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Technical analysis of the first biennial update report of Egypt submitted on 20 December 2019

Summary report by the team of technical experts

Summary

According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention, consistently with their capabilities and the level of support provided for reporting, were to submit their first biennial update report by December 2014. As mandated, the least developed country Parties and small island developing States may submit biennial update reports at their discretion. This summary report presents the results of the technical analysis of the first biennial update report of Egypt, 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

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 ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
EF	emission factor
F-gas	fluorinated gas
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
MRV	measurement, reporting and verification
N ₂ O	nitrous oxide
NA	not applicable
NC	national communication
NE	not estimated
NMVOC	non-methane volatile organic compound
NO	not occurring
non-Annex I Party	Party not included in Annex I to the Convention
NO _x	nitrogen oxides
PFC	perfluorocarbon
QA/QC	quality assurance/quality control
Revised 1996 IPCC Guidelines	<i>Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories</i>
SF ₆	sulfur hexafluoride
SO ₂	sulfur dioxide
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 a record, respectively.
2. According to decision 2/CP.17, paragraph 41(a), non-Annex I Parties, consistently with their capabilities and the level of support provided for reporting, were to submit their first BUR by December 2014. The least developed countries and small island developing States may submit BURs at their discretion.
3. Further, according to paragraph 58(a) of the same decision, the first round of ICA is to commence for non-Annex I Parties within six months of the submission of the Parties' first BUR. The frequency of developing country Parties' participation in subsequent rounds of ICA, depending on their respective capabilities and national circumstances, and the special flexibility for small island developing States and the least developed country Parties, will be determined by the frequency of the submission of BURs.
4. This summary report presents the results of the technical analysis of the first BUR of Egypt, 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, Egypt submitted its first BUR on 20 December 2019 as a stand-alone update report.
6. During the technical analysis, the Party clarified that it started preparing its first BUR in 2016, after the mandated submission time frame, owing to a period of political instability and frequent changes in governments between 2011 and 2014 as a consequence of two revolutions.
7. A desk analysis of Egypt's BUR was conducted from 22 to 26 June 2020¹ and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Asia Adlan Mohamed Abdalla (Sudan), Luis Caceres Silva (former member of the Consultative Group of Experts from Ecuador), Ruleta Camacho Thomas (former member of the Consultative Group of Experts from Antigua and Barbuda) Elena Gavrilova (North Macedonia), Naofumi Kosaka (Japan), Nara Lee (Republic of Korea), Georges Mitri (Lebanon), Rosa Maria Rivas Palma (New Zealand) and Alexander Valencia (Colombia). Mr. Mitri and Ms. Rivas Palma were the co-leads. The technical analysis was coordinated by Soheli Pasha, Luca Birigazzi and Jihye Choi (secretariat).
8. During the technical analysis, in addition to the written exchange, through the secretariat, to provide technical clarifications on the information reported in the BUR, the TTE and Egypt engaged in consultation² on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of Egypt's first BUR, the TTE prepared and shared a draft summary report with Egypt on 17 September 2020 for its review and comment. Egypt, in turn, provided its feedback on the draft summary report on 29 July 2021, 1 September 2021 and 16 March 2022.
9. The TTE responded to and incorporated Egypt's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 17 March 2022.

¹ Owing to the circumstances related to the coronavirus disease 2019, the technical analysis of the BUR submitted by Egypt had to be conducted remotely.

² 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 Egypt'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 annex I.

C. Technical analysis of the information reported

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

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

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

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

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

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

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

20. Egypt transparently reported in its first BUR information on its institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The Climate Change Central Department of the Egyptian Environmental Affairs Agency is the national entity responsible for coordinating climate action and reporting. The BUR project team, which was supported by UNDP–GEF, prepared the BUR under the direct supervision of the Chief Executive Officer of the Egyptian Environmental Affairs Agency, the Head of the Climate Change Central Department and the national focal point for climate change. For the first BUR, data were collected from relevant ministries and national entities on the basis of presidential decree 566 of 2016, under which all relevant ministries and government entities are bound to follow the reporting requirements under the Paris Agreement. The description covers key aspects of the institutional arrangements, including the legal status and roles and responsibilities of the overall coordinating entity, the involvement and roles of other institutions and experts, mechanisms for information and data exchange, QA/QC procedures, provisions for stakeholder consultation and future improvement plans.

21. Egypt reported in its first BUR information on its current and proposed domestic MRV arrangements. The current MRV system covers the energy, IPPU, agriculture, waste, water resources and coastal zone protection sectors. In the description of existing MRV activities, the Party included information on the roles of ministerial entities in reporting the sectoral data required for preparing national climate change reports. These roles have been reformulated to ensure their reporting responsibilities align with requirements under the Paris Agreement; as a result, it is proposed to establish a coordinating entity, climate change units within relevant ministries, a quality assurance working group and a technical support working group.

22. The proposed MRV system, which was developed at the national level with the engagement of representatives of all relevant ministries and national agencies and taking into consideration the reformulated roles of ministerial entities (see para. 21 above), would consist of a supervisory body – the National Council for Climate Change, which was established in 2015. The Climate Change Central Department would be the national coordinating entity, and the Central Agency for Public Mobilization and Statistics would act as the central data hub. The proposed MRV system would cover four main areas and the data providers for each area: the GHG inventory system, MRV of mitigation policies and actions, MRV of support received, and MRV of adaptation policies and actions. Data collected under the proposed MRV system would be crucial to enabling the preparation of climate change reports. The proposed MRV system is yet to be formally adopted by the National Council for Climate Change, and financial and other resources are required for its establishment and operationalization.

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

23. As indicated in table I.1, Egypt 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. Egypt submitted its first BUR in 2019 and the GHG inventory reported is for 2005–2015. The GHG inventory is consistent with the requirements for the reporting time frame.

25. GHG emissions and removals for the BUR covering the 2005–2015 inventories were estimated using mainly the tier 1 methodology from the 2006 IPCC Guidelines. The TTE commends Egypt for using the most recent IPCC guidelines.

26. Information on AD and EFs used and their sources was clearly reported in the BUR, including information on the methodology for data collection. The Party reported on the use of default EFs from the 2006 IPCC Guidelines. Data gaps in the GHG inventory and improvement plans to address them and to potentially upgrade to the use of higher-tier methodologies were also reported.

27. Information on the Party’s total GHG emissions by gas for 2015 excluding land and HWP is outlined in table 1 in Gg CO₂ eq. It shows an increase in emissions of 31.0 per cent without land (category 3.B) and HWP (category 3.D) since 2005 (248,770 Gg CO₂ eq). Emissions were reported as not occurring for most land and HWP categories (see para. 33 below).

Table 1
Greenhouse gas emissions by gas of Egypt for 2015

<i>Gas</i>	<i>GHG emissions (Gg CO₂ eq) excluding land and HWP^a</i>	<i>% change 2005–2015</i>
CO ₂	237 871	NA
CH ₄	41 483	NA
N ₂ O	38 574	NA
HFCs	4 308	NA
PFCs	3 379	NA
SF ₆	NA	NA
Other	NA	NA
Total	325 614	31.0

^a 2006 IPCC Guidelines AFOLU category 3.B (land) and 3.D (HWP (3.D.1) and other emissions (3.D.2)).

28. Information on other emissions was clearly reported, including 25 Gg NO_x and 920 Gg CO.

29. HFC and PFC emissions were not reported on a gas-by-gas basis and in units of mass, and SF₆ emissions were reported using notation keys in annexes C and D to the BUR. During the technical analysis, the Party clarified that the National Ozone Unit provided data in the form of total quantities of HFCs and PFCs imported. The Party plans to issue a decree obliging the Egyptian Customs Authority to report on imported materials and products containing any of the chemicals listed in the 2006 IPCC Guidelines as substitutes for ozone-depleting substances. Further, Egypt clarified that no data were available on SF₆ use; therefore, the notation key “NE” was reported for these emissions.

30. Egypt 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.

31. The TTE noted blank cells in annex C to the BUR for category 5 (other) and in annex D for the following emissions: SF₆ for category 2 (IPPU); some gases for category 2.F (product uses as substitutes for ozone-depleting substances) and category 5 (other); and NMVOCs and SO₂ for all sectors. During the technical analysis, the Party clarified that it had intended to fill the blank cells in annexes C and D with the notation key “NE” and that it would report “NE” in these cells in future submissions. The Party also clarified that where “NE” was used, the emissions were not estimated owing either to their insignificant level or to constraints in resource or data availability. The Party further clarified that cells containing

“0” (zero) in annexes C and D were intended to have been filled with the notation key “NO” and that it would report “NO” in these cells in future submissions.

32. Egypt reported comparable information addressing the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines.

33. Egypt did not report comparable information addressing the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF. During the technical analysis, the Party clarified that emissions are not occurring for most of the land and HWP categories and emissions were not estimated for the few remaining categories owing to a lack of data.

34. The shares of emissions that different sectors contributed to the Party’s total GHG emissions excluding land and HWP (categories 3.B and 3.D, respectively), as reported by the Party, in 2015 are reflected in table 2.

Table 2

Shares of greenhouse gas emissions by sector of Egypt for 2015

<i>Sector</i>	<i>GHG emissions (Gg CO₂ eq)</i>	<i>% share^a</i>	<i>% change 2005–2015</i>
Energy	210 171	64.5	40.0
IPPU	40 664	12.5	49.0
AFOLU	48 390	14.9	–7.0
Livestock (category 3.A)	16 486	NA	NA
Land (category 3.B)	NE	NA	NA
Aggregate sources and non-CO ₂ emissions sources on land (category 3.C)	31 905	NA	NA
HWP and other emissions (category 3.D)	NO	NA	NA
Waste	26 389	8.1	34.0

^a Share of total without 2006 IPCC Guidelines AFOLU category 3.B (land) and 3.D (HWP (3.D.1) and other emissions (3.D.2)).

35. Egypt 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 GHG emissions by gas and by category, the data-collection methodology, sources of AD, the trend analysis and the results of the uncertainty analysis. The Party reported that the energy sector is the largest source of national GHG emissions, contributing 87.0 per cent of total CO₂ emissions in 2015. Emissions from the energy sector mostly arose from fuel combustion activities (97.0 per cent), while fugitive emissions from oil and natural gas comprised 3.0 per cent of sectoral emissions. CO₂ emissions from energy industries (gaseous fuels) and road transportation were the two key categories accounting for the largest share of emissions: 20.2 and 15.0 per cent of total GHG emissions in 2015, respectively. The results of the uncertainty analysis obtained, as reported in the BUR, reveal that for 2005–2015, the level of uncertainty for the energy sector emissions is 3.0 per cent and the trend uncertainty is 4.0 per cent.

37. Information on EFs for the energy sector was not clearly reported in Egypt’s BUR. The Party reported in its BUR that it used default EFs from the “IPCC good practice guidance issued in the years 1996 and 2006”; however, it was not clear whether the Party used default values from the 2006 IPCC Guidelines in combination with those from the Revised 1996 IPCC Guidelines, or from the IPCC good practice guidance. During the technical analysis, the Party clarified that default EFs from the 2006 IPCC Guidelines were used for all categories in the energy sector. Emissions for subcategory 1.B.1 (solid fuels), for which IPCC methodologies exist, were reported as “NE”. The Party explained that those emissions were not estimated owing either to their insignificant level or to constraints in resource or data availability.

38. For the IPPU sector, information was clearly reported on GHG emissions by gas and by category, the data-collection methodology, sources of AD, the trend analysis and the results of the uncertainty analysis. The sector contributed 12.0 per cent of total CO₂ emissions and 12.0 per cent of total N₂O emissions in 2015. Emissions resulted from mineral industry

(54.0 per cent), chemical industry (18.0 per cent) and metal industry (17.0 per cent) activities and from product uses as substitutes for ozone-depleting substances (11.0 per cent). The results of the uncertainty analysis obtained, as reported in the BUR, reveal that for 2005–2015, the level of uncertainty for sectoral emissions is 14.0 per cent and the trend uncertainty is 27.0 per cent.

39. The CO₂ emissions for subcategory 2.B.7 (soda ash production), for which IPCC methodologies exist, were reported as “NE”. During the technical analysis, the Party clarified that emissions for that subcategory were not estimated owing either to their insignificant level or to constraints in resource or data availability.

40. For categories 3.A and 3.C under the AFOLU sector from the 2006 IPCC Guidelines, agricultural soils (N₂O) and enteric fermentation (CH₄) were identified as key categories and the most relevant emissions sources in the sector, accounting for 6.9 and 3.5 per cent of total GHG emissions in 2015, respectively. Emissions from managed soils were the largest source in the sector. GHG emissions in this sector have decreased since 2005 mainly owing to a reduction in synthetic fertilizer use. The results of the uncertainty analysis obtained, as reported in the BUR, reveal that the level of uncertainty for AD ranges between –15.0 and +15.0 per cent, while for EFs it ranges between –50.0 and +50.0 per cent. The Party provided relevant clarification for the fluctuation in the level of uncertainty in its BUR (section 2.4.3).

41. The Party reported in its BUR that “with regards to land, the only data available were related to land reclamation and crop land converted to settlement. Therefore, the net change of croplands has been estimated” (section 2.4.3). However, in annex D to the BUR, the CO₂ emissions from land (category 3.B) were reported as “NE” and CH₄ and N₂O emissions were reported as “0” (zero) Gg. Information on whether the emissions from land were reported as 0 Gg because the amount of emissions was very small (less than 1 Gg) was not clearly reported in the BUR. During the technical analysis, the Party clarified that owing to data availability constraints, the emissions from land were not estimated, leading to their exclusion from the GHG inventory. The Party also clarified that CH₄ and N₂O emissions were not occurring for the land category. Egypt indicated that GHG emissions from land would be reported using the correct notation keys in future submissions.

42. For the waste sector, information was clearly reported on GHG emissions by gas and by category, the data-collection methodology, sources of AD, the trend analysis and the results of the uncertainty analysis. Waste sector emissions largely resulted from solid waste disposal (50.0 per cent of total sectoral GHG emissions) and domestic and industrial wastewater treatment and discharge (47.0 per cent of total sectoral GHG emissions), with minor contributions from the biological treatment of solid waste and the incineration and open burning of solid waste. The results of the uncertainty analysis obtained, as reported in the BUR, reveal that for 2005–2015, the level of uncertainty for the trend is 83.0 per cent. The Party clarified in its BUR that the high level of uncertainty is likely due to the high level of uncertainty of EFs in general and AD for industrial wastewater.

43. The BUR provides an update to some of the GHG inventories reported in the Party’s previous NCs. The information reported in the BUR provides an update of the Party’s NC3, which addressed anthropogenic emissions and removals for 1990, 2000 and 2005. The update was carried out for 2005–2015 using the methodologies contained in the 2006 IPCC Guidelines, thus generating a consistent 11-year time series. The previous national inventory was prepared using the Revised 1996 IPCC Guidelines and the IPCC good practice guidance. The Party identified improvements in the information reported such as the estimation of country-specific EFs, a legal framework for reporting F-gases and the estimation of emissions from the AFOLU and waste sectors. The TTE commends Egypt for reporting comprehensive recalculations of GHG emissions for 2005 in the BUR.

44. The summary information table on the national GHG inventory was reported in the BUR for 2005 but not for 1990 and 2000. During the technical analysis, the Party clarified that it reported the recalculations of emissions for 2005 consistently with its capacity, time constraints, data availability and support available for biennial update reporting.

45. Egypt described in its BUR the institutional framework for the preparation of its 2015 GHG inventory. The GHG inventory was prepared by five national experts led by a team leader who was supported by the BUR project team, which in turn was under the direct

supervision of the Chief Executive Officer of the Egyptian Environmental Affairs Agency, the Head of the Climate Change Central Department and the national focal point for climate change. A new framework for collecting data to be used for preparing future GHG inventories has been proposed. Steps have been taken to position the Central Agency for Public Mobilization and Statistics as the central hub for collecting data from relevant ministries and agencies. The data would be sent to the Climate Change Central Department, which is proposed to act as the coordinating entity for the MRV system for Egypt and would be responsible for compiling the GHG inventory.

46. Egypt reported that a key category analysis was performed for the level of emissions. A total of 21 key categories and main gases were identified, with CO₂ and gaseous fuels (used in energy industries) identified as the main gas and key category, respectively.

47. Egypt reported the share of the largest category (energy industries – gaseous fuels, CO₂) as 20.16 per cent (BUR, annex E). However, this percentage does not equate to the reported emissions for the category divided by the national total emissions.³ Further, the sum of the 33 categories listed in annex E to the BUR amounts to 91.82 per cent of the national total emissions. It was not clear to the TTE whether more categories were identified as key if the 95 per cent threshold was applied and all categories were included in the analysis. During the technical analysis, the Party clarified that during the final stages of preparation of the BUR, it made some minor changes in the calculations of GHG emissions, but these changes were not reflected in annex E. Egypt provided the TTE with the results of the key category analysis updated on the basis of the final GHG emission estimates and the 95 per cent threshold.

48. The BUR provides information on QA/QC measures for all sectors. The information reported includes QA/QC activities for data collection, data compilation, IPCC Inventory Software use and GHG emission calculation. The BUR management team, the BUR steering committee and third-party experts were involved in QA activities. The TTE commends Egypt for providing information in accordance with the IPCC good practice guidance.

49. Egypt reported information on CO₂ fuel combustion using only the sectoral approach. Information on the reference approach was not reported in the BUR and therefore the difference was also not reported. During the technical analysis, the Party clarified that the information would be included in future submissions.

50. Information on international aviation and marine bunker fuels was not reported in the BUR. During the technical analysis, the Party clarified that it faced difficulties in obtaining fuel consumption data for aviation and navigation as well as data to disaggregate transport as domestic and international.

51. Egypt reported information on the uncertainty assessment (level and trend) of its national GHG inventory for each sector. The uncertainty analysis was based on the IPCC Inventory Software and covers all source categories and all direct GHGs.

52. The TTE noted that the transparency of the information reported on GHG inventories could be enhanced by addressing the areas noted in paragraphs 29, 31, 33, 37, 39, 41, 44, 47, 49 and 50 above, which could facilitate a better understanding of the information reported on GHG inventories.

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

53. As indicated in table I.2, Egypt 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.

54. The information reported provides a clear and comprehensive overview of the Party's mitigation actions and their effects. According to the Party, the information provides an update to the key mitigation actions reported in the NC3 and those listed in paragraphs 86–88 of document FCCC/SBI/2013/INF.12/Rev.2. In its BUR, the Party reported information in the context of its national development priorities, objectives and circumstances. It reported

³ $(60,729 \text{ Gg CO}_2 \text{ eq} / 325,614 \text{ Gg CO}_2 \text{ eq}) \times 100 = 18.65 \text{ per cent.}$

nine implemented (ongoing or completed) mitigation actions for 2005–2015 (BUR, section 3.2) and 13 mitigation actions planned beyond 2015 (BUR, section 3.3) that cover the energy, IPPU, AFOLU and waste sectors or are cross-cutting in nature. The planned mitigation actions are all conditional on the provision of support from developed countries. Most of the implemented and planned mitigation actions are in the energy sector.

55. The Party reported a summary of its sectoral mitigation actions in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. The Party also reported information on its mitigation actions in narrative format.

56. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Egypt clearly reported the names of mitigation actions or groups of actions, coverage (sector and gases) and progress indicators in the tables in sections 3.2 and 3.3 of the BUR for most of the mitigation actions. A clear description of mitigation actions, as well as information on quantitative goals, was provided in the BUR for most of the actions. Additional descriptions of mitigation actions to complement the information in the tables in sections 3.2 and 3.3 of the BUR were provided in BUR tables 4.6, 4.8 and 4.9.

57. Information on quantitative goals for some implemented mitigation actions and for some planned mitigation actions was not reported. During the technical analysis, the Party clarified that the mitigation action on energy efficiency for electricity generation and end users is reported under multiple energy efficiency programmes and some of the subtargets were provided in the “Progress achieved” section of the BUR. For the mitigation action on renewable energy and solar water heaters in the housing sector, the Party clarified that quantitative data were not available or were incomplete so the BUR team could not estimate emission reductions. For the Egyptian Pollution Abatement Project (Phase II), the Party clarified that the aim of the project was to improve the compliance of Egyptian industry with environmental standards and regulations, and therefore a quantitative target was not appropriate. For some planned mitigation actions, where no quantitative goals were mentioned, Egypt clarified that quantitative data were either not available or not complete so the BUR team could not estimate emission reductions.

58. Information on the progress indicator for the Industrial Energy Efficiency Project, the Egyptian Pollution Abatement Project (Phase II) and the Private Public Sector Industry Project was not reported in the BUR. During the technical analysis, the Party clarified that these three mitigation actions were completed in 2018, 2015 and 2012, respectively. Information on the progress indicator for the National Solid Waste Management Programme and the Bioenergy for Sustainable Rural Development project was also not reported. During the technical analysis, the Party clarified that the former is ongoing (planned until 2022) and the latter was completed in 2015.

59. Egypt clearly reported information on methodologies and assumptions, the objectives of the actions and steps taken or envisaged to achieve those actions and progress in the implementation of those actions, as well as estimated emission reductions, for most mitigation actions implemented between 2005 and 2015 and those planned beyond 2015.

60. The four implemented mitigation actions in the energy sector focus on improving energy efficiency, promoting renewable energy (partially implemented with renewable energy targets of 20 and 37 per cent of total primary energy supply by 2020 and 2035, respectively, and an estimated emission reduction of 0.48 Mt CO₂ eq for 2015, excluding reductions from CDM projects), expanding the Greater Cairo underground metro network (estimated emission reduction of 1.05 Mt CO₂ eq for 2015) and implementing the sustainable transport programme (estimated emission reduction of 1.4 Mt CO₂ eq over 20 years starting from 2009). Most of the mitigation actions in the energy sector were implemented in the context of the National Renewable Energy Strategy and the Integrated Sustainable Energy Strategy 2035. Reaching a renewable energy share of 37 per cent of total primary energy supply by 2035 is one of the scenarios set out in the latter Strategy.

61. The five planned mitigation actions in the energy sector focus on improving energy efficiency, promoting renewable energy (with renewable energy shares of 20 and 37 per cent of total primary energy supply by 2020 and 2035, respectively) and expanding the Greater Cairo and Alexandria underground metro networks. The mitigation action on renewable

energy and solar water heaters in the housing sector has been identified as a nationally appropriate mitigation action under the UNDP Low Emission Capacity Building Programme.

62. Estimated emission reductions for one implemented mitigation action, the Electricity Sector Subsidy Reform Programme, were not reported. During the technical analysis, the Party clarified that distinguishing the impact of subsidy removal from that of other policies and hence estimating the emission reductions under that policy is not feasible. Information on methodologies and assumptions was not reported for the planned mitigation actions in the energy sector. During the technical analysis, the Party clarified that the methodologies and assumptions were not explained by the data providers or in the publications from which the data on mitigation actions were obtained.

63. The three implemented mitigation actions in the IPPU sector focus on industrial energy efficiency (estimated emission reduction of 2.44 Mt CO₂ eq between 2013 and 2015) and pollution abatement (estimated annual emission reduction of 656,336 t CO₂ eq between 2007 and 2015).

64. The only planned mitigation action in the IPPU sector is related to industrial energy efficiency in cement production and has expected GHG emission reductions in four areas: lowering the clinker content of cement, increasing the use of alternative fuels, improving energy efficiency, and increasing the capacity utilization factors of clinker production installations. The alternative fuels component of the action is expected to be submitted as a nationally appropriate mitigation action.

65. The Party did not report information on methodologies and assumptions for two implemented and one planned mitigation actions or on the progress of implementation of those actions, or on the underlying steps taken or envisaged to achieve one implemented mitigation action. During the technical analysis, the Party clarified that the GHG estimation methodologies and assumptions were not explained by the data providers or in the publications from which the data on mitigation actions were obtained. In the case of the Industrial Energy Efficiency Project, the estimate was based on aggregated CO₂ emission reductions reported in energy efficiency assessment reports for each company participating in the project. In the case of the Egyptian Pollution Abatement Project (Phase II), the estimate was based on aggregated CO₂ emission reductions from six subprojects focusing on the fuel switch from heavy fuel oil to natural gas. For this mitigation action, the Party clarified that details on progress between 2005 and 2015 were not available at the time of the BUR preparation. The Party also clarified that the Private Public Sector Industry Project did not have a climate change focus and therefore emission reductions were not calculated, despite the Project's expected impact on mitigating GHG emissions.

66. The only implemented mitigation action in the waste sector is the National Solid Waste Management Programme, which was implemented between 2012 and 2015.

67. The two planned mitigation actions in the waste sector are the National Solid Waste Management Programme (continuation of the programme implemented between 2012 and 2015) and the feed-in tariff for electricity generated from waste.

68. Information on methodologies and assumptions was not reported for the implemented and planned mitigation actions in the waste sector. During the technical analysis, the Party clarified that the GHG estimation methodologies and assumptions were not explained by the data providers or in the publications from which the data on mitigation actions were obtained. However, the National Solid Waste Management Programme does not have a climate change focus and therefore emission reductions were not calculated, despite the Programme's expected impact on mitigating GHG emissions. For the feed-in tariff for electricity generated from waste, the Party clarified that the energy generation data were not available or were incomplete so the BUR team could not estimate emission reductions.

69. The only implemented mitigation action in the AFOLU sector, the Bioenergy for Sustainable Rural Development project, relates to bioenergy generated from agricultural waste and manure (estimated annual emission reduction of 192,240 t CO₂ eq over 20 years starting from 2010).

70. The three planned mitigation actions in the AFOLU sector are related to reducing GHG emissions from rice cultivation and livestock and generating bioenergy from agricultural waste and manure.

71. Information on methodologies and assumptions was not reported for the Bioenergy for Sustainable Rural Development project. During the technical analysis, the Party clarified that the methodologies and assumptions were not explained by the data providers or in the publications from which the data on mitigation actions were obtained. The Party also clarified that only estimated emission reductions are provided in the BUR as per the “pre-feasibility studies and draft business plans of selected bioenergy applications in Egypt”, which it indicated as the source of information for this mitigation action in the BUR (p.89). The Party further clarified that the actual renewable energy generated from the installed biogas units and related emission reductions were not provided in a format from which the BUR team could calculate emission reductions. The estimated emission reductions for the planned mitigation action on recycling agricultural waste and manure were not reported. During the technical analysis, the Party clarified that the energy generation data were not available or were incomplete so the BUR team could not estimate emission reductions.

72. The two planned cross-sectoral mitigation actions are the Green Growth Fund and the implementation of a national MRV system. The Party reported that the aim of the Green Growth Fund is to reduce CO₂ emissions by providing dedicated financing to businesses and households to enhance energy efficiency and foster the use of renewable energy. The information provided on the latter action in BUR table 3.1 (p.90) is elaborated on in section 5 of the BUR.

73. Information on methodologies and assumptions was not reported for cross-cutting mitigation actions. During the technical analysis, the Party clarified that distinguishing the impact of financing for these mitigation actions from that of financing for other policies and hence estimating the emission reductions from these actions is not feasible.

74. Egypt provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. Egypt documented 20 registered CDM project activities and six registered programmes of activities. The current CDM portfolio, with a total estimated annual emission reduction of around 4.2 Mt CO₂ eq, comprises six renewable energy activities (the highest estimated annual emission reduction for a project or activity is 248,609 t CO₂ eq), two waste management activities (the highest estimated annual emission reduction for a project or activity is 370,903 t CO₂ eq), one transport activity (the first ever programme of activities for the transport sector registered under the CDM, with an estimated annual emission reduction of 20 t CO₂ eq from the first component project activity of the programme of activities), seven fuel-switching activities (the highest estimated annual emission reduction for a project or activity is 430,350 t CO₂ eq), six energy efficiency activities (the highest estimated annual emission reduction for a project or activity is 186,230 t CO₂ eq) and four N₂O abatement activities (the highest estimated annual emission reduction for a project or activity is 1,065,881 t CO₂ eq).

75. Egypt reported information on its domestic MRV arrangements in accordance with decision 2/CP.17, annex III, paragraph 13. The information reported indicates that Egypt has developed a concept for a domestic MRV system for mitigation actions, but it is yet to be formally adopted by the National Council for Climate Change. The Party reported that the Ministry of Planning will provide a national vision and strategies as the basis on which the relevant ministries can plan their mitigation policies and actions. Each ministry will have an MRV unit responsible for quantifying the actual GHG emission reductions resulting from the implementation of the mitigation policies and actions and will submit an annual report to the national coordinating entity providing information on the status of implementation. A technical working group will be established to provide technical support to the implementing entities (ministries) on defining the key progress indicators, MRV plan and GHG estimation methodologies.

76. The TTE noted that the transparency of the information reported on mitigation actions could be further enhanced by addressing the areas noted in paragraphs 57, 58, 62, 65, 68, 71 and 73 above, which could facilitate a better understanding of the information reported on mitigation actions.

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

77. As indicated in table I.3, Egypt 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.

78. Egypt 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, Egypt identified poor data availability, access and quality, the provision of limited resources to the coordinating entity, institutional barriers concerning MRV (specific capacity-building needs are elaborated in BUR table 4.1) and lack of competent personnel to prepare funding proposals as constraints to the continuous improvement of national reporting. The Party reported that its financial, technical and capacity-building needs are primarily related to establishing adequate institutional, technical and financial arrangements and to specific adaptation and mitigation programmes.

79. Adaptation gaps and needs were reported for the three sectors that are most vulnerable to climate change: water resources and irrigation (USD 7.974 billion for 20 programmes planned until 2030 and an additional five programmes with co-benefits planned with a maximum time frame of 20 years); agriculture (USD 3.455 billion for five programmes planned until 2035); and coastal zone protection (USD 9.328 billion for nine programmes for which time frames have not been determined). Mitigation gaps and needs (USD 18.26 billion for metro lines and the national railway network and USD 7.125 million for energy efficiency in six refineries) were reported in the BUR for 12 programmes that are planned beyond 2015 (out of 13 programmes listed in BUR table 3.1), including the need for support for implementation of the MRV system.

80. Egypt 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, Egypt reported that it received USD 352,000 from the GEF between 2016 and 2018 to prepare its first BUR. It also received financial support between 2005 and 2018 from various donors for adaptation actions (USD 19.54 million for five programmes implemented between 2008 and 2015), mitigation actions (amounts received for nine programmes implemented between 2005 and 2015 are listed in BUR table 4.8) and cross-cutting actions (two actions implemented between 2008 and 2018: USD 4 million for the Climate Change Risk Management Programme and USD 1 million for the Low Emission Capacity Building Project). Egypt also reported financial resources received as loans and grants for renewable energy programmes for which agreements were signed between 2003 and 2015.

81. Egypt reported information on technology needs with regard to the development and transfer of technology in accordance with decision 2/CP.17, annex III, paragraph 16, for adaptation and mitigation programmes. Technology needs were indicated for adaptation measures (including those with co-benefits) in three sectors: water resources and irrigation (planned until 2030), agriculture (planned until 2035) and coastal zone protection (planned beyond 2015). Technology needs were also indicated for mitigation measures planned beyond 2015.

82. Egypt did not provide information on whether the technology needs were nationally determined, technology needs for areas other than adaptation and mitigation (e.g. the GHG inventory or cross-cutting areas) or any technology needs assessments conducted. During the technical analysis, the Party clarified that the reported technology needs are nationally determined and based on the judgment of national experts. The Party also clarified that it faced difficulties in reporting technology needs owing to the insufficient time and money allocated to preparing the BUR and that additional capacity and time are needed in order to conduct a detailed technology needs assessment and thereby gain a better understanding of Egypt's climate technology needs and mount a better response to climate change in all areas.

83. The TTE noted that the transparency of the information reported on needs and support received could be enhanced by addressing the areas noted in paragraph 82 above, which could facilitate a better understanding of the information reported on needs and support received.

D. Identification of capacity-building needs

84. In consultation with Egypt, 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 GHG inventories:
 - (i) Establishing and fostering institutional arrangements that support the planning, preparation and management of GHG inventories among the relevant ministries and data providers to allow GHG inventory development on a continuous basis for all sectors;
 - (ii) Establishing a system for identifying, collecting and recording the relevant sectoral data required to calculate and analyse GHG emissions;
 - (iii) Enhancing the capacity of the GHG inventory team to develop a QA/QC plan and train staff at institutions involved in the GHG inventory preparation process and other stakeholders in implementing QA/QC procedures in accordance with the QA/QC plan;
 - (iv) Enhancing capacity to collect and process AD and parameters related to the land use, land-use change and forestry sector and to develop methodologies for estimating GHG emissions from the sector;
 - (v) Enhancing capacity to estimate and report separately F-gases, such as, but not limited to, HFCs and PFCs, for each use and each chemical species;
 - (vi) Enhancing capacity to estimate and report separately emissions from domestic and international transport (i.e. railways, aviation and waterborne navigation);
 - (vii) Enhancing capacity to develop country-specific EFs for all sectors;
 - (viii) Enhancing capacity to conduct an approach 2 uncertainty analysis;
- (b) In relation to mitigation actions and their effects:
 - (i) Establishing a system for identifying, collecting and recording the relevant sectoral data required to estimate and analyse mitigation effects;
 - (ii) Enhancing capacity to develop and use methodologies for estimating mitigation effects and track the progress of mitigation actions;
 - (iii) Enhancing capacity to develop quantitative and qualitative indicators for mitigation actions;
 - (iv) Enhancing the capacity of the mitigation team to develop a QA/QC plan and train staff at institutions involved in the reporting of mitigation actions and their effects and other stakeholders in implementing QA/QC procedures in accordance with the QA/QC plan;
- (c) In relation to needs and support:
 - (i) Enhancing the sectoral institutional arrangements for MRV of support received;
 - (ii) Enhancing capacity to collect MRV-related data on needs and support;
 - (iii) Enhancing capacity to develop and use methodologies and procedures for identifying and quantifying support needed;
 - (iv) Enhancing capacity to conduct a detailed technology needs assessment;
- (d) In relation to cross-cutting issues:
 - (i) Enhancing capacity to operationalize the institutional arrangements for the proposed domestic MRV system, which includes MRV of the GHG inventory, mitigation actions, adaptation actions and support needed and received;
 - (ii) Enhancing capacity to identify resources and support needed for implementing the full MRV system;

- (iii) Enhancing capacity to develop an action plan for implementing the proposed MRV system in different sectors;
- (iv) Enhancing capacity to monitor and evaluate adaptation actions;
- (v) Enhancing capacity to conduct assessments of vulnerability to climate change and associated risk.

85. The TTE noted that, in addition to those identified during the technical analysis, Egypt reported several capacity-building needs covering the following areas:

- (a) MRV capacity-building needs specific to the energy, agriculture, IPPU and waste sectors;
- (b) Reporting of adaptation actions;
- (c) Reporting of mitigation actions.

III. Conclusions

86. The TTE conducted a technical analysis of the information reported in the first BUR of Egypt 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; adaptation actions; 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; the existing and proposed domestic MRV system; and other information relevant to the achievement of the objective of the Convention. During the technical analysis, additional information was provided by Egypt in response to the technical clarification questions raised by the TTE regarding information that was not complete or fully clear in the BUR. The TTE concluded that the information analysed is mostly transparent.

87. Egypt reported information on the institutional arrangements relevant to the preparation of its BURs. The Climate Change Central Department of the Egyptian Environmental Affairs Agency is the national entity responsible for coordinating climate action and reporting. Information on existing MRV arrangements was reported by sector for the energy, IPPU, agriculture, waste, water resources and coastal zone protection sectors. The proposed domestic MRV system, which covers four main areas (the GHG inventory, mitigation actions, adaptation actions, and support needed and received), including the data providers for each area, is yet to be formally adopted by the National Council for Climate Change and requires financial and other resources for its establishment and operationalization.

88. In its first BUR, submitted in 2019, Egypt reported information on its national GHG inventory for 2005–2015. This included GHG emissions and removals of CO₂, CH₄, N₂O, HFCs and PFCs for all relevant sources and sinks as well as the precursor gases. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2015 were reported as 325,614 Gg CO₂ eq (excluding land and HWP). Emissions were reported as not occurring for most of the land and HWP categories. A total of 21 key categories and main gases were identified, with CO₂ and gaseous fuels (used in energy industries) identified as the main gas and key category, respectively. Estimates of SF₆ emissions were reported using notation keys owing to a lack of data on SF₆ use, as clarified by the Party during the technical analysis.

89. Egypt reported information on mitigation actions and their effects in both tabular and narrative format and framed its national mitigation planning and actions in the context of its national development priorities, objectives and circumstances. Egypt reported 22 mitigation actions in the energy, IPPU, AFOLU and waste sectors or that are cross-cutting in nature in two groups: actions implemented (ongoing or completed) between 2005 and 2015 (nine actions) and actions planned beyond 2015 (13 actions), all of which are conditional on the provision of support from developed countries. The mitigation actions focus on energy

efficiency, renewable energy and bioenergy, pollution abatement, waste management and waste-to-energy. The Party reported the progress of implementation of its mitigation actions and the results achieved, including emission reductions and estimated outcomes, to the extent possible. The highest estimated outcome was reported for the Industrial Energy Efficiency Project, amounting to 2.44 Mt CO₂ eq between 2013 and 2015. Egypt also reported information on its international market mechanisms and MRV arrangements. Estimates of emission reductions and information on methodologies and assumptions for some mitigation actions were not provided owing to difficulties in obtaining the necessary data and the unfeasibility of estimating emission reductions for some actions, as clarified by the Party during the technical analysis.

90. Egypt reported information on key constraints, gaps and related needs, including institutional, technical and financial arrangements related to the continuous improvement of national reporting, and specific needs for adaptation, mitigation and cross-cutting programmes outlined in the BUR. The Party also reported information on the technical, technology transfer and capacity-building support received from the GEF, developed countries, climate funds and multilateral institutions for activities related to climate change. The Party further reported that it received financial support of USD 352,000 from the GEF for preparing its first BUR. Information on technology needs assessment was not provided owing to the insufficient time and money allocated to preparing the BUR.

91. The TTE, in consultation with Egypt, identified the 21 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. Egypt identified all the capacity-building needs listed in paragraphs 84–85 above as being of high priority, except for those listed in paragraph 84(a)(vii–viii) and (c)(iv) above, which were identified as being of medium priority.

10.

Annex I

Extent of the information reported by Egypt 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 Egypt

<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	Egypt submitted its first BUR in December 2019; the GHG inventory reported is for 2005–2015.
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established in the latest UNFCCC guidelines for the preparation of NCs from non-Annex I Parties approved by the Conference of the Parties or those determined by any future decision of the Conference of the Parties on this matter.	Yes	Egypt used the 2006 IPCC Guidelines.
Decision 2/CP.17, annex III, paragraph 5	The updates of the section on national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the EF may be made in the subsequent full NC.	Yes	The BUR includes references to AD.
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	
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines.	Yes	Comparable information was reported in annexes C–D to the BUR.
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in its previous NCs.	Partly	The time series provided was for 2005–2015. The BUR does not contain time-series data for as far back as the years reported in the NC1 and NC2 (1990 and 2000).
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).	Partly	This information was reported for 2005, but not for 1990 and 2000.
	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	Yes	

<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 9	17/CP.8, annex, chapter III (National greenhouse gas inventories), including: (a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors); (b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF ₆).	Yes	Comparable information was reported in annexes C–D to the BUR.
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex.	Yes	HFC and PFC emissions were not reported on a gas-by-gas basis or in units of mass.
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	Information on GWP, GHG emission trend (2005–2015), GHG emissions in 2015 and common reporting format tables were provided in annexes A–E to the BUR.
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.	Yes	Information on Egypt’s institutional arrangements and national MRV system, including procedures and arrangements for collecting and archiving data, was reported in the BUR.
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of: (a) CO ₂ ; (b) CH ₄ ; (c) N ₂ O.	Partly	“NE” was reported for subcategories 1.B.1 (solid fuels), 2.B.7 (soda ash production), 3.B.2 (cropland) and 3.B.4 (wetlands) for which IPCC methodologies exist.
		Partly	“NE” was reported for subcategories 1.B.1 (solid fuels) and 3.B.4 (wetlands) for which IPCC methodologies exist.
		Partly	“NE” was reported for subcategories 1.B.1 (solid fuels) and 3.B.4 (wetlands) for which IPCC methodologies exist.
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; (b) PFCs; (c) SF ₆ .	Yes	Egypt reported information on SF ₆ using notation keys.

<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 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emissions by sources of other GHGs, such as:		
	(a) CO;	Yes	Egypt reported emissions from subcategory 3.C.1 (biomass burning).
	(b) NO _x ;	Yes	Egypt reported emissions from subcategory 3.C.1 (biomass burning).
	(c) NMVOCs.	No	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, No such as sulfur oxides, and included in the Revised 1996 IPCC Guidelines may be included at the discretion of Parties.	No	
Decision 17/CP.8, annex, paragraph 18	Non-Annex I Parties are encouraged, to the extent possible, and if disaggregated data are available, to estimate and report CO ₂ fuel combustion emissions using both the sectoral and the reference approach and to explain any large differences between the two approaches.	No	GHG emission estimates were not reported for the reference 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;	No	
	(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 ₂ eq should use the GWP provided by the IPCC in its AR2 based on the effects of GHGs over a 100-year time-horizon.	Yes	
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of EFs and AD. If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe the source and/or sink categories, methodologies, EFs and AD used in their estimation of emissions, as appropriate. Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building:		
	(a) Information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol;	Yes	Egypt used the 2006 IPCC Guidelines. Tier 1 methodology was mostly used for all sectors.
	(b) Explanation of the sources of EFs;	Yes	Egypt used the default EFs from the 2006 IPCC Guidelines.
	(c) Explanation of the sources of AD;	Yes	

<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>
	(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: <ul style="list-style-type: none"> (i) Source and/or sink categories; (ii) Methodologies; (iii) EFs; (iv) AD; 	NA	
	(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.	Partly	Notation keys were used in most cases. However, some cells were left blank in annex C to the BUR for category 5 and in annex D for SF ₆ for category 2, some gases for categories 2.F and 5, and NMVOCs and SO ₂ for all sectors.
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: <ul style="list-style-type: none"> (a) Level of uncertainty associated with inventory data; (b) Underlying assumptions; (c) Methodologies used, if any, for estimating these uncertainties. 	Yes	The results of the uncertainty analysis were reported by sector.

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 Egypt

<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	

<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 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Partly	Information on quantitative goals was not reported for some of the mitigation actions in the energy, IPPU and AFOLU sectors and for some cross-cutting actions. Progress indicators were not reported for some of the mitigation actions in the IPPU, waste and AFOLU sectors.
	(b) Information on:		
	(i) Methodologies;	Partly	Information on methodologies was incomplete for some mitigation actions in the energy, IPPU, AFOLU and waste sectors and for some cross-cutting actions.
	(ii) Assumptions;	Partly	Information on assumptions was incomplete for some mitigation actions in the energy, IPPU, AFOLU and waste sectors and for some cross-cutting actions.
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Yes	
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Partly	Information on progress of implementation of the Egyptian Pollution Abatement Project (Phase II) was not reported.
(ii) Progress of implementation of the underlying steps taken or envisaged;	Partly	Information on underlying steps taken or envisaged for the mitigation action Egyptian Pollution Abatement Project (Phase II) was not reported.	
(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Partly	Egypt did not report emission reductions for some of the mitigation actions in the energy, IPPU, waste and AFOLU sectors.	
(e) Information on international market mechanisms.	Yes		
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on domestic MRV arrangements.	Yes	

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

Table I.3

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

<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; (b) Related financial, technical and capacity-building needs.	Yes 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; (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 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; (b) Technology support received.	Partly Yes	Egypt reported on technology needs without indicating whether they are nationally determined.

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 Egypt. Available at <https://unfccc.int/BURs>.

NC1, NC2 and NC3 of Egypt. Available at <https://unfccc.int/non-annex-I-NCs>.
