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Technical analysis of the first biennial update report of Kuwait submitted on 30 September 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 Kuwait, conducted by a team of technical experts in accordance with the modalities and procedures contained in the annex to decision 20/CP.19.

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Abbreviations and acronyms

AD	activity data
AFOLU	agriculture, forestry and other land use
AR	Assessment Report of the Intergovernmental Panel on Climate Change
BUR	biennial update report
CDM	clean development mechanism
CGE	Consultative Group of Experts
CH ₄	methane
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ eq	carbon dioxide equivalent
EF	emission factor
GEF	Global Environment Facility
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>
LULUCF	land use, land-use change and forestry
MRV	measurement, reporting and verification
NA	not applicable
NC	national communication
NE	not estimated
NMVOG	non-methane volatile organic compound
non-Annex I Party	Party not included in Annex I to the Convention
NO _x	nitrogen oxides
N ₂ 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 ₆	sulfur hexafluoride
SO _x	sulfur oxides
TTE	team of technical experts
UNFCCC guidelines for the preparation of NCs from non-Annex I Parties	“Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention”
UNFCCC reporting guidelines on BURs	“UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention”
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 Kuwait, 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, Kuwait submitted its first BUR on 30 September 2019 as a stand-alone update report.
6. During the technical analysis, the Party clarified that the delay in the submission was due to a prolonged process of obtaining financial support for preparing its BUR.
7. A desk analysis of Kuwait's BUR was conducted from 9 to 13 March 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: Amr Osama Abdel-Aziz (Egypt), Sorin Deaconu (Romania), Patience Thelma Melfah Dampsey (former member of the CGE from Ghana), Takeshi Enoki (former member of the CGE from Japan), Celeste Gabriela Gonzalez Pereira (Paraguay), Ajay Raghava (former member of the CGE from India), Ching Tiong Tan (Malaysia), Lilia Taranu (Republic of Moldova), Jongikhaya Witi (South Africa) and Tania Zamora (former member of the CGE from Peru). Mr. Deaconu and Mr. Tan were the co-leads. The technical analysis was coordinated by Jeonghyun Emily Park, Alma Jean and Tomoyuki Aizawa (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 Kuwait 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 Kuwait's first BUR, the TTE prepared and shared a draft summary report with Kuwait on 8 June 2020 for its review and comment. The Party, in turn, provided its feedback on the draft summary report on 8 September 2020.
9. The TTE responded to and incorporated Kuwait's comments referred to in paragraph 8 above and finalized the summary report in consultation with the Party on 3 November 2020.

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

² The consultation was conducted via teleconferencing.

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 Kuwait'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 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. Kuwait reported in its first BUR the following information on its national circumstances: a description of national and regional development priorities, objectives and circumstances, including information on 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, Kuwait provided a summary of relevant information regarding its national circumstances in tabular format.

20. Kuwait reported in its first BUR information on its existing institutional arrangements relevant to the preparation of its NCs and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, including the legal status and roles and responsibilities of the overall coordinating entity, the involvement and roles of other institutions and experts, and mechanisms for information and data exchange. The Environment Public Authority of Kuwait has overall responsibility for preparing national reports, including NCs, BURs and national GHG inventories. In order to perform its functions in this regard, it has a dedicated Climate Change Section within its Air Quality Monitoring Department. The Environment Public Authority also works with a Project Steering Committee, which oversees the overall coordination and implementation of the report preparation process, while the National Climate Change and Ozone Committee provides overall policy and cross-sectoral guidance. It is also supported by a National Project Coordination team, which consists of three task forces on national circumstances and other information, national GHG inventories and mitigation, and climate change impacts, vulnerability and adaptation, as described in figure 1-42 in the BUR.

21. Kuwait reported in its first BUR information on its domestic MRV arrangements. The Environment Public Authority works closely with relevant entities to collect necessary data and prepare the GHG inventories. In its BUR, the Party outlined its plans to establish an online MRV system from late 2020, which will see the national GHG inventory system change from being the sole responsibility of the Environment Public Authority to being the joint responsibility of ministries, authorities and entities in Kuwait under the overall supervision and management of the Environment Public Authority. The new MRV system will facilitate the input of emission data by agencies from key economic sectors, and accredited research institutions in the country will act as third parties to validate data, as reflected in figure 4-3 in the BUR.

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

22. As indicated in table I.1, Kuwait 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.

23. Kuwait submitted its first BUR in 2019 and the GHG inventory reported is for 2016. The GHG inventory is consistent with the requirements for the reporting time frame.

24. Kuwait reported that it used the 2006 IPCC Guidelines and the IPCC good practice guidance to prepare its GHG inventory. GHG emissions and removals for the BUR covering the 2016 inventory were estimated using tier 1 methodology from the 2006 IPCC Guidelines. Kuwait used default EFs from the IPCC inventory software (version 2.54), which is based on the 2006 IPCC Guidelines, to prepare its GHG inventory for all sectors. The TTE commends the Party for using the 2006 IPCC Guidelines.

25. Information on AD and their sources for each sector was not reported in Kuwait's BUR. During the technical analysis, the Party clarified that AD for the inventory were

sourced from relevant stakeholders, including government entities and sectoral industries. To the extent possible, aggregated information for AD on specific activities was sourced from stakeholders in the task force on national GHG inventories and mitigation, and through reports obtained by the National Project Coordination team. The Party also clarified that further capacity-building and training are needed in order to collect and report AD and their sources.

26. Information on the Party's total GHG emissions by gas for 2016 is outlined in table 1 in Gg CO₂ eq. It shows an increase in emissions including land of 138.4 per cent since 1994.

Table 1
Greenhouse gas emissions by gas of Kuwait for 2016

<i>Gas</i>	<i>GHG emissions (Gg CO₂ eq) including land^a</i>	<i>% change 1994–2016</i>	<i>GHG emissions (Gg CO₂ eq) excluding land^a</i>
CO ₂	83 910.93	139.2	83 897.74
CH ₄	95.34	103.5	95.34
N ₂ O	1.37	187.4	1.37
HFCs	NE	NE	NE
PFCs	NE	NE	NE
SF ₆	NE	NE	NE
Other	NA	NA	NA
Total	86 336.45	138.4	86 323.26

^a 2006 IPCC Guidelines AFOLU category 3.B (land).

27. Emissions of PFCs, HFCs and SF₆ were reported as “NE” in tables 2-8–2-9 of the BUR. The Party clarified in its BUR that such emissions are negligible in Kuwait. During the technical analysis, the Party further explained that it is not mandatory for non-Annex I Parties to report fluorinated gas emissions and it had difficulties obtaining relevant AD.

28. Kuwait applied notation keys in the tables for other gases 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.

29. While the use of “NE” for fluorinated gases was explained in the BUR, as described in paragraph 27 above, it was not clear to the TTE why the Party used “NE” for CO, NO_x, NMVOCs and SO_x. During the technical analysis, the Party clarified that it used the IPCC inventory software, which does not include these gases, to estimate GHG emissions for the inventory.

30. Kuwait did not report information comparable with the level and detail of the tables included in annex 3A.2 to the IPCC good practice guidance for LULUCF or the sectoral reporting tables annexed to the Revised 1996 IPCC Guidelines. During the technical analysis, the Party clarified that the 2006 IPCC Guidelines were used to prepare its GHG inventory and the results were summarized in tables 2-4–2-9 of the BUR.

31. The shares of emissions that different sectors contributed to the total GHG emissions excluding land (category 3.B), as calculated by the TTE using information from the BUR, in 2016 are reflected in table 2.

Table 2
Shares of greenhouse gas emissions by sector of Kuwait for 2016

<i>Sector</i>	<i>GHG emissions (Gg CO₂ eq)</i>	<i>% share^a</i>	<i>% change 1994–2016</i>
Energy	82 556.57	95.6	140.4
Industrial processes and product use	1 932.16	2.2	89.0
AFOLU	141.18	0.2	248.5
Livestock (category 3.A)	142.00	0.2	NA
Land (category 3.B)	–13.19	NA	NA

<i>Sector</i>	<i>GHG emissions (Gg CO₂ eq)</i>	<i>% share^a</i>	<i>% change 1994–2016</i>
Aggregate sources and non-CO ₂ emissions sources on land (category 3.C)	12.37	0.0	NA
Waste	1 706.54	2.0	112.4

^a Share of total without 2006 IPCC Guidelines AFOLU category 3.B (land).

32. Kuwait 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.

33. The energy sector is the largest source of GHG emissions, accounting for 95.6 per cent of total national emissions in 2016. The majority of emissions from this sector stemmed from electricity and desalinated water production (around 58 per cent), followed by transport activities (around 18 per cent), upstream and downstream activities in the oil and gas industry (around 11 per cent) and fugitive CH₄ emissions (around 9 per cent).

34. The industrial processes and product use sector is the second-largest source of GHG emissions, accounting for approximately 2.2 per cent of total national emissions in 2016, with the mineral, chemical and metal industries being sources of emissions from this sector. For mineral industry, GHG emissions were associated with cement, lime and glass production and accounted for around 81 per cent of total sectoral GHG emissions. For chemical industry, emissions were associated solely with ammonia production. With regard to metal industry, iron and steel production and ferroalloys production were the main sources of emissions.

35. For categories 3.A and 3.C under the AFOLU sector in the 2006 IPCC Guidelines, CH₄ emissions from livestock were identified as a key category and the most relevant emissions source in the sector. Kuwait used EFs from the 2006 IPCC Guidelines. During the review of the draft summary report, the Party clarified that the number of livestock was used as an input for estimating GHG emissions, but this information was not included in the BUR.

36. For land (category 3.B), Kuwait reported annual GHG emissions and removals for 2016. Overall, the net removals from land (category 3.B) were reported as 13.19 Gg CO₂ eq.

37. In 2016, total GHG emissions from the waste sector were reported as approximately 2 per cent of total national emissions. Emissions from solid waste disposal accounted for nearly 75 per cent of total sectoral emissions, followed by wastewater treatment and discharge (24.6 per cent) and incineration activities (less than 1 per cent).

38. The BUR provides an update to all GHG inventories reported in previous NCs. The information reported provides an update of Kuwait's initial NC, which addressed anthropogenic emissions and removals for 1994. Both the BUR and the NC2 were submitted in 2019. While the NC2 addressed anthropogenic emissions and removals for 2000, the BUR presented information for 2016. During the review of the draft summary report, the Party clarified that the NC2 and the BUR covered different years owing to the prolonged process of obtaining financial support, which delayed its preparation and submission of the BUR.

39. As mentioned in paragraphs 20–21 above, Kuwait described in its BUR the institutional framework for the preparation of its GHG inventory. The Environment Public Authority collects and distributes GHG inventory data from relevant entities. The results are approved by a review committee comprising experts from Kuwait University and research institutions, before being approved by the National Climate Change and Ozone Committee. During the technical analysis, the Party explained that its reporting could be improved by enhancing the national capacities of other institutions and data providers to identify and collect AD, collecting and verifying data systematically for each sector, and receiving training on the IPCC inventory software, 2006 IPCC Guidelines and other guidelines accredited by the UNFCCC.

40. Kuwait clearly reported that a key category analysis was performed for the level of emissions. Five key categories were identified, including public electricity and heat production; transport; oil and gas (stationary combustion); fugitive emissions (oil and gas); and manufacturing and construction industries. The Party reported that the analysis was limited to CO₂ as it represents 97.2 per cent of the total GHG emissions.

41. The BUR provides information on QA/QC measures taken when preparing the GHG inventory. The TTE commends the Party for reporting its QA/QC measures in accordance with the IPCC good practice guidance.

42. Kuwait reported information on CO₂ fuel combustion using only the sectoral approach. The information reported indicates that the combustion emissions estimated under the sectoral approach are 75,071.55 Gg CO₂ eq. Information on the results of the reference approach and the difference between the estimates using the two approaches was not clearly reported in the BUR. During the technical analysis, the Party clarified that, despite continued efforts, it still has difficulties in collecting data efficiently to calculate the difference between the estimates for the two approaches.

43. Information was reported on international aviation and marine bunker fuels in table 2-8 of the BUR for CO₂, CH₄ and N₂O emissions. However, information on emissions of precursor gases from international aviation and marine bunker fuels, such as CO, NO_x, NMVOCs and SO_x, was not clearly reported in the BUR. During the technical analysis, the Party clarified that it is not mandatory for non-Annex I Parties to report emissions of these gases and explained that it had difficulties obtaining relevant AD.

44. Kuwait reported information on the uncertainty assessment (level) of its national GHG inventory. The results obtained, as reported in the BUR, reveal that the combined uncertainty level is less than 10 per cent. The Party reported that this uncertainty is mainly associated with CO₂ emissions, which accounted for 97.2 per cent of total national GHG emissions. The uncertainty analysis was based on the default EFs provided in the 2006 IPCC Guidelines. The Party also reported that the uncertainty associated with the methodology used is minimal, as it implemented appropriate QA/QC procedures and used the IPCC inventory software as the main tool for preparing the GHG inventory. During the technical analysis, the Party informed the TTE that it adopted a tier 1 approach for the uncertainty analysis. It also stated that it experienced challenges related to the availability, accuracy and consistency of data, which contributed to the uncertainty level of the GHG inventory (see section 2.6 of the BUR).

45. The TTE noted that the transparency of the information reported on GHG inventories could be further enhanced by addressing the areas noted in paragraphs 25, 29, 30, 42 and 43 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

46. As indicated in table I.2, Kuwait 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.

47. The information reported provides a clear overview of the Party's mitigation actions and their effects. In its BUR, Kuwait reported that it is making efforts to harmonize economic growth with low-carbon, climate-resilient development. Most of the mitigation actions reported in the BUR are in the energy sector, since it accounts for the largest share of GHG emissions. In addition to domestic projects to reduce its carbon footprint, the Party reported that, as shown in its nationally determined contribution, it is committed to exploring additional GHG emission reduction policies and measures in the energy sector.

48. Kuwait reported that it conducted an assessment of its potential mitigation options to determine annual and cumulative GHG emission reduction targets. The scope of the assessment focused on fugitive emissions from oil and gas operations and combustion-related emissions associated with electricity and desalination. Combined, these activities accounted for 76–81 per cent of emissions in 1994–2016. Despite the Party reporting that the transport sector is one of the largest sources of GHG emissions in the country, accounting for 18 per cent of total emissions in 2016, its mitigation actions are focused on enhancing electricity production and improving efficiency in upstream oil and gas operations owing to national conditions.

49. Kuwait reported its mitigation actions and their effects in the context of baseline and mitigation scenarios that take into account a 19-year planning horizon (2016–2035). While

the baseline scenario incorporates activities that took place before the preparation of the BUR, the mitigation scenario includes ongoing activities.

50. The Party also reported that its climate change responses that are geared towards minimizing emissions often have adverse effects on the sustainable development plans and programmes of developing countries. In this regard, information on the economic and social consequences of responses measures was reported in section 5.1.1 of the BUR. The Party also provided information on response measures with economic and social consequences for Kuwait and the actions taken to address those consequences in section 5.2 of the BUR.

51. The Party reported a summary of the mitigation actions, in the context of baseline and mitigation scenarios, in tabular format in accordance with decision 2/CP.17, annex III, paragraph 11. The Party also reported additional information on these actions in narrative format.

52. Consistently with decision 2/CP.17, annex III, paragraph 12(a), Kuwait clearly reported the names and descriptions of the mitigation actions, including the nature of the actions and coverage (sector and gases), in the context of baseline and mitigation scenarios in table 2-11 of the BUR.

53. While the Party did not explicitly identify quantitative goals for each mitigation action in its BUR, it reported related information, such as potential GHG emission reductions identified on the basis of the mitigation assessment described in paragraph 48 above, and qualitative goals for some of the mitigation actions in table 2-11 of the BUR. Information on the progress indicators for these mitigation actions was not clearly reported in the BUR. During the technical analysis, the Party clarified that it had limited resources available, which meant it was unable to report information on specific quantitative goals and progress indicators for each mitigation action, but that it reported estimates of the potential emission reductions for each project.

54. The first group of mitigation actions was reported in the context of the baseline scenario. The Party reported information on historical and projected GHG emission trends as a function of population and per unit of gross domestic product. Emissions per unit of gross domestic product reported by the Party indicate a downward trend from 3.6 kg CO₂ eq in 1994 to 1.0 kg CO₂ eq in 2016, suggesting an increase in the efficiency of reducing its carbon footprint.

55. The Party reported that a linear regression model was applied for this group of actions to project its baseline scenario up to 2035 (see section 2.7.1 of the BUR). For this scenario, Kuwait assumed continued historical trends in energy supply and demand. The Party clearly reported the objectives of the mitigation actions under this scenario, which comprised two flare gas recovery projects, one solar photovoltaic project and one project on improving the efficiency of electricity distribution, which have been implemented as CDM projects. The Party reported the estimated results as annual GHG emission reductions, with the project on improving the efficiency of electricity distribution and the flare gas recovery project at the Mina Abdullah refinery accounting for the highest estimated annual reductions at 112.7 and 89.5 Gg, respectively. GHG emissions per capita were projected to increase from approximately 86,000 Gg CO₂ eq in 2016 to over 142,000 Gg CO₂ eq by 2035 under this scenario, with an annual average increase of around 2.67 per cent (see figure 2-5 in the BUR).

56. The second group of mitigation actions was reported in the context of the mitigation scenario. These actions are proposed as expansions of the electricity distribution and solar photovoltaic projects under the baseline scenario described in paragraph 55 above.

57. The Party reported that the same methodology used for the first group of mitigation actions was applied for this second group. For the mitigation scenario, Kuwait assumed that measures would be implemented to reduce fugitive emissions, enhance supply-side efficiency in electricity generation and promote use of renewable energy. Two projects were reported under the mitigation scenario: further improving the efficiency of electricity distribution and expanding the share of renewable energy in electricity production. The Party reported the steps envisaged to implement these actions and the estimated results in the form of GHG emission reductions compared with the baseline scenario (see figure 2-5 in the BUR). The Party reported an anticipated annual GHG emission reduction of approximately 5,600

Gg CO₂ eq by 2030, which represents a reduction of approximately 4 per cent compared with the baseline scenario. The cumulative GHG emission reduction is expected to be approximately 60,000 Gg CO₂ eq over the entire planning period by 2035. The estimated annual reductions reported for the mitigation actions under this scenario were 571.6 Gg and 5,000 Gg, respectively.

58. The Party reported limited information on the steps taken and envisaged to achieve the actions under the baseline and mitigation scenarios. Furthermore, the progress of implementation was not clearly reported in Kuwait's BUR. During the technical analysis, the Party clarified that it experienced challenges in gathering the necessary information from the entities responsible for implementing the various projects and in collecting and analysing the relevant data owing to a lack of financial, institutional and human resources.

59. The third group of mitigation actions reported relates to future mitigation opportunities. The information reported includes several priority strategies currently under consideration to achieve additional emission reductions in areas related to power supply, transport, industry and waste. The Party outlined the objectives of these mitigation actions and provided limited information on the steps envisaged to implement them.

60. Kuwait did not report information on methodology and assumptions, progress of implementation or underlying steps taken or envisaged, or estimated outcomes or emission reductions for this group of actions. However, in its BUR, the Party provided a general description of its plans to enhance its capacity to assess these mitigation actions and related needs.

61. Kuwait provided information on its involvement in international market mechanisms as a Party to the Kyoto Protocol. The Party documented four CDM projects in the context of the baseline scenario and two additional projects in the context of the mitigation scenario that are in the process of being registered as CDM projects. The Party reported GHG emission reductions for projects under these two scenarios, as reflected in paragraphs 55 and 57 above. During the technical analysis, the Party explained that two of the CDM projects (flare gas recovery at the Mina Al Ahmadi and Mina Abdullah refineries) have already generated certified emission reductions.

62. The TTE noted that the transparency of the information reported on mitigation actions could be further enhanced by addressing the areas noted in paragraphs 53, 58 and 60 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

63. As indicated in table I.3, Kuwait 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.

64. Kuwait 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, Kuwait identified several technical, institutional, legislative and financial constraints at various levels, including lack of accurate databases; inadequate analysis, collection and dissemination of data; limited cooperation between agencies providing GHG inventory data; and lack of familiarity with methods and tools for quantifying climate change impacts in vulnerable sectors. Kuwait also reported key capacity gaps, including lack of access to long-term climate information and uncertainties when conducting vulnerability and adaptation assessments; inadequate institutional and technical capacities to plan and implement adaptation measures; and limited funding for climate change related research. The Party reported that its capacity-building needs relate to GHG inventory preparation, analysis of mitigation opportunities and vulnerability assessment, in addition to the areas identified in its NC2.

65. Kuwait reported information on financial and technical support received in accordance with decision 2/CP.17, annex III, paragraph 15. In its BUR, Kuwait reported that it received financial support from the GEF and technical support from the United Nations Environment Programme for preparing its NCs and first BUR. The Party also reported that it

did not receive any technical or financial support for implementing mitigation and adaptation actions, which are funded from its own national budget.

66. Kuwait reported on some areas for technological improvement in relation to future mitigation opportunities, including using reverse osmosis technology in seawater desalination for power supply and adopting more advanced technologies to reduce electricity demand in the industrial sector.

67. Information on nationally determined technology needs was not clearly reported in the BUR. During the technical analysis, the Party clarified that it requires capacity-building for undertaking a technology needs assessment.

68. The TTE noted that the transparency of the information reported on needs and support received could be further enhanced by addressing the area noted in paragraph 67 above, which could facilitate a better understanding of the information reported on needs and support received.

5. Any other information

69. Kuwait reported information on vulnerability assessment and adaptation needs for priority sectors, including water resources, coastal zones and public health. In its BUR, the Party also reported some information on the role of women in education and decision-making processes.

D. Identification of capacity-building needs

70. In consultation with Kuwait, 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) Enhancing national capacity to use the IPCC inventory software (and any updated versions) for preparing the GHG inventory;
 - (ii) Collecting data for estimating and reporting anthropogenic emissions by sources of other GHGs, such as CO, NO_x, NMVOCs and SO_x, as part of the GHG inventory;
 - (iii) Collecting data for estimating and reporting anthropogenic emissions by sources of HFCs, PFCs and SF₆ as part of the GHG inventory;
 - (iv) Identifying data sources, collecting data and enhancing national capacity to use methodologies for estimating and reporting emissions from marine bunker fuels;
 - (v) Enhancing national capacity to collect, estimate and report data using both the sectoral and the reference approach;
 - (vi) Sharing best practices for collecting, verifying and reporting AD in a systematic manner with various stakeholders;
- (b) In relation to mitigation actions and their effects:
 - (i) Enhancing national capacity to use methods and tools for analysing the costs, benefits and co-benefits of GHG mitigation policies and measures;
 - (ii) Building a database of the costs and efficiency levels of energy supply and energy demand management technologies and practices;
 - (iii) Identifying and using methodologies for modelling or determining the results achieved by mitigation actions in the context of baseline and mitigation scenarios;
 - (iv) Enhancing national capacity to use the Long-range Energy Alternatives Planning model;
 - (v) Identifying information on steps taken or envisaged to achieve mitigation actions;

- (vi) Monitoring and reporting information on the progress of identified mitigation actions;
- (vii) Collecting and reporting information on the quantitative goals and progress indicators of mitigation actions;
- (viii) Developing a centralized database for monitoring and reporting information related to GHG emissions and mitigation projects;
- (c) In relation to needs and support:
 - (i) Identifying existing national technologies and gaps;
 - (ii) Strengthening national capacity to implement climate action through technical assistance, training and workshops;
 - (iii) Building capacity to apply for financial support.

71. The TTE noted that, in addition to those identified during the technical analysis, Kuwait reported several capacity-building needs in sections 2 and 6 of its BUR covering the following areas:

- (a) GHG inventory preparation;
- (b) Analysis of mitigation opportunities;
- (c) Vulnerability assessment and adaptation to climate change;
- (d) Administrative and institutional arrangements;
- (e) Public awareness.

III. Conclusions

72. The TTE conducted a technical analysis of the information reported in the first BUR of Kuwait 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 and BURs 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; mitigation actions and their effects; constraints and gaps and related capacity-building needs, including a description of support received; domestic MRV; and other information relevant to the achievement of the objective of the Convention. The TTE concluded that the information analysed is mostly transparent.

73. Kuwait reported information on the institutional arrangements relevant to the preparation of its BURs. The Environment Public Authority has overall responsibility for preparing the BURs and works with a Project Steering Committee, which oversees the overall coordination and implementation of the process, while the National Climate Change and Ozone Committee provides overall policy and cross-sectoral guidance. It is also supported by a National Project Coordination team, which consists of three task forces on national circumstances and other information; national GHG inventories and mitigation; and climate change impacts, vulnerability and adaptation. The Party has taken significant steps to create institutional arrangements that allow for the sustainable preparation of its BURs. These include the development of an online system to facilitate sectoral information transfer.

74. In its first BUR, submitted in 2019, Kuwait reported information on its national GHG inventory for 2016. This included GHG emissions and removals of CO₂, CH₄ and N₂O for all relevant sources and sinks. The inventory was developed on the basis of the 2006 IPCC Guidelines. The total GHG emissions for 2016 were reported as 86,323.26 Gg CO₂ eq (excluding LULUCF) and 86,336.45 Gg CO₂ eq (including LULUCF). Five key categories were identified: public electricity and heat production; transport; oil and gas (stationary combustion); fugitive emissions (oil and gas); and manufacturing and construction industries. Estimates of fluorinated gases and precursor gases were not provided owing to difficulties in obtaining the necessary data, as clarified by the Party during the technical analysis.

75. Kuwait reported information on mitigation actions and their effects in both tabular and narrative format. The Party reported actions that are ongoing or planned, mostly in the energy sector. The mitigation actions focus on improving energy efficiency and promoting use of renewable energy. The Party reported the estimated emission reductions for each mitigation action in the context of baseline and mitigation scenarios. Kuwait reported that, if all mitigation actions reported in its BUR are implemented, the cumulative GHG emission reductions achieved are expected to be approximately 60,000 Gg CO₂ eq by 2035. Kuwait also reported information on future mitigation opportunities in the areas of power supply, transport, industry and waste. Further, the Party reported information on its involvement in international market mechanisms.

76. Kuwait reported information on key constraints, gaps and related needs, including in the areas of data collection and analysis, institutional and technical capacity, climate change research and vulnerability assessment. The Party also reported that it received financial support from the GEF and technical support from the United Nations Environment Programme for preparing its BUR. The Party further reported that it did not receive any technical or financial support for implementing mitigation and adaptation actions. Information on technology needs was not clearly reported in the BUR owing to a technology needs assessment being a capacity-building need, as clarified by the Party during the technical analysis.

77. The TTE, in consultation with Kuwait, identified the 17 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. Kuwait identified the following as priority capacity-building needs:

- (a) Enhancing national capacity to use the IPCC inventory software (and any updated versions) for preparing the GHG inventory;
- (b) Identifying data sources, collecting data and enhancing national capacity to use methodologies for estimating and reporting emissions from marine bunker fuels;
- (c) Enhancing national capacity to collect, estimate and report data using both the sectoral and the reference approach;
- (d) Sharing best practices for collecting, verifying and reporting AD in a systematic manner with various stakeholders;
- (e) Identifying and using methodologies for modelling or determining the results achieved by mitigation actions in the context of baseline and mitigation scenarios;
- (f) Identifying information on steps taken or envisaged to achieve mitigation actions;
- (g) Monitoring and reporting information on the progress of identified mitigation actions;
- (h) Collecting and reporting information on the quantitative goals and progress indicators of mitigation actions;
- (i) Developing a centralized database for monitoring and reporting information related to GHG emissions and mitigation projects.

Annex I

Extent of the information reported by Kuwait 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 Kuwait

<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.	Yes	Kuwait submitted its first BUR in September 2019; the GHG inventory reported is for 2016.
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	Kuwait 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	Kuwait used the 2006 IPCC Guidelines, the IPCC good practice guidance and the IPCC inventory software (version 2.54).
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.	Yes	The time series reported in the BUR included 1994, 2000 and 2016.
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 1994 and 2000.
Decision 2/CP.17, annex III, paragraph 9	The inventory section of the BUR should consist of a national inventory report as a summary or as an update of the information contained in decision 17/CP.8, annex, chapter III (National 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	Yes	Comparable information was reported in table 2-8 of the BUR.

<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>
	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 table 2-9 of 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.	No	
Decision 17/CP.8, annex, paragraph 12	Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the IPCC good practice guidance to assist in developing inventories that better reflect their national circumstances.	Yes	
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved.	Yes	
Decision 17/CP.8, annex, paragraph 14	Each non-Annex I Party shall, as appropriate and to the extent possible, provide in its national inventory, on a gas-by-gas basis and in units of mass, estimates of anthropogenic emissions of:		
	(a) CO ₂ ;	Yes	
	(b) CH ₄ ;	Yes	
	(c) N ₂ 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:		
	(a) HFCs;	No	
	(b) PFCs;	No	
	(c) SF ₆ .	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;	No	
	(b) NO _x ;	No	
	(c) NMVOCs.	No	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO _x , 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	The information was reported only for the sectoral approach.
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		

<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>
	(a) International aviation;	Yes	
	(b) Marine bunker fuels.	Yes	
Decision 17/CP.8, annex, paragraph 20	Non-Annex I Parties wishing to report on aggregated GHG emissions and removals expressed in CO 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	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	Kuwait used the 2006 IPCC Guidelines. Tier 1 methodology was used for all sectors.
	(b) Explanation of the sources of EFs;	Yes	
	(c) Explanation of the sources of AD;	No	
	(d) If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:	NA	
	(i) Source and/or sink categories;		
	(ii) Methodologies;		
	(iii) EFs;		
	(iv) AD;		
	(e) Parties are encouraged to identify areas where data may be further improved in future communications through capacity-building.	Yes	
Decision 17/CP.8, annex, paragraph 22	Each non-Annex I Party is encouraged to use tables 1 and 2 of the guidelines annexed to decision 17/CP.8 in reporting its national GHG inventory, taking into account the provisions established in paragraphs 14–17. In preparing those tables, Parties should strive to present information that is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated.	Yes	
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:		

<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>
	(a) Level of uncertainty associated with inventory data;	Yes	
	(b) Underlying assumptions;	Yes	
	(c) Methodologies used, if any, for estimating these uncertainties.	Yes	

Note: The parts of the UNFCCC reporting guidelines on BURs on reporting information on GHG emissions by sources and removals by sinks in BURs are contained in decision 2/CP.17, 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 Kuwait

<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.	Yes	
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or group of mitigation actions, including, as appropriate, those listed in document FCCC/AWGLCA/2011/INF.1, developing country Parties shall provide the following information, to the extent possible:		
	(a) Name and description of the mitigation action, including information on the nature of the action, coverage (i.e. sectors and gases), quantitative goals and progress indicators;	Partly	Information on quantitative goals and progress indicators was not reported for most of the mitigation actions.
	(b) Information on:		
	(i) Methodologies;	Partly	Information on methodologies was not reported for some of the mitigation actions.
	(ii) Assumptions;	Partly	Information on assumptions was not reported for some of the mitigation actions.
	(c) Information on:		
	(i) Objectives of the action;	Yes	
	(ii) Steps taken or envisaged to achieve that action;	Partly	Information on steps taken or envisaged was not reported for most of the mitigation actions.
	(d) Information on:		
	(i) Progress of implementation of the mitigation actions;	Partly	Information on progress of implementation was not reported for most of the mitigation actions.
	(ii) Progress of implementation of the underlying steps taken or envisaged;	Partly	Information on the progress of implementation of the underlying steps taken or envisaged was not

<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>
			reported for most of the mitigation actions.
	(iii) Results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible;	Yes	
	(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 Kuwait

<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; (b) Related financial, technical and capacity-building needs.	Yes Partly	Information on financial needs was not reported.
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	Kuwait reported some technology needs related to mitigation, but identified a technical needs assessment as one of its capacity-building needs.

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

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