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## **Technical analysis of the first biennial update report of Uzbekistan submitted on 5 July 2021**

### **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 Uzbekistan, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.



## Abbreviations and acronyms

|   |  |
|---|--|
| 2006 IPCC Guidelines  | <i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>  |
| AD  | activity data  |
| AFOLU   | agriculture, forestry and other land use   |
| AR  | Assessment Report of the Intergovernmental Panel on Climate Change   |
| BUR   | biennial update report   |
| CDM   | clean development mechanism  |
| CH <sub>4</sub>   | methane  |
| CO <sub>2</sub>   | carbon dioxide   |
| CO <sub>2</sub> eq  | carbon dioxide equivalent  |
| EEA   | European Environment Agency  |
| EF  | emission factor  |
| EMEP  | Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe     |
| ETF   | enhanced transparency framework under the Paris Agreement  |
| 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>   |
| IPPU  | industrial processes and product use   |
| LULUCF  | land use, land-use change and forestry   |
| MRV   | measurement, reporting and verification  |
| N <sub>2</sub> O  | nitrous oxide  |
| NA  | not applicable   |
| NC  | national communication   |
| NE  | not estimated  |
| NIR   | national inventory report  |
| NO  | not occurring  |
| non-Annex I Party   | Party not included in Annex I to the Convention  |
| 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  |
| 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 a record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. The least developed countries and small island developing States may submit at their discretion.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. This summary report presents the results of the technical analysis of the first BUR of Uzbekistan, 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, Uzbekistan submitted its first BUR on 5 July 2021 as a stand-alone update report.
6. The Party was unable to provide any clarification of the reason for not complying with the mandated submission timeline outlined in paragraph 2 above owing to the repeated change in appointment of both the head of the Hydrometeorological Service Centre of Uzbekistan and the national focal point for the UNFCCC.
7. A desk analysis of Uzbekistan's BUR was conducted remotely from 29 November to 3 December 2021 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: Koffi Ayassou (Togo), Kamal Djemouai (former member of the Consultative Group of Experts from Algeria), Valentina Idrissova (Kazakhstan), Mwangi James Kinyanjui (Kenya), Inga Konstantinaviciute (Lithuania), William L'Heudé (France), Maria Jose Lopez (Belgium), Christopher Manda (Malawi), Neranda Maurice-George (Saint Lucia), Malik Mechhoud (Algeria), Noura Mohamed Lotfy (Egypt), Mame Coumba Ndiaye (Senegal) and Koen E.L. Smekens (Belgium). Mr. Kinyanjui and Ms. Lopez were the co-leads. The technical analysis was coordinated by Anna Sikharulidze and Davor Vesligaj (secretariat).
8. During the technical analysis, in addition to the written exchange, in the virtual team room, to provide technical clarifications on the information reported in the BUR, the TTE and Uzbekistan 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 Uzbekistan's first BUR, the TTE prepared and shared a draft summary report with Uzbekistan on 24 February 2022 for its review and comment. Uzbekistan, in turn, provided its feedback on the draft summary report on 20 May 2022.
9. The TTE responded to and incorporated Uzbekistan's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 6 July 2022.

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

## **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 Uzbekistan'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 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 the tables included in annex I.

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

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

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

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

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

17. As per the scope defined in paragraph 2 of the UNFCCC reporting guidelines on BURs, the BUR should provide an update to the information contained in the most recently

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

18. Uzbekistan reported in its first BUR information on its national circumstances, including being one of the most vulnerable countries to climate change in Eurasia, with decreasing water resources, fast-melting glaciers and more frequent extreme meteorological events. The Party also reported information on governance, natural resources (water, land, ecosystems, minerals, etc.), geography, meteorology and climate, economic development, energy and industry, transport, agriculture and solid waste management.

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

20. Uzbekistan transparently reported information on its existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, including the designation of the Hydrometeorological Service Centre as the organization responsible for coordinating fulfilment of reporting commitments under the UNFCCC. The Party described the organizational and institutional structures in place for climate reporting. In addition, it reported information on the involvement and roles of other institutions and experts, mechanisms for information and data exchange, QA/QC procedures and provisions for public consultation and other forms of stakeholder engagement.

21. Uzbekistan reported information on its proposed domestic MRV arrangements, which are designed at the national level. The system will build on experience in implementing MRV for CDM projects; the general guidelines for domestic MRV of domestically supported nationally appropriate mitigation actions by developing country Parties,<sup>2</sup> including for an MRV system developed with the support of the United Nations Development Programme in 2014; a platform for monitoring and reporting on the implementation of sustainable development goals; and the MRV concept developed for the preparation of the first BUR. Uzbekistan's domestic MRV system will cover GHG emissions, mitigation action, and support required and provided, and include monitoring and evaluation of adaptation action.

22. Uzbekistan reported in its BUR (section 5.5) information on its current initiatives for enhancing its institutional arrangements for compliance with requirements under the ETF: a joint project of the GEF and the Food and Agriculture Organization of the United Nations entitled "Capacity-building to establish an integrated and enhanced transparency framework in Uzbekistan to track the national climate actions and support measures received", which relates to the creation of the domestic MRV system and the Party's transition to the ETF; and developing a national MRV implementation plan for establishing the institutional mechanisms and legal frameworks required to define the functions and tasks of those involved in implementing the Paris Agreement. The TTE commends the Party for the clear and comprehensive reporting on its proactive approach to preparing for ETF implementation.

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

23. As indicated in table I.1, Uzbekistan 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.

24. Uzbekistan submitted its first BUR in 2021 and the GHG inventory reported is for 1990–2017. The GHG emissions reported for 1990–2012 are updated estimates from the NC3, whereas emissions for 2013–2017 were reported for the first time. The GHG inventory is consistent with the requirements for the reporting time frame.

25. Uzbekistan did not reference its NIR in its BUR but mentioned it during the technical analysis. However, the NIR was not submitted to the secretariat and was not publicly

<sup>2</sup> Decision 21/CP.19, annex.

available at the time of the technical analysis. During the technical analysis, the Party clarified that the preparation and finalization of a separate NIR under its NC4 was delayed by challenges resulting from the coronavirus disease 2019 pandemic.

26. GHG emissions and removals for the BUR covering the 1990–2017 inventories were estimated using mostly tier 1 methodology from the 2006 IPCC Guidelines for all sectors, although in some cases tier 2 approaches were applied, such as for estimating fugitive emissions from natural gas operations and emissions from cement production, ammonia production, nitric acid production, enteric fermentation, forest land remaining forest land and solid waste disposal sites. Uzbekistan clearly reported methodologies and corresponding tiers used by category in the BUR (annex 2). The TTE commends Uzbekistan for using the 2006 IPCC Guidelines to report a consistent time series.

27. Information on the sources of AD and EFs used was clearly reported in the BUR (annex 2). The main sources of AD are the national statistical agency, the Ministry of Agriculture, the State Committee on the Environment, the Forestry Research Institute and major cement and chemical producers.

28. However, specific AD – including on production levels, amounts of fuel used, fertilizers applied and areas of land – and country-specific EFs were not reported in the BUR. Furthermore, no additional information was provided on how the country-specific EFs were estimated. During the technical analysis, the Party clarified that more comprehensive information will be available in the forthcoming NIR. Further, the Party clarified the capacity constraints that it faces in improving the quality and availability of AD, facilitating the transition to using the 2006 IPCC Guidelines and collecting AD and estimating emissions of HFCs, PFCs, SF<sub>6</sub> and nitrogen trifluoride for the IPPU sector.

29. Information on the Party’s total GHG emissions by gas for 1990–2017 is outlined in table 1 in Gg CO<sub>2</sub> eq. It shows an increase in emissions of 10.6 per cent with land and HWP since 1990 (180,575.55 Gg CO<sub>2</sub> eq).

Table 1  
**Greenhouse gas emissions by gas of Uzbekistan for 1990–2017**

| <i>Gas</i>       | <i>GHG emissions (Gg CO<sub>2</sub> eq) including land and HWP<sup>a</sup></i> | <i>% change 1990–2017</i> | <i>GHG emissions (Gg CO<sub>2</sub> eq) excluding land and HWP<sup>a</sup></i> | <i>% change 1990–2017</i> |
|------------------|--|---------------------------|--|---------------------------|
| CO <sub>2</sub>  | 92 804.93  | –4.9                      | 101 436.17   | –9.2                      |
| CH <sub>4</sub>  | 73 126.78  | 29.9                      | 73 126.78  | 29.9                      |
| N <sub>2</sub> O | 14 376.12  | 52.3                      | 14 376.12  | 52.3                      |
| HFCs             | 269.73   | NA                        | 269.73   | NA                        |
| PFCs             | NE   | NA                        | NE   | NA                        |
| SF <sub>6</sub>  | NE   | NA                        | NE   | NA                        |
| Other            | NE   | NA                        | NE   | NA                        |
| <b>Total</b>     | <b>180 575.55</b>  | <b>10.6</b>               | <b>189 207.79</b>  | <b>6.7</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)).

30. Information on emissions of precursor gases was not reported in Uzbekistan’s BUR and the reason for this was not clear to the TTE. However, emissions of nitrogen oxides, carbon monoxide, non-methane volatile organic compounds and sulfur dioxide were reported in the Party’s NC3. During the technical analysis, the Party clarified that the emission estimates reported in the NC3 need to be revised and it plans to report these emissions in the NIR. The Party also clarified the capacity constraints that it faces in using the *EMEP/EEA air pollutant emission inventory guidebook 2019* to estimate emissions of precursor gases for the categories specific to the national circumstances of Uzbekistan.

31. Uzbekistan applied notation keys in tables where numerical data were not provided. The use of notation keys was mostly consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. Uzbekistan reported “NE” for all categories

for which an IPCC methodology and default EFs exist but it did not estimate emissions owing to lack of AD. It reported “NO” for categories of emissions that do not occur in the country.

32. Uzbekistan reported mostly 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. Emissions and removals for corresponding sectors and categories were reported using IPCC inventory software.

33. Information on emissions and removals disaggregated by category for land-use change practices and carbon stock changes was not reported in the BUR. In the BUR, Uzbekistan clarified that these emissions and removals were not estimated owing to lack of data on areas of land transition.

34. 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 2017 are reflected in table 2.

Table 2

**Shares of greenhouse gas emissions by sector of Uzbekistan for 2017**

| <i>Sector</i>   | <i>GHG emissions<br/>(Gg CO<sub>2</sub> eq)</i> | <i>% share<sup>a</sup></i> | <i>% change<br/>1990–2017</i> |
|---|---|----------------------------|-------------------------------|
| Energy  | 144 408.86                                      | 76.3                       | –4.7                          |
| IPPU  | 8 468.17  | 4.5                        | –3.8                          |
| AFOLU   | 25 020.05                                       | 13.2                       | 2 227.8                       |
| Livestock (category 3.A)  | 22 540.07                                       | 11.9                       | 164.9                         |
| Land (category 3.B)   | –8 632.24                                       | NA                         | 38.6                          |
| Aggregate sources and non-CO <sub>2</sub> emissions<br>sources on land (category 3.C) | 11 112.23                                       | 5.9                        | 67.6                          |
| HWP and other emissions (category 3.D)  | NO  | NA                         | NA                            |
| Waste   | 2 679.45  | 1.4                        | 43.3                          |
| Other   | NO  | 0.0                        | NA                            |

<sup>a</sup> Share of total without 2006 IPCC Guidelines AFOLU category 3.B (land) and, if reported, 3.D (HWP (3.D.1) and other emissions (3.D.2)).

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

36. For the energy sector, information was clearly reported on GHG emissions, emission trends and drivers, methodological tier levels, sources of AD and EFs, key categories and notation keys used, as well as other information specific to the sector. The biggest key source was fugitive emissions from natural gas operations (category 1.B.2.b), accounting for 22.7 per cent of total national emissions in 2017. Natural gas was the main source of CO<sub>2</sub> emissions from energy industries (category 1.A.1) in 2017, accounting for 13.3 per cent of total national emissions. Emissions from fuel combustion decreased by 10.4 per cent from 1990 to 2017, owing to the switch from solid to gaseous fuels, whereas fugitive emissions increased by 7.2 per cent.

37. For the IPPU sector, information was clearly reported on GHG emissions, methodological tier levels, sources of AD and EFs, key categories and notation keys used, as well as other information specific to the sector. Mineral and chemical industry were the main sources of GHG emissions in 2017, accounting for 40.8 and 42.7 per cent, respectively, of the total sectoral emissions. The most significant reductions in IPPU sector emissions occurred in the mid-1990s owing to a decrease in production and an economic crisis. Emissions from carbide production (category 2.B.5), soda ash production (category 2.B.7), paraffin wax use (category 2.D.2) and electronics industry (category 2.E) were reported as “NE” owing to lack of AD.

38. Information on emissions of PFCs and SF<sub>6</sub> was not reported in Uzbekistan’s BUR, although electrical equipment containing SF<sub>6</sub> is used in the country. As indicated in the BUR, Uzbekistan is in the process of collecting the necessary AD to report emissions as planned in the next inventory.

39. For categories 3.A and 3.C under the AFOLU sector from the 2006 IPCC Guidelines, enteric fermentation (CH<sub>4</sub>) and agricultural soils (N<sub>2</sub>O) were identified as key categories and the most relevant emissions sources in the sector. Emissions for these categories increased by 122.3 per cent between 1990 and 2017 owing mainly to a rise in the livestock population. Emissions from urea application (category 3.C.3) were not estimated owing to lack of AD.

40. For land (category 3.B), Uzbekistan reported annual GHG emissions and removals for 1990–2017. Overall, the net removals from land and HWP (categories 3.B and 3.D) fluctuated between a minimum of 8,632.24 CO<sub>2</sub> eq in 2017 and a maximum of 14,064.20 CO<sub>2</sub> eq in 1990. For forest land (3.B.1), cropland (3.B.2) and grassland (3.B.3), estimates covered only land that remained in the same land category. Emissions from wetlands (3.B.4), settlements (3.B.5) and other land (3.B.6) were not reported owing to lack of AD.

41. Information on emissions and removals from land-use change practices in different categories was not reported owing to lack of information on land transition between categories. In addition, no information was reported on the areas of land. During the technical analysis, Uzbekistan clarified that it faces capacity constraints in improving the estimates for forestry and other land use. The Party also clarified that it will report emissions and removals from land-use change practices in different categories as soon as relevant AD are available. This issue is included in Uzbekistan's inventory improvement plan, which is currently being developed for the medium term.

42. For the waste sector, information was clearly reported on GHG emissions, methodological tier levels, sources of AD and EFs, key categories and notation keys used, as well as other information specific to the sector. The largest share of emissions in the waste sector was accounted for by solid waste disposal on land (category 4.A), at 81 per cent in 2017. GHG emissions in the sector stabilized in 2013–2017 owing to an increase in the share of waste processing and a decrease in the amount of waste disposed to landfill.

43. Emissions from incineration and open burning of waste (category 4.C) were not estimated. In the BUR, the Party clarified that this was due to lack of AD.

44. The BUR provides an update to all of the GHG inventories reported in the Party's previous NCs. The information reported provides an update of Uzbekistan's NC3, which addresses anthropogenic emissions and removals for 1990–2012. The update was carried out for 1990–2012 using methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 18-year time series. The Party reported that it recalculated emissions for the energy, IPPU, AFOLU and waste sectors for 1990–2012 owing to changes in methodology. The Party also reported that recalculations were performed using 2006 IPCC Guidelines methodology and updated EFs, and resulted in a decrease in estimated emissions for 2012 of 2.2 per cent. The GHG inventories for 1990–2017 reported in the BUR are consistent.

45. Uzbekistan described in its BUR the institutional framework for the preparation of its 2017 GHG inventory. The Party reported that the Hydrometeorological Service Centre is the governmental body responsible for its climate change policy and GHG inventory. The existing framework allows for a stable GHG inventory team and database and the continuous improvement of the inventory.

46. Uzbekistan clearly reported that a key category analysis was performed for the level of emissions. A total of 21 categories were identified as key by Uzbekistan, 10 of which are related to energy.

47. Information on the trend assessment for the key category analysis was not reported in Uzbekistan's BUR. However, the Party clarified during the technical analysis that a trend assessment was performed for the key category analysis with and without forestry and other land use but was not included in the BUR. The Party specified that the trend assessment will be presented in the NIR for 1990–2019.

48. The BUR provides information on QA/QC measures for all sectors. In accordance with the 2006 IPCC Guidelines, QC is carried out at all stages of GHG inventory preparation. GHG emission reports are subject to QA and approval by all ministries and agencies concerned and then an international expert assessment under the UNFCCC. The TTE commends Uzbekistan for providing information in accordance with the IPCC good practice guidance.



49. Uzbekistan reported information on CO<sub>2</sub> emissions from fuel combustion using only the sectoral approach. During the technical analysis, the Party clarified that both the sectoral and the reference approach were used and that the results are not yet available but will be included in the NIR.

50. Information was reported on international aviation fuels. Emissions from international marine bunkers were reported as “NE” owing to lack of AD. However, given the geographical position of Uzbekistan, the TTE believes that international marine bunkers might not be present in Uzbekistan, in which case “NO” should be reported instead. During the technical analysis, the Party clarified that it will correct the information reported on emissions from international bunkers for the next NIR.

51. Uzbekistan reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and covers all reported source categories and all direct GHGs. The results obtained, as reported in the BUR, reveal that the level uncertainty for emissions is 10.5 per cent for 2017.

52. Information on selected uncertainty values for AD and EFs and on the uncertainty trend was not reported in Uzbekistan’s BUR and the reason for this was not clear to the TTE. During the technical analysis, the Party clarified that the uncertainty values for AD and EFs for all categories and the trend assessment will be provided in the NIR.

53. The TTE noted that the transparency of the information reported on GHG inventories could be enhanced by addressing the areas noted in paragraphs 25, 28, 30, 41, 47, 49 and 52 above, which could facilitate a better understanding of the information reported on GHG inventories.

54. Uzbekistan reported in its BUR (section 6) information on its areas for improvement for future BURs for compliance with requirements under the ETF. Relevant initiatives relate to strengthening the national GHG inventory system and assessing GHG emission reductions, mobilizing human, financial and technological resources and promoting technology transfer.

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

55. As indicated in table I.2, Uzbekistan 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.

56. The information reported provides a comprehensive overview of the Party’s mitigation actions and their effects. In its BUR, Uzbekistan reported information on its national context and framed its national mitigation planning and actions in the context of the national Strategy for Innovative Development for 2019–2021, national Strategy for Transition to a Green Economy for 2019–2030 and national Concept on Environmental Protection until 2030, covering all sectors of the economy. In addition, Uzbekistan reported on strategies for different sectors, including transport, the building materials industry, agriculture, waste, water resources, and electricity and heat. These strategies are complemented by development programmes targeting specific areas such as environmental protection, structural transformation and modernization of industry, energy saving, hydropower and renewable energy sources. The BUR indicates the status of these programmes as completed (or implemented), ongoing or planned.

57. In the BUR, the Party reported that its nationally determined contribution implies a reduction of the negative impact on the climate in the form of a 10 per cent reduction in specific emissions per unit of gross domestic product by 2030 compared with the 2010 level. It aims to reach this objective through the socioeconomic and structural transformation of sectors, the modernization and diversification of production, the reduction of energy intensity per unit of gross domestic product and the introduction of energy-saving technologies. The nationally determined contribution applies to CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. It defines (1) the main sectors in which emissions will be reduced, namely energy (improving efficiency of energy generation, developing renewable energy sources, reducing losses as a result of natural gas leakage), industry (modernization and technical upgrade of industrial facilities) and transport (expanding transport and logistics communication systems); and (2) priority areas in the field

of adaptation, namely agriculture and water management, social development, strategic infrastructure, and mitigation of the consequences of the Aral Sea disaster. During the technical analysis, Uzbekistan informed the TTE that its updated nationally determined contribution, submitted on 30 October 2021, includes a target for a 35 per cent reduction in emissions of certain gases per unit of gross domestic product by 2030 compared with the 2010 level.

58. Uzbekistan reported that climate change has been mainstreamed in and integrated into its development plans. Most of the mitigation actions reported concern CO<sub>2</sub> emissions from combustion in the energy, transport, industry, buildings and agriculture sectors. The implemented mitigation actions are expected to contribute to estimated emission reductions by 2030 of 21,500 Gg CO<sub>2</sub> eq in the Party's "realistic" scenario and 46,005 Gg CO<sub>2</sub> eq in its "ambitious" scenario, both compared with its "inertial" (or reference) scenario. The inertial scenario results in GHG emissions of 269,600 Gg CO<sub>2</sub> eq by 2030. The energy sector is the main source of emission reductions. Uzbekistan reported that, if all mitigation actions are maintained, annual GHG emissions in the ambitious scenario are expected to be 223,100 Gg CO<sub>2</sub> eq by 2030, an increase of 18 per cent compared with the base year (2017) level (189,800 Gg CO<sub>2</sub> eq). Uzbekistan also reported that the projected upward trend in GHG emissions is due to the increase in the population of the country and its level of well-being; the development of energy-intensive economic sectors (industry, construction and transport); the increase in the production and processing of fossil fuels; and increased production in the agriculture sector.

59. The Party reported a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. However, measures reported were limited to the energy and forestry sectors and concerned mostly CO<sub>2</sub>, with some measures implemented in oil and gas industry concerning CH<sub>4</sub>. During the technical analysis, the Party clarified that the main measures taken in Uzbekistan to reduce GHG emissions are focused on the energy sector, which accounts for the highest share of national emissions. In the agriculture sector, which accounts for the second-highest share of national emissions, the country's recently developed programmes and Strategy for the Development of Agriculture until 2030 do not provide for measures for reducing CH<sub>4</sub> and N<sub>2</sub>O emissions from livestock, land use and other such areas. According to the Party, emissions from livestock and agricultural land will continue to grow, in conjunction with national food security, population growth and intensification of agricultural production. Work is under way in Uzbekistan to improve livestock breeding techniques and diet, and to replace nitrogen mineral fertilizers with organic ones. However, it is currently not possible to quantify the effects of these measures. At the same time, the collection of information on measures to reduce emissions of non-CO<sub>2</sub> gases continues.

60. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Uzbekistan clearly reported the names of mitigation actions or groups of actions, coverage (sector and gases) and progress indicators. A clear description of the mitigation actions, as well as information on quantitative goals and progress indicators, was provided in the BUR.

61. The Party clearly reported information on the objectives of the actions and results achieved, such as estimated outcomes and estimated emission reductions, for implemented, ongoing and planned actions in the energy sector and for completed measures in oil and gas industry. For reported measures in end-use sectors (buildings, industry, transport, water management, forestry and land use), and electricity grids and district heating networks, the effects of most measures (whether completed or ongoing) were reported. Effects were also reported for measures that are considered part of Uzbekistan's ambitious scenario, including measures that can be implemented with significant financial support from international financial institutions.

62. The mitigation actions focused mainly on reducing CO<sub>2</sub> emissions in the energy sector by modernizing power plants, reducing network losses, improving energy efficiency and promoting renewable energy sources. Uzbekistan's thermal power plant renewal and expansion project was successfully implemented in 2010–2019 and directly enabled the Government to secure investment for 2,995 MW new capacity, mainly through combined cycle gas turbine plants. The reported annual GHG emission reductions resulting from these actions amount to about 3,700 Gg CO<sub>2</sub> eq. Ongoing and planned actions in the power sector

were reported to add another 4,700 MW capacity, with an expected annual reduction of 8,000 Gg CO<sub>2</sub>. For the application of renewable energy sources in the power sector, Uzbekistan reported completed projects for implementing biogas, hydro, photovoltaic and wind power in 2013–2019, resulting in an annual GHG reduction of about 300 Gg CO<sub>2</sub> eq. Ongoing and planned renewable energy actions are expected to result in a reduction of 3,150 Gg CO<sub>2</sub> annually. Reported measures in oil and gas industry implemented in 2012–2017 resulted in reductions of about 9,700 Gg CO<sub>2</sub> eq, with the largest contribution from seven CDM projects aimed at reducing leakage (6,700 Gg CO<sub>2</sub> eq). The measures in the energy sector are expected to add 20,000 MW power generation capacity, including 5,000 MW solar photovoltaic energy and 3,000 MW wind power. These planned actions are expected to achieve 28,300 Gg CO<sub>2</sub> eq emission reductions, including 1,000 Gg CO<sub>2</sub> eq in oil and gas industry.

63. The BUR provides information on mitigation effects in the industry, buildings, transport, water and waste management sectors (the end-use or “consumption-side” sectors as referred to in the BUR). Measures in these sectors implemented in 2011–2019 resulted in an annual emission reduction of 680 Gg CO<sub>2</sub> eq, while planned and ongoing measures are expected to achieve an annual reduction of 9,200 Gg CO<sub>2</sub> eq. Measures in the end-use sectors under the ambitious scenario are expected to result in a reduction of 10,300 Gg CO<sub>2</sub> eq between 2020 and 2030, consisting of 4,000 Gg CO<sub>2</sub> in the industry sector, 2,500 Gg CO<sub>2</sub> in the transport sector, 1,100 Gg CO<sub>2</sub> in the water and agriculture sectors and 2,700 Gg CO<sub>2</sub> in the buildings sector.

64. Uzbekistan reported on ongoing and planned measures in the areas of forestry and land-fertility improvement, which are expected to provide carbon sequestration of 9,200 Gg CO<sub>2</sub> eq between 2018 and 2023. The Party is aiming to increase the national forest area by up to 4.5 million ha by 2030, including by creating plantations in up to 60 per cent of the desiccated area of the Aral Sea basin in Uzbekistan. The forest development programme approved for 2020–2024 already targets an increase in forest area of 2.78 million ha. Under its ambitious scenario, Uzbekistan reported a number of planned actions until 2030, including measures in the forestry sector that could contribute 6,000 Gg CO<sub>2</sub> eq in emission reductions.

65. Information on methodologies and assumptions used to estimate the emission reduction effects of all reported measures was not transparently reported in the BUR. Project documents and expert input were cited as the basis for estimating the effects of most mitigation actions. No further details on the methodology used to estimate the effects of individual actions were reported. Although the BUR (section 3.5) provides information on the use of the inertial (‘business as usual’), realistic and ambitious scenarios for illustrating its GHG emission forecasts up to 2030, the Party mentioned only the name of the tool applied (Greenhouse Gas Abatement Cost Model), without specifying how it was applied or taking into account national circumstances. In addition, the BUR does not clearly indicate how the reported scenarios are consistent with the individual mitigation actions reported. During the technical analysis, Uzbekistan clarified that the realistic and ambitious scenarios were developed using limited information on the mitigation measures considered. For the construction of each scenario, the potential for reducing emissions relative to ‘business as usual’ was taken into account.

66. The TTE noted that the steps taken or envisaged for the ongoing and planned measures were not always clear. For example, it is not clear which steps or institutional arrangements were made or are needed to achieve the goals of the actions reported. For most of the ongoing and planned demand-side actions, the effects were either not reported or reported as “undefined”. During the technical analysis, the Party clarified that such information is not available.

67. Uzbekistan provided information on its involvement in international market mechanisms. It documented seven verified projects under the UNFCCC CDM process. The statistics include information on the total projects, sectors covered and quantity of certified emission reductions issued for Uzbekistan. The seven CDM projects were aimed at reducing leakage at a compressor station in the gas distribution system and resulted in a reduction in emissions of 6,651.9 Gg CO<sub>2</sub> eq in 2012–2014.

68. Uzbekistan reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that the

Party is in the process of designing and developing a domestic MRV system for mitigation action (see section 5.2 of the BUR). The Party reported that designing the MRV system for mitigation action involves identifying institutional arrangements; determining the methodological framework required to assess the impact of policies and mitigation measures on reducing GHG emissions; identifying data sources (statistical departments, ministries, organizations, private companies) related to assessing policies and mitigation measures; defining reporting obligations; and defining approaches to verification.

69. Uzbekistan did not outline in its BUR the steps on a proposed pathway to establishing an enhanced MRV system, including establishing institutional arrangements, defining mitigation accounting standards, monitoring data collection responsibilities, defining reporting obligations and defining verification approaches and roles. In the BUR, the Party clarified that, in the process of preparing the first BUR, steps were taken to assess and analyse mitigation measures, and that the experience in analysing and processing this information will be used to develop reporting and monitoring procedures; however, it did not clarify precisely what this experience entailed. During the technical analysis, the Party clarified that it is currently developing a proposed pathway to establishing an enhanced MRV system.

70. The TTE noted that the transparency of the information reported on mitigation actions could be further enhanced by addressing the areas noted in paragraphs 59, 65, 66 and 69 above, which could facilitate a better understanding of the information reported on mitigation actions.

71. Uzbekistan reported in its BUR (section 6) information on its areas for improvement for future BURs, including initiatives for enhancing its MRV system. The initiatives relate to establishing a national reporting system for assessing the reduction of emissions as a result of the implementation of policies, measures and projects; defining a set of methodologies for assessing GHG emission reductions in economic sectors and for various technological areas in the field of climate change mitigation; developing a set of indicators for assessing the progress of mitigation measures; developing an integrated national MRV system for economy-wide emission reduction activities; and building the capacity of national experts for assessing and prioritizing mitigation measures on the basis of cost–benefit analysis.

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

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

73. Uzbekistan clearly reported information on constraints and gaps, and related financial, technical and capacity-building needs in accordance with decision 2/CP.17, annex III, paragraph 14. In its BUR, Uzbekistan identified its investment environment as its main constraint. The Government has been implementing reforms aimed at removing barriers to investment and improving the investment environment. The Party reported that its financial, technical and capacity-building needs are primarily in the areas of developing and strengthening existing technical and institutional capacity, including improving the quality of its estimates of GHG emissions; assessing technology needs and climate technology transfer mechanisms; devising methods and approaches to mobilize human, financial and technological resources; and designing and developing its MRV system. Uzbekistan also reported that it needs financial support from international organizations and financial institutions to develop its national MRV system.

74. Uzbekistan reported information on financial resources, technology transfer, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, Uzbekistan reported that it received USD 832,000 from the GEF through the United Nations Environment Programme, which included an allocation for preparing both its first BUR and its NC4. Uzbekistan contributed an estimated USD 146,000 towards its climate reporting obligation. The Party reported that it received a grant of USD 260,000 from Germany, as a Party included in Annex II to the Convention, in 2014–2015. It also received two grants from the Republic of Korea (non-Annex I Party) of USD 700,000 (in 2014) and USD 628,000 (in 2015–2016).

75. Uzbekistan reported information on nationally determined technology needs with regard to the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16. In its BUR, Uzbekistan reported that the technology needs assessment was nationally determined and the basis for the technology needs reported in the BUR.

76. The Party did not report on technology transfer support received. It reported on national technology transfer activities, including hosting international exhibitions and working through the Central Asian Climate Information Platform to build knowledge on environmental technologies, including possible climate-related technologies and innovations, and noted that it is a partner of the Climate Technology Centre and Network.

77. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the area noted in paragraph 76 above, which could facilitate a better understanding of the information reported on needs and support received.

78. Uzbekistan reported in its BUR (section 5) information on its current initiatives for enhancing its MRV system for compliance with requirements under the ETF: developing a web-based platform for monitoring and reporting on implementation of sustainable development goals; and a Capacity-building Initiative for Transparency proposal on strengthening the capacity of national institutions to move from existing MRV mechanisms to an expanded transparency framework in accordance with the Paris Agreement.

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

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

- (a) In relation to MRV:
  - (i) Designing and developing an MRV system for monitoring GHG emissions and evaluating implementation of mitigation measures and financial support received;
  - (ii) Creating a sustainable MRV system, learning from international experience and developing a methodology for selecting indicators and assessing implementation and effectiveness of adaptation measures;
  - (iii) Developing tabular formats to collect the necessary information for all components of the MRV system;
- (b) In relation to the GHG inventory:
  - (i) Improving the quality of AD, especially for the AFOLU sector, to fill the statistical data gaps associated with the transition to new methodologies (2006 IPCC Guidelines);
  - (ii) Developing country-specific EFs for all key categories;
  - (iii) Improving the ability of national experts to collect data on land-use change areas for estimating emissions and removals from land-use change practices under forestry and other land use;
  - (iv) Enhancing capacity for data collection or using proxy data to estimate emissions of PFCs and SF<sub>6</sub>;
- (c) In relation to mitigation actions:
  - (i) Enhancing capacity to estimate the effects of actions for reducing non-CO<sub>2</sub> GHG emissions in the agriculture sector;
  - (ii) Enhancing institutional and technical capacity to develop, maintain and update emission projections for future BURs.

80. The TTE noted that, in addition to those identified during the technical analysis, Uzbekistan reported the following capacity-building needs in its BUR, which include capacity-building needs for future BURs and transitioning to the ETF:

- (a) In relation to overall climate issues:
  - (i) Creating a system for increasing the capacity of officials and personnel of ministries and agencies involved in preparing all types of reporting to the UNFCCC;
  - (ii) Developing curricula on climate change in accordance with the requirements of the Paris Agreement for the higher and secondary education system in the country;
  - (iii) Supporting the preparation of NCs and BURs with a view to meeting the country's commitments under the Paris Agreement, including the implementation of the ETF;
- (b) In relation to the GHG inventory:
  - (i) Supporting the development of a regulatory document for the GHG inventory process that allows a stable and permanent institutional framework, including description of mechanisms for inter-agency interaction, special reporting formats for the ministries and agencies involved, and the timing of the preparation of GHG inventory information;
  - (ii) Further improving the estimation of the uncertainty of GHG emissions and removals, including for the AFOLU sector;
  - (iii) Reducing inventory uncertainty by improving data quality and using country-specific EFs;
  - (iv) Strengthening and developing the technical capacity of national institutions and experts to prepare national GHG inventories on an ongoing basis, especially in relation to the main GHG-emitting sectors;
- (c) In relation to mitigation:
  - (i) Assessing the reduction of GHG emissions resulting from the implementation of policies, measures and projects;
  - (ii) Defining a set of methodologies for assessing GHG emission reductions in economic sectors and various technological areas;
  - (iii) Developing a set of indicators for assessing the progress of mitigation measures;
  - (iv) Increasing the capacity of national experts to assess and prioritize mitigation measures on the basis of cost-benefit analysis;
  - (v) Increasing the capacity of national experts to use the latest software tools for evaluating mitigation measures;
- (d) In relation to technology transfer:
  - (i) Conducting an up-to-date technology needs assessment and developing a sustainable technology transfer mechanism;
  - (ii) Strengthening engagement with the UNFCCC Climate Technology Centre and Network to effectively transfer environmentally sound technologies for low-carbon and sustainable development;
- (e) In relation to financial capacity-building, developing a data collection system for climate finance in line with international criteria;
- (f) In relation to MRV, developing an integrated national MRV system for economy-wide emission reduction activities;
- (g) In relation to adaptation, increasing the capacity of national experts to assess the effectiveness of adaptation measures.

### III. Conclusions

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

82. Uzbekistan reported information on the institutional arrangements relevant to the preparation of its BURs. It has taken significant steps to establish institutional arrangements that allow for the sustainable preparation of its BURs. These include designating the Hydrometeorological Service Centre as the organization responsible for coordinating the fulfilment of reporting commitments under the UNFCCC. The Party provided information on the organization and membership of the institutional structure in charge of climate reporting. In addition, it reported in its first BUR information on the involvement and roles of other institutions and experts in establishing knowledge-sharing procedures to facilitate sectoral information transfer.

83. Uzbekistan reported information on its domestic MRV arrangements. The proposed system builds on the general guidelines for domestic MRV of domestically supported nationally appropriate mitigation actions by developing country Parties, experience in MRV for CDM projects, and a platform for monitoring and reporting on the implementation of sustainable development goals. The domestic MRV system will cover GHG emissions, mitigation action, and support required and provided, and include monitoring and evaluation of adaptation action.

84. Uzbekistan reported information on its current initiatives for enhancing its institutional arrangements for compliance with requirements under the ETF.

85. In its first BUR, submitted in 2021, Uzbekistan reported information on its national GHG inventory for 1990–2017. This included emissions and removals of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and HFCs for all relevant sources and sinks. The inventory was developed on the basis of the 2006 IPCC Guidelines, and specific EFs from the 2006 IPCC Guidelines were applied for individual key categories. Total GHG emissions for 2017 were reported as 189,207.79 Gg CO<sub>2</sub> eq (excluding LULUCF) and 180,575.55 Gg CO<sub>2</sub> eq (including LULUCF). Natural gas combustion for energy production was identified as the main key category and CO<sub>2</sub> as the main gas. Uzbekistan did not report estimates of PFC and SF<sub>6</sub> emissions or emissions and removals from land-use change owing to difficulties in obtaining the necessary data, as clarified in the BUR. Information on AD and country-specific EFs, the trend assessment for the key category analysis and the comparison of emission estimates under the sectoral and reference approaches in the energy sector was not reported. As clarified by Uzbekistan during the technical analysis, this information will be provided in the NIR, which has not yet been submitted owing to challenges resulting from the coronavirus disease 2019 pandemic.

86. Uzbekistan reported information on mitigation actions and their effects in tabular format, including emission reductions. The Party also reported on reference and mitigation scenarios for 2017–2030 and framed its national mitigation planning and actions in the context of its national strategy. It reported implemented (completed), ongoing and planned actions in the energy sector. The mitigation actions focus on CO<sub>2</sub> emissions from combustion in the energy, industry, buildings, agriculture and transport sectors, and on CH<sub>4</sub> emissions from oil and gas industry. Mitigation actions covering other gases and sectors were not reported. The Party reported the progress of implementation of its mitigation actions and the results achieved, including emission reductions. The highest emission reduction was reported

for the energy sector, at 21,500 Gg CO<sub>2</sub> eq for the realistic scenario and 46,500 Gg CO<sub>2</sub> eq for the ambitious scenario by 2030. The Party also reported information on its involvement in international market mechanisms and on MRV arrangements.

87. Uzbekistan reported information on key constraints, gaps and related needs, including for developing and strengthening existing technical and institutional capacity, namely by improving the quality of its GHG emission estimates, assessing technology needs and climate technology transfer mechanisms, developing methods and approaches to mobilize human, financial and technological resources, and designing and developing an MRV system. The Party also reported that it received financial support of USD 832,000 from the GEF through the United Nations Environment Programme, which included an allocation for preparing both its first BUR and its NC4. Uzbekistan contributed an estimated USD 146,000 towards its climate reporting obligation. The Party did not report information on the transfer of technology received. It reported that the technology needs assessment was nationally determined and the basis for the technology needs reported in the BUR. National technology transfer activities include hosting international exhibitions and work through the Central Asian Climate Information Platform to build knowledge on environmental technologies, including possible climate-related technologies and innovations.

88. The TTE, in consultation with Uzbekistan, identified the nine 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. The Party prioritized all the capacity-building needs listed in paragraph II.D.79 above and also those listed in paragraph 80(c)(iv–v), (d)(i) and (f) above.



## Annex I

## Extent of the information reported by Uzbekistan 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 Uzbekistan

| <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   | Uzbekistan submitted its first BUR in 2021; the GHG inventories reported are for 1990–2017.                              |
| 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   | Uzbekistan 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. | No  | No AD were reported.   |
| Decision 2/CP.17, annex III, paragraph 6 | Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:  |   |  |
|  | (a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;  | Partly  | Comparable information was reported in annex 2 to the BUR. The LULUCF sector reporting lacks disaggregation by category. |
|  | (b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.   | Yes   | Comparable information was reported.   |
| Decision 2/CP.17, annex III, paragraph 7 | Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.  | Yes   | The time series reported in the BUR includes 1990–2017.  |
| Decision 2/CP.17, annex III, paragraph 8 | Non-Annex I Parties that have previously reported on their national GHG inventories contained in their NCs are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000).   | Yes   |  |
| Decision 2/CP.17, annex III, paragraph 9 | The inventory section of the BUR should consist of an NIR as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National greenhouse gas inventories), including:   |   |  |

| <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>   |
|---|--|---|---|
|   | (a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);   | Yes   | Comparable information was reported in annex 2 to the BUR.  |
|   | (b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).   | Partly  | HFC emissions were not reported in units of mass.   |
| Decision 2/CP.17, annex III, paragraph 10 | Additional or supporting information, including sector-specific information, may be supplied in a technical annex.   | NA  |   |
| Decision 17/CP.8, annex, paragraph 12     | Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.  | Yes   |   |
| Decision 17/CP.8, annex, paragraph 13     | Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved. | Yes   |   |
| Decision 17/CP.8, annex, paragraph 14     | Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:   |   |   |
|   | (a) CO <sub>2</sub> ;  | Partly  | CO <sub>2</sub> emissions and removals were not estimated for some categories for which IPCC methodologies exist (e.g. wetlands and settlements). |
|   | (b) CH <sub>4</sub> ;  | Partly  | CH <sub>4</sub> emissions were not estimated for some categories for which IPCC methodologies exist (e.g. carbide production).                    |
|   | (c) N <sub>2</sub> O.  | Partly  | N <sub>2</sub> O emissions were not estimated for some categories for which IPCC methodologies exist (e.g. product use).                          |
| Decision 17/CP.8, annex, paragraph 15     | Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:   |   |   |
|   | (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) Carbon monoxide;   | No  |   |
|   | (b) Nitrogen oxides;   | No  |   |
|   | (c) Non-methane volatile organic compounds.  | No  |   |

| <i>Decision</i>                       | <i>Provision of the reporting guidelines</i>  | <i>Assessment of whether the information was reported</i> | <i>Comments on the extent of the information provided</i>   |
|---------------------------------------|---|---|---|
| Decision 17/CP.8, annex, paragraph 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  | The Party did not report on other gases, such as sulfur oxides.   |
| 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.   | No  | The information was reported only for the sectoral approach.  |
| Decision 17/CP.8, annex, paragraph 19 | Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:  |   |   |
|                                       | (a) International aviation;   | Yes   |   |
|                                       | (b) Marine bunker fuels.  | No  |   |
| 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 provided in the AR4.   |
| 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   | Uzbekistan used the 2006 IPCC Guidelines. Tier 1 methodology was mostly used. Tier 2 methodology was used for specific key categories (see annex 2 to the BUR). |
|                                       | (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;  |   |   |

| <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>                                       |
|---------------------------------------|--|---|---|
|                                       | (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 1–2 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   | Uzbekistan used notation keys for reporting emissions that were not estimated or not occurring. |
| 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;  | Partly  | Uzbekistan did not report on the assumptions specific to its national circumstances.            |
|                                       | (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 Uzbekistan**

| <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;   | Yes   |   |
|   | (b) 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) Methodologies;  | Partly  | The BUR mentions project documents and expert input as the basis for estimating effects for most mitigation actions. No further details on the methodology used to estimate effects of individual actions were reported.   |
|   | (ii) Assumptions;   | Partly  | Project documents and experts were reported to have provided the assumptions used to estimate the effects of mitigation actions; however, the origin of applied EFs such as for electricity (0.532 t CO <sub>2</sub> eq/MWh) was not clearly reported.   |
|   | (c) Information on:   |   |  |
|   | (i) Objectives of the action;   | Yes   |  |
|   | (ii) Steps taken or envisaged to achieve that action;   | Partly  | The BUR includes information on strategy documents for achieving the goals in table 3.4 and on programmes in table 3.5. It contains limited information on institutional coherence between these strategies and programmes. For ongoing and planned measures, no information on steps undertaken or needed to achieve objectives was reported. |
|   | (d) Information on:   |   |  |
|   | (i) Progress of implementation of the mitigation actions;   | Yes   |  |
|   | (ii) Progress of implementation of the underlying steps taken or envisaged;   | Partly  | For ongoing and planned measures, no information on steps undertaken or needed to achieve objectives was reported.   |
|   | (iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible; | Partly  | The Party reported emission reductions for most of the mitigation actions, with a few exceptions in the energy and oil and gas industry sectors.   |
|   | (e) Information on international market mechanisms.   | Yes   |  |
| Decision 2/CP.17, annex III, paragraph 13 | Parties should provide information on domestic MRV arrangements.  | Partly  | Although the BUR contains a specific section (5.2) on MRV for mitigation action, outlining the design and steps undertaken, no information was reported on the institutional arrangements, the data sources used, how EFs were determined or how monitoring is implemented.  |

*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 Uzbekistan**

| <i>Decision</i>                           | <i>Provision of the reporting requirements</i>  | <i>Assessment of whether the information was reported</i> | <i>Comments on the extent of the information provided</i> |
|---|---|---|---|
| Decision 2/CP.17, annex III, paragraph 14 | Non-Annex I Parties should provide updated information on:  |   |   |
|   | (a) Constraints and gaps;   | Yes   |   |
|   | (b) Related financial, technical and capacity-building needs.   | Yes   |   |
| Decision 2/CP.17, annex III, paragraph 15 | Non-Annex I Parties should provide:   |   |   |
|   | (a) Information on financial resources received, technology transfer and capacity-building received;  | Yes   |   |
|   | (b) Information on technical support received from the GEF, Parties included in Annex II to the Convention and other developed country Parties, the Green Climate Fund and multilateral institutions for activities relating to climate change, including for the preparation of the current BUR. | Yes   |   |
| Decision 2/CP.17, annex III, paragraph 16 | With regard to the development and transfer of technology, non-Annex I Parties should provide information on:   |   |   |
|   | (a) Nationally determined technology needs;   | Yes   |   |
|   | (b) Technology support received.  | 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 Uzbekistan. Available at <https://unfccc.int/BURs>.

NC3 of Uzbekistan. Available at <https://unfccc.int/non-annex-I-NCs>.

#### C. Other documents

The following references may not conform to UNFCCC editorial style as some have been reproduced as received:

European Environment Agency, 2019. *EMEP/EEA air pollutant emission inventory guidebook 2019*, Luxembourg: Publications Office of the European Union. available at <https://www.eea.europa.eu/publications/emep-eea-guidebook-2019>.