the mitigation projections from 2015 to 2040. The Party uses the LEAP model to perform mitigation analysis for the energy sector and used statistical and economic tools that incorporate demographic, macroeconomic and other sector-specific factors to conduct the baseline and mitigation analysis for the IPPU, AFOLU and waste sectors.
	(ii) Assumptions;	Yes	
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	N/A	Jordan reports actions that are planned, yet to be planned, an idea, or an idea/yet to be implemented.
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Yes	
	(ii) Progress of implementation of the underlying steps taken or envisaged;	NA	Jordan does not report the progress of implementing the underlying steps taken, as all its projects are planned or proposed.
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	Jordan does not report any results achieved, as most of its mitigation actions are in the planning or idea stage. It partly reports on its energy projects currently under implementation in table 3.3 but does not report the quantitative GHG emission reductions for these projects.
	(e) Information on international market mechanisms.	Yes	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on the description of 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, paragraphs 11–13.

Table 3

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

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

<i>Decision</i>	<i>Provision of the reporting requirements</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
	building needs.		
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; (b) Information on technical support received from the Global Environment Facility, Parties included in Annex II to the Convention and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR.	Yes  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; (b) Technology support received.	Yes  Partly	From the information provided in the BUR, the technology support received is not clearly distinguishable.

*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.

## Annex II

### Documents and information used during the technical analysis

#### Reference documents

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First BUR of Jordan. Available at <http://unfccc.int/8722.php>.

First, second and third NCs of Jordan. Available at <https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communications-submissions/national-communications-submissions>.