



United Nations

FCCC/SBI/ICA/2019/TASR.2/AZE



Framework Convention on  
Climate Change

Distr.: General  
19 November 2019

English only

---

## **Technical analysis of the second biennial update report of Azerbaijan submitted on 26 September 2018**


### **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. Further, paragraph 41(f) of that decision states that Parties not included in Annex I to the Convention shall submit a biennial update report every two years, either as a summary of parts of their national communication in the year in which the national communication is submitted or as a stand-alone update report. As mandated, the least developed country Parties and small island developing States may submit biennial update reports at their discretion. This summary report presents the results of the technical analysis of the second biennial update report of Azerbaijan, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

GE.19-19965(E)



Please recycle 



## Contents

	<i>Paragraphs</i>	<i>Page</i>
Abbreviations and acronyms .....		3
I. Introduction and process overview.....	1–10	4
A. Introduction .....	1–5	4
B. Process overview .....	6–10	4
II. Technical analysis of the biennial update report .....	11–73	5
A. Scope of the technical analysis .....	11–12	5
B. Extent of the information reported.....	13–16	5
C. Technical analysis of the information reported.....	17–70	6
D. Identification of capacity-building needs.....	71–73	13
III. Conclusions .....	74–79	15
<b>Annexes</b>		
I. Extent of the information reported by Azerbaijan in its second biennial update report .....		16
II. Documents and information used during the technical analysis.....		22

## Abbreviations and acronyms

AD	activity data
AFOLU	agriculture, forestry and other land use
AR2	Second Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CDM	clean development mechanism
CGE	Consultative Group of Experts
CH <sub>4</sub>	methane
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
EF	emission factor
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
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NAMA	nationally appropriate mitigation action
NC	national communication
NE	not estimated
NMVO	non-methane volatile organic compound
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
NO <sub>x</sub>	nitrogen oxides
N <sub>2</sub> O	nitrous oxide
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF <sub>6</sub>	sulfur hexafluoride
SOCAR	State Oil Company of the Azerbaijan Republic
SO <sub>x</sub>	sulfur oxides
TTE	team of technical experts
UNDP	United Nations Development Programme
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
2006 IPCC Guidelines	<i>2006 IPCC Guidelines for National Greenhouse Gas Inventories</i>

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

### **A. Introduction**

1. The process of ICA consists of two steps: a technical analysis of the submitted BUR and a facilitative sharing of views under the Subsidiary Body for Implementation, resulting in a summary report and 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. In addition, paragraph 41(f) of that decision states that non-Annex I Parties shall submit a BUR every two years, either as a summary of parts of their NC in the year in which the NC is submitted or as a stand-alone update report.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to 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. Azerbaijan submitted its first BUR on 31 March 2015, which was analysed by a TTE in the second round of technical analysis of BURs from non-Annex I Parties, conducted from 17 to 21 August 2015. After the publication of its summary report, Azerbaijan participated in the first workshop for the facilitative sharing of views, convened in Bonn on 20 and 21 May 2016.
5. This summary report presents the results of the technical analysis of the second BUR of Azerbaijan, 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**

6. In accordance with the mandate referred to in paragraph 2 above, Azerbaijan submitted its second BUR on 26 September 2018 as a stand-alone update report. The submission was made more than two years after the submission of the first BUR.
7. During the technical analysis, the Party clarified that it had planned to submit its second BUR in 2017; however, the submission of the report was delayed owing to structural changes within the Ministry of Ecology and Natural Resources.
8. The technical analysis of the BUR took place from 25 February to 1 March 2019 in Bonn 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: Michinobu Aoyama (member of the CGE from Japan), Luis Edmundo Cáceres Silva (former member of the CGE from Ecuador), Ruleta Camacho Thomas (former member of the CGE from Antigua and Barbuda), Lisa Hanle (United States of America), Jenny Mager (Chile), Dingane Sithole (Zimbabwe), Tian Wang (member of the CGE from China) and Brian Zutta (Peru). Ms. Hanle and Ms. Mager were the co-leads. The technical analysis was coordinated by Karen Ortega and Anna Sikharulidze (secretariat).
9. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Azerbaijan 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 Azerbaijan's second BUR, the TTE prepared and shared a draft summary report with Azerbaijan on 28 May 2019 for its review and comment. Azerbaijan, in turn, provided its feedback on the draft summary report on 19 August 2019.

---

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

10. The TTE responded to and incorporated Azerbaijan's comments referred to in paragraph 9 above and finalized the summary report in consultation with the Party on 14 November 2019.

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

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

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

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

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

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

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

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

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

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

15. The current TTE noted improvements in reporting in the Party's second BUR compared with that in the first BUR. Information on GHG inventories reported in the second BUR demonstrates that the Party has taken into consideration the areas for enhancing transparency noted by the previous TTE in the summary report on the technical analysis of the Party's first BUR.

16. Regarding the areas for enhancing transparency noted by the previous TTE in the summary report on the technical analysis of the first BUR that were not addressed in the second BUR, Azerbaijan identified them as areas for enhancing national capacity. These relate to the development of methodologies for estimating the impacts of mitigation actions, the continuous strengthening of institutional arrangements in place for the preparation of national GHG inventories on a continuous basis and the development of a domestic MRV system, among others.

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

17. The technical analysis referred to in paragraph 11(b) above aims to increase the transparency of mitigation actions and their effects, without engaging in a discussion on the appropriateness of those actions. Accordingly, the focus of the technical analysis was on the transparency of the information reported in the BUR.

18. 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.

19. 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**

20. 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.

21. In its second BUR, Azerbaijan provided an update on its national circumstances, including a description of national and sectoral development priorities, objectives and circumstances, including information on features of geography, energy industries, alternative and renewable energy, industry, agriculture, forestry and the economy.

22. Azerbaijan reported that its second BUR was prepared with the support of UNDP and the Global Environment Facility, contributions from the Ministry of Ecology and Natural Resources, and the participation of experts representing relevant ministries and agencies and experts from academia and non-governmental sectors. The institutional arrangements described cover the Party's GHG inventory preparation only.

23. The TTE noted that in Azerbaijan's second BUR, information was not reported on the institutional arrangements for the preparation and submission of NCs and BURs on a continuous basis. During the technical analysis, the Party clarified that this information would be updated in the next submission.

24. The TTE noted that the transparency of the information reported on institutional arrangements could be enhanced by providing the required information in the next submission.

25. Azerbaijan reported on its proposed domestic MRV system for monitoring installation-level emissions and activities. It will be designed at the national level and cover 60 major stationary emissions sources, and will follow a six-step process for implementation over a three-year period that comprises (1) a survey to identify stakeholders and determine their level of readiness, (2) a study on legislative gaps followed by development of legislation, (3) the preparation of guidelines and templates, (4) the training and capacity-building of relevant stakeholders through activities, (5) the development of an online MRV data management and reporting platform and (6) a study on options for market-based mechanisms. The system will be based on existing systems for monitoring and reporting emissions.

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

26. As indicated in table 1 in annex I, Azerbaijan 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.

27. Azerbaijan submitted its second BUR in September 2018 and the GHG inventory reported is for 2013, which is more than four years prior to the date of submission. During

the technical analysis, Azerbaijan clarified that the submission of its second BUR had been planned for December 2017, so 2013 was indicated as the last GHG inventory year in the terms of reference for the relevant experts. The submission date, however, had not been met, resulting in a five-year difference between the Party's GHG inventory and its second BUR submission.

28. GHG emissions and removals for the BUR covering the 2011–2013 inventories were estimated using a tier 1 methodology from the 2006 IPCC Guidelines. The TTE commends the Party for using the more recent 2006 IPCC Guidelines in its second BUR.

29. With regard to the methodologies used, information was clearly reported, including information on the use of tier 1 methodologies, default EFs and the IPCC inventory software (version 2.54). Information on most of the AD for the energy, IPPU, AFOLU and waste sectors was not reported. During the technical analysis, Azerbaijan clarified that it had obtained most of the AD from the official website of the State Statistical Committee of the Republic of Azerbaijan, as referenced in the BUR. The Party provided the national energy balance and made the Industry of Azerbaijan Statistical Yearbook 2018 available to the TTE during the technical analysis. Azerbaijan clarified that it had begun to collect more detailed data for the AFOLU sector because it considered the existing data for land-use change and forestry outdated. The TTE noted that the Party reporting updated AD for all categories in the BUR could facilitate a better understanding of the information reported.

30. Information on the Party's total GHG emissions by gas for 2013 is outlined in table 1 in units of mass.

Table 1  
**Greenhouse gas emissions by gas of Azerbaijan for 2013**

<i>Gas</i>	<i>GHG emissions (Gg) including AFOLU</i>
CO <sub>2</sub> (net)	33 028.83
CH <sub>4</sub>	762.33
N <sub>2</sub> O	8.93
HFCs (HFC-134)	1.03
PFCs (tetrafluoromethane)	0.09
PFCs (hexafluoroethane)	0.02
SF <sub>6</sub>	–

31. Other emissions reported include 33.5 Gg NO<sub>x</sub>, 34.8 Gg CO, 126.31 Gg NMVOCs and 5.6 Gg SO<sub>x</sub>.

32. Azerbaijan applied notation keys in tables where numerical data were not provided. The use of notation keys was not consistent with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties. CH<sub>4</sub> and N<sub>2</sub>O emissions from the prescribed burning of savannahs and the field burning of agricultural residues were reported as "NA", although methodologies are provided in the 2006 IPCC Guidelines for estimating these emissions, while CO, NO<sub>x</sub>, NMVOCs and SO<sub>x</sub> from the same source categories were reported as "NE". The use of the notation key "NE" was explained for CO, NO<sub>x</sub>, NMVOCs and SO<sub>x</sub> emissions from international marine bunker fuels, but not for other categories (e.g. under the AFOLU sector). The TTE noted that the Party applying the notation keys consistently with the UNFCCC guidelines for the preparation of NCs from non-Annex I Parties and transparently explaining the use of "NE" in the BUR could facilitate a better understanding of the information reported.

33. Azerbaijan did not report 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. During the technical analysis, Azerbaijan provided the sectoral working sheets for the 2013 GHG inventory, which contain information comparable with the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines; however, the values for emissions presented in the working sheets differ from those presented

in the BUR for the IPPU category product uses as substitutes for ozone-depleting substances. The TTE noted that the Party reporting information comparable with the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF and the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines in the BUR could facilitate a better understanding of the information reported.

34. The shares of emissions that different sectors contributed to the total GHG emissions for 2013 are reflected in table 2. The TTE noted that the emissions by sector in table 2 of the BUR for 2013 do not add up to the total emission values in the same table. Furthermore, the TTE noted inconsistency in the GHG emission estimates for 2011, 2012 and 2013 between tables 2 and 13 for the AFOLU sector. These emission and removal estimates also differed from the total emissions calculated on the basis of the figures in the sectoral working sheets for the AFOLU sector provided by the Party during the technical analysis. The TTE noted that the Party performing QA/QC of the reported figures and reporting consistent information in the BUR could facilitate a better understanding of the information reported.

Table 2

**Shares of greenhouse gas emissions by sector of Azerbaijan in 2013**

<i>Sector</i>	<i>GHG emissions (Gg CO<sub>2</sub> eq)</i>	<i>Share (%)</i>
Energy	49 232.00	91.4
AFOLU (net)	497.50	0.9
IPPU	3 389.00	6.3
Waste	770.00	1.4

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

36. For the energy sector, information was clearly reported on the types of fuel used in the country. Information on the heat values (TJ/kt) was provided in table 1 and diagram 3 of the BUR. During the technical analysis, the Party also provided information on AD by providing the national energy balance. In fuel combustion activities, the largest contributors of emissions are energy industries (49 per cent) and transport (23 per cent). Fugitive emissions come entirely from the oil and natural gas category.

37. For the IPPU sector, the Party reported emissions from mineral products, chemical industry, metal production, consumption of halocarbons and SF<sub>6</sub>, and use of oil lubricants as raw materials. Emissions from other production, production of halocarbons and SF<sub>6</sub>, and solvent and other product use were reported as “NO”. In the BUR, the Party clarified that data on emissions of fluorinated gases had been taken from the report developed by the German Agency for International Cooperation in 2013–2014. However, specific details of the methodologies used are not described in the BUR. During the technical analysis, the Party further clarified that tier 1(a) and (b) approaches from the 2006 IPCC Guidelines had been used to assess emissions of fluorinated gases. The TTE noted that the Party clearly reporting the methodologies, AD and EFs used for all emission estimates, even when developed by external sources, in the BUR could facilitate a better understanding of the information reported.

38. For the AFOLU sector, Azerbaijan reported aggregated GHG emissions and removals for 1990–2013, while disaggregated emissions were reported for 2011, 2012 and 2013.

39. For the agriculture sector, enteric fermentation and direct N<sub>2</sub>O emissions from managed soils were the largest contributing emissions sources. Azerbaijan used EFs from the 2006 IPCC Guidelines. Information was not reported on AD, such as the number of livestock and the amount of fertilizer used.

40. In the waste sector, CH<sub>4</sub> from solid waste disposal sites and CO<sub>2</sub> from waste incineration were the largest contributors of emissions. Emissions were also estimated in the categories biological treatment of solid waste and wastewater treatment and discharge. The



Party stated that emissions were not estimated for other sectors, citing data unavailability as the main challenge in estimating them.

41. Azerbaijan reported sectoral time series for the years 1990, 2000, 2005 and 2010–2013 in table 2 of the BUR; however, the time series are not consistent, because different methodologies were used to estimate emissions in 1990–2010 and in 2011–2013. The previous national inventory was prepared using the Revised 1996 IPCC Guidelines. During the technical analysis, Azerbaijan explained that recalculating estimates for previous years required highly detailed data that are not available in the existing national statistics, necessitating research to obtain them. The Party indicated that it is planning, in its NC4, to estimate emissions for 1990, 1995, 2000, 2005 and 2010 using the 2006 IPCC Guidelines. The TTE noted that the Party providing a consistent time series back to the years reported in the previous NCs could facilitate a better understanding of the information reported.

42. Azerbaijan described in its BUR the institutional framework for the preparation of its 2013 GHG inventory. The Climate Change and Ozone Centre under the Ministry of Ecology and Natural Resources is the governmental body responsible for the Party's GHG inventory, climate change impact assessment, and overall adaptation, climate change and ozone issues. UNDP assisted Azerbaijan in designing its GHG inventory system. Procedural arrangements between other key stakeholders and the Climate Change and Ozone Centre were not reported. During the technical analysis, Azerbaijan clarified that, in order to establish an effective data collection process, an interministerial working group had been set up. The Party further explained that surveys had been sent to relevant ministries, organizations and individual stakeholders with the aim of collecting data. Azerbaijan acknowledged that gaps in its MRV system existed and that strong institutional arrangements would need to be established in the country. The TTE noted that the Party providing information on relevant procedures undertaken and arrangements in place for collecting and archiving data could facilitate a better understanding of the information reported.

43. Azerbaijan did not report a key category analysis. During the technical analysis, the Party provided a key category analysis for the level of emissions. However, the information provided included only a list of categories and GHGs, and did not include the contributions of each category to the national total.

44. The BUR provides information on QA/QC measures for all sectors in the form of a general statement included with information under the institutional framework. During the technical analysis, Azerbaijan explained that final inventory reports were sent to the relevant data providers as a QA/QC procedure to verify the accuracy of the calculations performed by the inventory team.

45. Azerbaijan reported information on CO<sub>2</sub> fuel combustion using both the sectoral and the reference approach. The Party explained in the BUR the differences in GHG emissions from the reference and the sectoral approaches, which were mainly due to the exclusion of fuel combustion in off-road vehicles, other machinery and mobile combustion in fishing under the agriculture/forestry/fishing subcategory (1.A.4.c), as well as the emissions from fuel combustion in other transportation subcategory such as off-road machinery for construction and airport's areas, and of fuel used for non-energy purposes.

46. Information was reported on international aviation for the period 1990–2013 and on marine bunker fuels for the period 2007–2013. The Party did not estimate GHG emissions from marine bunker fuels from 1990 to 2006 and explained that it had been constrained by a lack of data.

47. Azerbaijan reported information on the uncertainty assessment (level) of its national GHG inventory. The uncertainty analysis was based on the tier 1 approach and does not cover all source categories. The results obtained, as reported in the BUR, do not include the uncertainty by gas or by sector. Azerbaijan reported the uncertainties for fuel combustion, the AFOLU sector and CO<sub>2</sub> emissions from waste. During the technical analysis, the Party explained that it had used the uncertainty tables from the IPCC inventory software (version 2.54) to assess uncertainty. The Party also indicated that uncertainties by fuel type were assessed using data on statistical differences in fossil fuel consumption provided by the State Statistical Committee and that further research would be undertaken once planned recalculations had been completed. The TTE noted that the Party providing a quantitative

assessment of overall inventory uncertainty in the BUR could facilitate a better understanding of the information reported.

48. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 29, 32–34, 37, 41, 42, and 47 above.

49. In paragraphs 28 and 29 of the summary report on the technical analysis of Azerbaijan's first BUR, the previous TTE noted where the transparency of reporting on the methodologies and tiers used and on the use of notation keys could be enhanced. The TTE noted that Azerbaijan took into consideration this area for improvement in section II on GHG inventory results and trends and in the annexes to its second BUR and commends the Party for enhancing the transparency of the information reported.

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

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

51. The information reported provides a comprehensive overview of the Party's mitigation actions and their effects. In its BUR, Azerbaijan frames its national mitigation planning and actions in the context of the strategic road map and national programmes for the main economic sectors, including energy, heavy industry, utilities, agriculture and solid waste management. Most of the mitigation actions are in the energy sector. Azerbaijan reported that climate change was mainstreamed and integrated into its 2014–2018 National Socioeconomic Development Programme, and that a national strategy for low-carbon development is currently under development. Azerbaijan also set a non-binding commitment target in its "Azerbaijan – 2020: Outlook for the future" development concept, to decrease the average amount of energy consumed and the amount of CO<sub>2</sub> emissions from production per unit value of the country's gross domestic product.

52. The Party reported its mitigation actions embedded in its national strategies and programmes but did not provide a summary of its mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. As a result, the name and description of mitigation actions, including information on the nature of the action and coverage (i.e. sector and gases), as well as information on quantitative goals and progress indicators, could not be clearly distinguished for specific mitigation actions. During the technical analysis, Azerbaijan clarified that owing to the lack of relevant expertise and awareness within government agencies, it was very challenging to obtain the information required for the tabular format, and that further efforts would be needed in order to provide detailed information in tabular format in its next BUR. The TTE noted that the Party providing a clear list of mitigation actions and groups of actions, identifying the mitigation action by name and including a description of the mitigation action with information on its nature, coverage (i.e. sector and gases), quantitative goals and progress indicators, could facilitate a better understanding of the information reported.

53. For the energy sector, the mitigation actions are mainly in the areas of associated gas collection in the oil and gas industry, fuel switching (i.e. using gas instead of fuel oil) in the energy industries for heat and power generation, improvements in energy efficiency and promotion of renewable energy sources. The objectives of the mitigation actions were reported for some groups of actions, such as for renewable energy deployment for 2020 and 2050, and information on the steps taken to implement them was partially reported. Up to 10 plans or national programmes and 16 specific projects with mitigation effects were mentioned in the BUR. The Party reported that its mitigation measures were derived from plans and projects that are implemented, ongoing or planned. The Party also reported information on the results achieved from the implementation of some mitigation actions and projects, as estimated outcomes and emission reductions. For example, as a result of the SOCAR Associated Gas Reduction Plan, over 2 billion m<sup>3</sup> of associated gas was collected during 2012–2015, and the volume of gas flared was reduced from 710.7 million m<sup>3</sup> in 2011 to 167.7

million m<sup>3</sup> in 2017; and natural gas loss in the main distribution networks was reduced from 1,137.4 million m<sup>3</sup> in 2015 to 759.3 million m<sup>3</sup> in 2017.

54. For energy industry emissions from heat and power generation, Azerbaijan reported that 10 kt CO<sub>2</sub> eq of GHG emissions were avoided in 2006–2016 as a result of the use of gas instead of fuel oil in thermal power stations and the application of more modern technologies. Azerbaijan further reported that it plans to prevent approximately 3,000 kt CO<sub>2</sub> eq by shifting to alternative and renewable energy sources by 2030. However, neither the methodologies nor the underlying assumptions used to derive the reported emission reductions were clearly reported in the BUR.

55. For the IPPU sector, Azerbaijan reported that along with the modernization and development of the sector, GHG emissions had been avoided by replacing old facilities and applying more environmentally friendly technologies, with the main aim of controlling the emissions of air pollutants. In addition, large oil and gas companies had started to apply modern, low-emission technologies. However, information on the objectives and steps taken or envisaged, as well as quantitative estimates of results achieved, were not provided for actions in this sector.

56. For the waste sector, the mitigation actions are mainly in the areas of applying modern technologies for waste management, constructing a waste incineration plant and utilizing solid household wastes; these actions are all conducted within the framework of ongoing action plans and international cooperation projects. Azerbaijan reported that a national strategy on solid household waste management had been submitted to the Cabinet of Ministers for approval in 2017, with a target of collecting 100 and 90 per cent of waste in urban and rural areas, respectively, by 2036, which will have mitigation effects on GHG emissions. Estimated outcomes and emission reductions for some specific projects were reported. However, neither the methodologies nor the underlying assumptions used to derive the reported emission reductions were clearly provided in the BUR. The objectives, progress, and steps taken or envisaged were not clearly reported for actions in the waste sector.

57. For the forestry sector, Azerbaijan reported that it had continued its efforts in forest restoration, rehabilitation and afforestation, with more than 2.1 million of trees estimated to have been planted in forest and non-forest land areas in 2017. Six projects were identified in the report and the estimated outcomes of tree planting were reported from some of those projects, including information on the co-benefits of the projects in terms of improving the welfare of the population and reducing dependency on agricultural imports in the country. The Party also reported the planned actions to establish agroforestry zones, with the aim of identifying a total of 24,678 ha for agroforestry by 2021. However, information on the objectives, steps taken or envisaged, methodologies and assumptions, as well as quantitative estimates of results achieved, were not provided for actions in this sector.

58. For the agriculture sector, the mitigation actions are mainly in the areas of constructing biogas facilities and undertaking awareness-raising actions against burning agricultural crop residues in arable lands. Azerbaijan indicated in the BUR that fewer mitigation actions had been taken in the agriculture sector compared with other sectors owing to the lower level of awareness in that sector. Two mitigation actions aimed at reducing GHG emissions were implemented within the framework of the country's Strategic Road Map for Agriculture: one focused on the assessment of climate change impacts on agriculture and the preparation of adequate plans, and the other focused on the collection and use as renewable energy of CH<sub>4</sub> released from manure on farms. However, no estimated outcomes or quantified objectives for these mitigation actions were reported in the BUR.

59. The TTE noted that Azerbaijan including in the BUR information on the objectives, progress, steps taken or envisaged, and achieved results for all mitigation actions or groups of actions reported in all sectors, together with a description of the methodologies and assumptions used to derive the estimates of emission reductions, could facilitate a better understanding of the information reported.

60. Azerbaijan also reported the achievements under its NAMAs. The only project aimed at reducing CO<sub>2</sub> emissions in the fuel consumption sector was jointly implemented by UNDP and SOCAR and consisted of three components: energy efficiency improvements, transportation system improvements and the collection of low-pressure associated gases.

Estimated emission reductions were reported for all components; the collection of low-pressure associated gases has the largest expected emission reductions. Other outcomes, such as a reduction in energy consumption, were reported for energy efficiency improvement actions only, and were estimated on the basis of energy audit results.

61. Azerbaijan did not provide information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. During the technical analysis, Azerbaijan clarified that 41 CDM projects have been developed for the energy, alternative energy, agriculture, forestry and waste sectors, 11 of which were submitted to the secretariat during 2007–2012. The TTE noted that the Party including project-level information on its CDM projects and the GHG emissions related to them in the BUR could facilitate a better understanding of the information reported.

62. Azerbaijan provided information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that the measurement and reporting of emissions of air pollutants, including GHGs, is carried out annually by the emitting entities themselves, in accordance with national legislation. The data are subsequently analysed and verified by the relevant government agency. However, there is currently no domestic MRV system in place for mitigation actions.

63. Azerbaijan reported that it is in the process of establishing a domestic MRV system for its NAMAs. During the technical analysis, Azerbaijan clarified that all measurement equipment scheduled for installation had been purchased and would be ready for commissioning early in 2020. Azerbaijan reported in the BUR that UNDP consultants had been hired to identify the objectives, coverage, technology needs and emission projections for the NAMAs. Workshops and conferences had been organized to raise the awareness of local experts about NAMAs and to share international best practices, and information regarding these events would be included in Azerbaijan's next BUR. In the second BUR, Azerbaijan identified the main financial and capacity-building needs that must be met in order to establish a suitable MRV system in the coming years. These include the assessment of legislative gaps, the preparation of appropriate guidelines, the provision of training to relevant stakeholders, and the development of online data management and reporting platforms, all to be completed within a proposed time frame of three years.

64. The TTE noted that the transparency of the information reported on mitigation actions and their effects could be enhanced by addressing the areas noted in paragraphs 52, 59 and 61 above.

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

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

66. Azerbaijan 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, Azerbaijan identified constraints and gaps related to its inventory and mitigation actions, among which an insufficient number of experienced GHG inventory experts was classified as the major barrier, particularly to the future development and implementation of a domestic MRV system. During the technical analysis, Azerbaijan clarified that it plans to submit clearer and more consistent descriptions of the gaps and constraints identified in its next BUR. The TTE noted that the Party identifying and reporting constraints and gaps in a more systematic way in the BUR could facilitate a better understanding of the information reported.

67. The Party reported some technical and capacity-building needs related to the involvement of institutions and some financial and capacity-building needs related to the establishment of a domestic MRV system. However, the needs were not clearly outlined in the required categories. The major needs reported by the Party relate to the improvement and updating of existing skills and capacities in various fields, such as adopting more effective international practices in terms of tackling climate change and amending national legislation and policy in that area, establishing a domestic MRV system, applying the 2006 IPCC

Guidelines, and developing and implementing NAMAs. During the technical analysis, Azerbaijan clarified that it plans to submit information on the nature of the needs identified in its next BUR. The TTE noted that the Party clarifying and reporting financial, technical and capacity-building needs in a more systematic way in the next BUR could facilitate a better understanding of the information reported.

68. Azerbaijan did not report detailed information on financial resources, technology transfer, capacity-building and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15, except in respect of the establishment of its domestic MRV system. Table 25 of the BUR lists the completed and ongoing projects related to climate change and indicates the donor and executing agency of those projects, but does not indicate the type of support or financial resources received. During the technical analysis, Azerbaijan clarified that it plans to submit the required information in its next BUR. The TTE noted that the Party reporting information on financial resources, technology transfer, capacity-building and technical support received could facilitate a better understanding of the information reported.

69. Azerbaijan did not report information on nationally determined technology needs with regard to the development and transfer of technology, or on the technology support received, in accordance with decision 2/CP.17, annex III, paragraph 16. During the technical analysis, Azerbaijan clarified that the information on nationally determined technology needs is reflected in a number of official documents, including national sustainable development strategies and goals. Azerbaijan further clarified that it plans to submit more detailed information in its next BUR. The TTE noted that the Party reporting information on nationally determined technology needs with regard to the development and transfer of technology, as well as on the technology support received, in the BUR could facilitate a better understanding of the information reported.

70. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the areas noted in paragraphs 66–69 above.

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

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

(a) To establish permanent institutional arrangements for the preparation of NCs and BURs on a continuous and timely basis, which cover all sections of the NCs and BURs (including mitigation actions and gaps and constraints);

(b) To implement a domestic MRV system for climate change related activities;

(c) To identify in a systematic way constraints and gaps and financial, technical and capacity-building needs related to different climate change activities, and to report them in the BUR in accordance with the UNFCCC reporting guidelines on BURs;

(d) To collect in a systematic way updated information on financial resources, technology transfer, capacity-building and 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 BURs, and to report this information in the BUR in accordance with the UNFCCC reporting guidelines on BURs;

(e) To identify and report nationally determined technology needs in accordance with the UNFCCC reporting guidelines on BURs;

(f) To collect in a systematic way information on technology support received related to climate change activities, and to report it in the BUR in accordance with the UNFCCC reporting guidelines on BURs;

(g) To enhance institutional and procedural arrangements, as well as awareness of the importance of continuous reporting on mitigation actions, to enable the collection of data and the generation of information on the nature, coverage, quantitative goals, indicators,

objectives, progress of implementation, steps taken or envisaged and results achieved for individual mitigation actions following the UNFCCC reporting guidelines on BURs;

(h) To develop a low-carbon climate change mitigation strategy, including climate-specific indicators for monitoring the progress of public and private sector projects that have mitigation effects;

(i) To enhance local expertise in the development and use of tools, methodologies and assumptions for constructing the sectoral mitigation scenarios, including baseline and mitigation projections, in order to assess the effects of mitigation actions and other climate change related activities in both the public and the private sector;

(j) To enhance national capacity to provide project-level information on the CDM projects;

(k) To apply the voluntary guidelines for domestic MRV of domestically supported NAMAs by developed country Parties contained in decision 21/CP.19;

(l) To develop country-specific or plant-specific EFs, specifically focusing on key categories (e.g. for fugitive emissions from the oil and natural gas industry, enteric fermentation, manure management, waste burning and solid waste disposal sites);

(m) To enhance national expertise for gathering forestry sector data and estimating GHG emissions from land-use activities using IPCC methodologies;

(n) To enhance the institutional and procedural arrangements for collecting and archiving data for the preparation of national GHG inventories, and to make this a continuous process;

(o) To gather data and develop inventories for fluorinated gases, and to make this a continuous process;

(p) To estimate and report GHG emissions from all subcategories of enteric fermentation;

(q) To carry out uncertainty assessments for all sectors in accordance with IPCC guidelines;

(r) To create early warning systems related to the impacts of climate change and improve the existing forecasting system in order to prevent possible losses due to climate change impacts;

(s) To develop national adaptation plans that take into account national circumstances and the latest scientific knowledge.

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

(a) Strengthening and updating existing skills and capacities in relevant fields, including international best practices for tackling climate change and improving national legislation and policy on climate change; low-carbon sustainable development strategies; early warning systems to minimize possible losses; NAMAs; and the 2006 IPCC Guidelines;

(b) Strengthening and updating existing skills and capacities of local communities, the private sector, municipalities, experts from relevant authorities, relevant personnel of the Ministry of Ecology and Natural Resources (including the Climate Change and Ozone Centre and the Forest Department), and personnel involved in the energy, agriculture and farming sectors;

(c) Involving existing scientific research institutes in the study of the necessary technologies for mitigation actions.

73. In paragraph 60 of the summary report on the technical analysis of Azerbaijan's first BUR, the previous TTE, in consultation with Azerbaijan, identified capacity-building needs. In its second BUR, Azerbaijan reflected that most of those capacity-building needs are still to be addressed.

### III. Conclusions

74. The TTE conducted a technical analysis of the information reported in the second BUR of Azerbaijan in accordance with the UNFCCC reporting guidelines on BURs. The TTE concludes that the reported information is partially consistent with the UNFCCC reporting guidelines on BURs and provides an overview of national circumstances and institutional arrangements relevant to the preparation of the GHG inventory on a continuous basis; the national inventory of anthropogenic emissions by sources and removal by sinks of all GHGs not controlled by the Montreal Protocol, including a national inventory report; mitigation actions and their effects, including associated methodologies and assumptions; constraints and gaps; and the planned domestic MRV system. During the technical analysis, Azerbaijan clarified that it plans to submit relevant information on constraints and gaps and related financial, technical and capacity-building needs, including a description of support and technology transfer needed and received, in its next BUR. The TTE concluded that the information analysed is partially transparent.

75. Azerbaijan described in its BUR the existing institutional arrangements relevant to the preparation of its GHG inventory. In addition, Azerbaijan reported on the planned development of a domestic MRV system for tracking GHG emissions and reductions, which would contribute to achieving sustainable reporting to the secretariat.

76. In its second BUR, submitted in 2018, Azerbaijan reported information on its national GHG inventory for 2011–2013. This included GHG emissions and removals of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O for most relevant sources and sinks as well as the precursor gases. Estimates of HFC and PFC emissions were also provided. Emissions of SF<sub>6</sub> were reported as “NO”. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2013 were reported as 61,842 Gg CO<sub>2</sub> eq (excluding removals) and 53,889 Gg CO<sub>2</sub> eq (including removals).

77. Azerbaijan reported information on mitigation actions and their effects, and frames its national mitigation planning and actions in the context of its strategic road map and national programmes for the main economic sectors, including energy, heavy industry, utilities, agriculture and solid waste management. Azerbaijan reported actions that are planned, ongoing and completed, which occur within several sectors, including energy, industry, waste, agriculture and forestry. The key mitigation actions are in the energy sector, and include associated gas collection in the oil and gas industry, structural energy shifts (using gas instead of fuel oil) in the energy industries for heat and power generation, improvements in energy efficiency and promotion of renewable energy sources. Among these, the NAMAs led by SOCAR, including the collection of associated gases and improvements in energy efficiency, have the highest expected cumulative emission reductions of 2,197 kt CO<sub>2</sub> eq during the five-year project period. Azerbaijan also reported that estimated CO<sub>2</sub> emission reductions resulting from the use of alternative and renewable energy sources will amount to 3,928 kt CO<sub>2</sub> eq by 2030.

78. Azerbaijan reported information on some constraints, gaps and related needs. It was a challenge for the TTE to identify some specific gaps in the information reported. Information on support received and needed and technology needs and support received was not fully reported in the BUR. Table 25 of the BUR lists the completed and ongoing projects related to climate change and indicates the donor and executing agency of those projects, but does not indicate the type of support or financial resources received. Azerbaijan clarified that it plans to submit relevant information on gaps and constraints, support received and needed, and technology needs and support received in its next BUR.

79. The TTE, in consultation with Azerbaijan, identified the 19 capacity-building needs listed in chapter II.D above and needs for capacity-building that aim to facilitate reporting in accordance with the UNFCCC reporting guidelines on BURs and participation in ICA in accordance with the ICA modalities and guidelines, taking into account Article 4, paragraph 3, of the Convention. The Party identified the capacity-building needs in paragraph 71(a), (b), (c), (e), (g), (h), (i), (m), (n), (r) and (s) above as high-priority needs, those in paragraph 71(d), (j), (l), (o), (p) and (q) above as medium-priority needs and those in paragraph 71(f) and (k) above as low-priority needs.

## Annex I

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

Table 1

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

<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	Azerbaijan submitted its second BUR in September 2018; the GHG inventories reported are for 2011, 2012 and 2013, which is more than four years prior to submission.
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	Azerbaijan 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.	Partly	Azerbaijan did not provide updated AD for most of the sectors.
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) The tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF;	No	Comparable information was not reported.
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	No	Comparable information was not reported.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Partly	Azerbaijan reported sectoral time series for 1990–2013 in table 2 of the BUR. However, the time series are not consistent.
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	This information was reported for 1990, 2005 and 2012.



<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, annex III, paragraph 9	The inventory section of the BUR should consist of a national inventory report as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National greenhouse gas inventories), including:	Yes	
	(a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors);	Yes	Comparable information was reported in table 1 in annex I.
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF <sub>6</sub> ).	Yes	Comparable information was reported in table 2 in annex I.
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.	Partly	Information on the establishment of the Climate Change and Ozone Centre was provided. However, information on the arrangements with other institutions and their roles, as well as the existing arrangements, was not reported.
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO <sub>2</sub> ;	Yes	
	(b) CH <sub>4</sub> ;	Yes	
	(c) N <sub>2</sub> O.	Yes	
Decision 17/CP.8, annex, paragraph 15	Non-Annex I Parties are encouraged, as appropriate, to provide information on anthropogenic emissions by sources of:	Yes	
	(a) HFCs;	Yes	
	(b) PFCs;	Yes	
	(c) SF <sub>6</sub> .	Yes	Information on SF <sub>6</sub> was reported as "NO".
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as:		
	(a) CO;	Yes	
	(b) NO <sub>x</sub> ;	Yes	
	(c) NMVOCs.	Yes	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO <sub>x</sub> , and included in the	Yes	The Party reported on other gases, such as SO <sub>x</sub> .

<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>
	Revised 1996 IPCC Guidelines may be included at the discretion of Parties.		
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:		
	International aviation;	Yes	
	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 in the AR2 based on the effects of GHGs over a 100-year time-horizon.	Yes	The Party used the GWP provided in the AR2.
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from 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	Azerbaijan used the 2006 IPCC Guidelines. A tier I methodology was used for all sectors.
	(b) Explanation of the sources of EFs;	Yes	Azerbaijan used the 2006 IPCC Guidelines and default EFs.
	(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;		

<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;	Partly	Azerbaijan reported quantitative uncertainties for some categories only.
	(b) Underlying assumptions;	No	
	(c) Methodologies used, if any, for estimating these uncertainties.	No	

*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 second biennial update report of Azerbaijan**

<i>Decision</i>	<i>Provision of the reporting guidelines</i>	<i>Yes/partly/no</i>	<i>Comments on the extent of the information provided</i>
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in tabular format, on actions to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol.	Partly	In section 3.2 of the BUR, a tabular format is not used, and many actions are embedded in the strategic plans, which makes it difficult to identify specific mitigation actions.
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	Partly	Since there is no clear description of the individual mitigation

<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>
	the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;		actions for the groups of actions in section 3.2 of the BUR, information on the coverage, quantitative goals and progress indicators for most of the mitigation actions cannot be clearly distinguished.
	(b) Information on:		
	(i) Methodologies;	No	
	(ii) Assumptions;	No	
	(c) Information on:		
	(i) Objectives of the action;	Partly	The objectives in section 3.2 of the BUR are not always connected with specific mitigation actions. Furthermore, the quantified results envisaged for components of NAMAs in section 3.3 were not described as objectives.
	(ii) Steps taken or envisaged to achieve that action;	Partly	The steps taken or envisaged in section 3.2 of the BUR are not connected with specific mitigation actions.
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Partly	The progress of some mitigation actions is not transparently reported. The progress reported in section 3.2 of the BUR is not always connected with specific mitigation actions. It is not clear whether these actions are implemented, ongoing or planned.
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Partly	
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	The Party did not report on emission reductions for most of the mitigation actions, and it is not clear how the mitigation impacts were calculated for the results reported.
	(e) Information on international market mechanisms.	No	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	

*Note:* The parts of the UNFCCC reporting guidelines on BURs on the reporting of information on mitigation actions in BURs are contained in decision 2/CP.17, annex III, 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 second biennial update report of Azerbaijan**

<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;	Partly	The chapters on the inventory and mitigation actions include some constraints and gaps. Gaps in terms of the development and implementation of a domestic MRV system are also identified. However, there is no overall compilation or summary of the gaps faced by Azerbaijan.
	(b) Related financial, technical and capacity-building needs.	Partly	The reported needs are not clearly outlined by the required categories.
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;	No	
	(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.	Partly	Table 25 of the BUR lists the completed and ongoing projects related to climate change and indicates the donor and executing agency of those projects, but does not provide information regarding the type of the support and information on support received for the preparation of the second BUR.
Decision 2/CP.17, annex III, paragraph 16	With regard to the development and transfer of technology, non-Annex I Parties should provide information on:		
	(a) Nationally determined technology needs;	No	
	(b) Technology support received.	No	

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

## Annex II

### Documents and information used during the technical analysis

#### A. Reference documents

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

First NC of Azerbaijan. Available at [http://unfccc.int/national\\_reports/non-annex\\_i\\_natcom/items/2979.php](http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php).

IPCC. 1997. *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. J.L. Houghton, L.G. Meira Filho, B. Lim, et al. (eds.). Paris, France: 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/gplulucf/gplulucf.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>.

Second NC of Azerbaijan. Available at [http://unfccc.int/national\\_reports/non-annex\\_i\\_natcom/items/2979.php](http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php).

Summary report on the technical analysis of the first BUR of Azerbaijan. Available at [http://unfccc.int/national\\_reports/non-annex\\_i\\_parties/ica/technical\\_analysis\\_of\\_burs/items/10054.php](http://unfccc.int/national_reports/non-annex_i_parties/ica/technical_analysis_of_burs/items/10054.php).

Third NC of Azerbaijan. Available at [http://unfccc.int/national\\_reports/non-annex\\_i\\_natcom/items/2979.php](http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php).

#### B. Additional information provided by the Party

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

Industry of Azerbaijan Statistical Yearbook 2018.

Azerbaijan national energy balance, 2017.

Environment in Azerbaijan, 2017.

Sectoral sheets for 2013 inventory.

Key category by level, 2013.

---

<sup>1</sup> Reproduced as received from the Party.