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Technical analysis of the first biennial update report of Lebanon submitted on 13 October 2015

Summary report by the team of technical experts

Summary

According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, were to submit their first biennial update report (BUR) by December 2014. The least developed country Parties and small island developing States may submit BURs at their discretion.

Further, according to paragraph 58(a) of the same decision, the first round of international consultation and analysis (ICA) is to be conducted for non-Annex I Parties, commencing within six months of the submission of the Party's first BUR. The process of ICA consists of two steps: the technical analysis of the submitted BUR, followed by a workshop for the facilitative sharing of views under the Subsidiary Body for Implementation.

This summary report presents the results of the technical analysis of the first BUR of Lebanon undertaken 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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I. Introduction and process overview

A. Introduction

1.   According to decision 2/CP.17, paragraph 41(a), Parties not included in Annex I to the Convention (non-Annex I Parties), consistent with their capabilities and the level of support provided for reporting, were to submit their first biennial update report (BUR) by December 2014. The least developed country Parties and small island developing States may submit BURs at their discretion. Further, according to paragraph 58(a) of the same decision, the first round of international consultation and analysis (ICA) is to be conducted for non-Annex I Parties, commencing within six months of the submission of the Party's first BUR. The process of ICA consists of two steps: the technical analysis of the submitted BUR, resulting in a summary report for each BUR analysed, followed by a workshop for the facilitative sharing of views under the Subsidiary Body for Implementation.

2.   This summary report presents the results of the technical analysis of the first BUR of Lebanon undertaken by a team of technical experts (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

3.   Lebanon submitted its first BUR on 13 October 2015.

4.   The technical analysis of the BUR took place from 29 February to 4 March 2016 in Bonn, Germany, and was undertaken by the following TTE, drawn from the UNFCCC roster of experts on the basis of the criteria defined in decision 20/CP.19, annex, paragraphs 2–6: Ms. Jenny Mager (Chile), Mr. Cristobal Felix Diaz Morejon (Cuba), Ms.Rocío Danica Condor (Italy), Mr. Juan Luis Martín Ortega (Spain), Ms. Lilian Portillo (former member of the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention from Paraguay) and Mr. Eduardo Calvo Buendia (Peru). Mr. Ortega and Ms. Portillo were the co-leads. Ms. Alma Jean (secretariat) provided administrative support to the TTE.

5.   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 Lebanon engaged in discussion via videoconferencing, primarily to reach an understanding on the identification of capacity-building needs. Following the technical analysis of the BUR, the TTE prepared and shared a draft summary report with Lebanon on 19 May 2016 for its review and comment. Lebanon, in turn, provided its feedback on the draft summary report on 2 August 2016.

6.   The TTE responded to and incorporated the Party's comments referred to in paragraph 5 above and finalized the summary report in consultation with Lebanon 20 September 2016.

II. Technical analysis of the information reported in the biennial update report

A. Scope of the technical analysis

7.   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 their appropriateness, increase the transparency of mitigation actions and their effects, and shall entail the following:

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

(b)   A technical analysis of the information reported in the BUR, specified in the "UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention" (hereinafter referred to as the UNFCCC reporting guidelines on BURs) contained in annex III to decision 2/CP.17, and any additional technical information provided by the Party concerned (see chapter II.C below);

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

8.   The remainder of this chapter presents the results of each of the three parts of the technical analysis of Lebanon's BUR outlined in paragraph 7 above.

B. Overview of the elements of information reported

9.   The elements of information referred to in paragraph 7(a) above include: the national greenhouse gas (GHG) inventory report; information on mitigation actions, including a description of such actions, an analysis of their impacts and the associated methodologies and assumptions, and the progress made in their implementation; information on domestic measurement, reporting and verification (MRV); and information on support received.

10.   Further, 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 9 above have been included in the BUR of the Party concerned. The results of that analysis are presented in tables 1, 2 and 3.

1. National greenhouse gas inventory

11.   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, paragraph 41(g), and paragraphs 3–10 of the UNFCCC reporting guidelines on BURs. Further, as per paragraph 3 of those guidelines, non-Annex I Parties are to submit updates of national GHG inventories in accordance with paragraphs 8–24 of the "Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention" 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.

12.   Table 1 presents the results of the identification of the extent to which the elements of information on GHGs are included in the first BUR of Lebanon in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 1
Identification of the extent to which the elements of information on greenhouse gases are included in the first biennial update report of Lebanon

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
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	Yes	
Decision 2/CP.17, annex III, paragraph 5	The updates of the sections on the national inventories of anthropogenic emissions by sources and removals by sinks of all GHGs not controlled by the Montreal Protocol should contain updated data on activity levels based on the best information available using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF; any change to the emission factor may be made in the subsequent full national communication	Yes	
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:		
	(a) Table 1 (National greenhouse gas inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and greenhouse gas precursors	Yes	
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF_6)	No	Lebanon stated that its national consumption of halocarbons, SF_6 and PFCs could not be determined for this inventory owing to the absence of national data
Decision 2/CP.17, annex III, paragraph 6	Non-Annex I Parties are encouraged to include, as appropriate and to the extent that capacities permit, in the inventory section of the BUR:		
	(a) Tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF	NA	These tables were not included in the BUR; however, similar information was

Decision	Provision of the reporting guidelines	Yes/ Partly/No/NA	Comments on the extent of the information provided
			reported in table 12 and annex I
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines	Partly	These sectoral report tables were not included in the BUR; however, Lebanon reported tables for the different sectors that contain partial information
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in the previous national communications	No	
Decision 2/CP.17, annex III, paragraph 8	Non-Annex I Parties that have previously reported on their national GHG inventories contained in their national communications are encouraged to submit summary information tables of inventories for previous submission years (e.g. for 1994 and 2000)	Partly	Lebanon provided information on GHG emissions for 2011 only
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex	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	Partly	Lebanon provided information on its national GHG system in chapter 4.2 and reported that a more sustainable and structured data collection, maintenance, archiving and reporting process is being implemented. Additional information on the steps taken to involve national institutions that provide data should be included
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 the following gases by sources and removals by sinks:		
	(a) CO_2	Yes	
	(b) CH_4	Yes	
	(c) N_2O	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 HFCs, PFCs and SF_6	No	The national consumption of halocarbons, SF_6 and PFCs could not be determined for this inventory owing to the

Decision	Provision of the reporting guidelines	Yes/ Partly/No/NA	Comments on the extent of the information provided
			absence of national data
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		
	(a) International aviation	Yes	
	(b) Marine bunker fuels	Yes	
Decision 17/CP.8, annex, paragraph 16	Non-Annex I Parties are encouraged, as appropriate, to report on anthropogenic emission by sources of other GHGs, such as:		
	(a) CO	Yes	
	(b) NO_x	Yes	
	(c) NMVOCs	Yes	
Decision 17/CP.8, annex, paragraph 17	Other gases not controlled by the Montreal Protocol, such as SO_x, included in the Revised 1996 IPCC Guidelines may be included at the discretion of the Parties	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 emission factors and activity data. 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, emission factors and activity data 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	Partly	Lebanon applied a tier 1 method for most categories. However, detailed information on the tier 2 methods applied for transport (road transport), industrial processes (cement production) and LULUCF was not reported in the BUR
	(b) Explanation of the sources of emission factors	Partly	Lebanon used default emission factors for most GHG emission estimations, but

Decision	Provision of the reporting guidelines	Yes/ Partly/No/NA	Comments on the extent of the information provided
			information on the sources of emission factors was not reported
	(c) Explanation of the sources of activity data	Yes	
	(d) If non-Annex I Parties estimate anthropogenic emissions and removals from country-specific sources and/or sinks that are not part of the Revised 1996 IPCC Guidelines, they should explicitly describe:		
	(i) Source and/or sink categories	Partly	Lebanon did not estimate emissions and removals from all sources that are part of the IPCC good practice guidance for LULUCF
	(ii) Methodologies	Partly	Lebanon reported that a new methodology was adopted for the calculation of emissions and removals from the LULUCF sector. Sufficient information was not provided
	(iii) Emission factors	Partly	The information reported in the BUR (in chapter 2.1) on LULUCF indicated that country-specific emission factors were derived from global databases, surveys and expert consultants; however, sufficient information was not reported
	(iv) Activity data	Yes	
	(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 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:		
	(a) Level of uncertainty associated with inventory data	No	
	(b) Underlying assumptions	No	
	(c) Methodologies used, if any, for estimating these uncertainties	No	

Abbreviations: BUR = biennial update report, GHG = greenhouse gas, IPCC = Intergovernmental Panel on Climate Change, IPCC good practice guidance = *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, IPCC good practice guidance for LULUCF = *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, LULUCF = land use, land-use change and forestry, NA = not applicable, NMVOC = non-methane volatile organic compound, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*.

2. Mitigation actions and their effects

13. The parts of the UNFCCC reporting guidelines on BURs on the reporting of information on mitigation actions in BURs are contained in paragraphs 11–13 of the UNFCCC reporting guidelines on BURs.

14. Lebanon did report on mitigation actions in its first BUR. The information on mitigation actions reported is provided in tabular format.

15. Table 2 presents the results of the identification of the extent to which the elements of information on mitigation actions are included in the first BUR of Lebanon in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 2
Identification of the extent to which the elements of information on mitigation actions are included in the first biennial update report of Lebanon

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 12	For each mitigation action or groups 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	Lebanon provided comprehensive information on implemented mitigation actions in tabular format, including goals, sectors and results achieved; however, information on gases covered and progress indicators was not reported
	(b) Information on: (i) Methodologies	Partly	For most actions, methodologies were described. In annex II to the BUR, some references to methodologies were provided, but the information does not apply to all of the actions reported
	(ii) Assumptions	Yes	
	(c) Information on: (i) Objectives of the action	Yes	

Decision	Provision of the reporting guidelines	Yes/ Partly/No	Comments on the extent of the information provided
	(ii) Steps taken or envisaged to achieve that action	Yes	
	(d) Information on the progress of implementation of the mitigation actions and the underlying steps taken or envisaged, and the results achieved, such as estimated outcomes (metrics depending on type of action) and estimated emission reductions, to the extent possible:		
	(i) Progress of implementation of the mitigation actions	Yes	
	(ii) Underlying steps taken or envisaged	Yes	
	(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	No	
Decision 2/CP.17, annex III, paragraph 13	Parties should provide information on the description of domestic measurement, reporting and verification arrangements	Yes	

3.   Finance, technology and capacity-building needs and support received

16.   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 paragraphs 14–16 of the UNFCCC reporting guidelines on BURs.

17.   Table 3 presents the results of the identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the BUR of Lebanon in accordance with the relevant parts of the UNFCCC reporting guidelines on BURs.

Table 3
Identification of the extent to which the elements of information on finance, technology and capacity-building needs and support received are included in the first biennial update report of Lebanon

Decision	Provision of the reporting requirements	Yes/ Partly/No	Comments on the extent of the information provided
Decision 2/CP.17, annex III, paragraph 14	Non-Annex I Parties should provide updated information on constraints and gaps, and related financial, technical and capacity-building needs:		
	(a) Constraints and gaps	Yes	Lebanon provided updated information on administrative, technical and institutional constraints and gaps in table 20 of and annex III to the BUR

Decision	Provision of the reporting requirements	Yes/ Partly/No	Comments on the extent of the information provided
	(b) Related financial, technical and capacity-building needs	Partly	Lebanon provided information on needs related to the administrative, technical and institutional constraints and gaps identified, but those needs were not classified into technical, financial or capacity-building needs
Decision 2/CP.17, annex III, paragraph 15	Non-Annex I Parties should provide updated information on financial resources, technology transfer, capacity-building and technical support received from the Global Environment Facility, Annex II Parties 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 biennial update report	Yes	Lebanon provided information on the support received for the preparation of its BUR, specifying the support received and the sources of funding for mitigation actions and for the development of its measurement, reporting and verification system
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 technology needs, which must be nationally determined, and technology support received:		
	(a) Technology needs, which must be nationally determined	Partly	Information on technology practices associated with mitigation measures was reported in the BUR. However, identified technology needs were mentioned only briefly
	(b) Technology support received	Partly	Information on technology practices associated with mitigation measures was reported in the BUR, but no information on technology support received

C.   Technical analysis of the information reported

18.   The technical analysis referred to in paragraph 7(b) above aims to increase the transparency of mitigation actions and their effects, without engaging in discussion on the appropriateness of those actions. Accordingly, the technical analysis focused on the transparency of information reported in the BUR.

19.   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 Intergovernmental Panel on Climate Change (IPCC) and referred to in the UNFCCC reporting guidelines on BURs.

20.   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

21.   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 national communications, including, among other things, information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis. For national communications, non-Annex I Parties report on their national circumstances following the reporting guidance contained in decision 17/CP.8, annex, paragraphs 3–5.

22.   In accordance with decision 17/CP.8, annex, paragraph 3, Lebanon, in its BUR, reported on the following elements of its national circumstances, on the basis of which it will address climate change and its adverse impacts and/or which may affect its ability to address them: government structure, population profile, geographic profile, climate profile, economic profile, energy, transportation, industry, waste, agriculture, and land use, land-use change and forestry (LULUCF).

23.   Lebanon provided maps, graphs and tables to summarize and illustrate the most relevant information regarding its national circumstances, including information on renewable energy, vehicle fleet distribution, market share of transport systems, distribution of industrial establishments by economic activity, per capita municipal solid waste generation rates and agricultural production. The information transparently describes the national circumstances, in particular the biophysical, demographic, political and economic features of Lebanon.

24.   Lebanon described the institutional arrangements relevant to the preparation of its BUR, identifying the Ministry of Environment as the institution responsible, which also functions as the UNFCCC focal point in Lebanon. The sources of funding for the preparation of Lebanon's BUR were the Global Environment Facility through the United Nations Development Programme (UNPD) in Lebanon and the Government of Lebanon, which supported the preparation project with national resources amounting to USD 352,000 and 50,000, respectively.

25.   The description of such institutional arrangements was presented by Lebanon in its BUR together with information on its MRV system. The TTE notes that the transparency of the information provided in the BUR relating to institutional arrangements and MRV could be further enhanced by providing separate descriptions.

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

26.   Lebanon reported in its BUR information on national GHG emissions and removals in 2011 only using the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines), the IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance) and the IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (hereinafter referred to as the IPCC good practice guidance for LULUCF).

27. A consistent time series back to the years reported in its first and second national communications, in particular for 1994 and 2000, was not provided. During the technical analysis, Lebanon indicated that, owing to the lack of institutional memory of previous GHG inventories and difficulties in sharing data between agencies, a consistent time series could not be prepared. Updated GHG estimates for 2000 only were provided and Lebanon confirmed that a complete time series will be provided in its third national communication and second BUR.

28. Lebanon reported that decision 99/1 of the Minister of Environment ensures sustainability in reporting GHG emissions from the private sector. The Ministry of Environment in Lebanon is responsible for the coordination, compilation and submission of Lebanon's national communications, BURs and related GHG inventories.

29. Lebanon reported total GHG emissions of 24,652 Gg carbon dioxide equivalent (CO_2eq), identifying CO_2 as the most significant gas. The majority of its GHG emissions are from the energy sector, contributing 74 per cent of total national emissions, followed by the waste sector and industrial processes, contributing 11 and 10 per cent, respectively. Total CO_2 removals from LULUCF were reported as -3,369.85 Gg, therefore total national emissions including LULUCF were reported as 21,283 Gg CO_2 eq.

30. Lebanon estimated the national GHG inventory using a tier 1 method for most of the calculations, but reported that a tier 2 approach was used for transport (road transport), industrial processes (cement production) and LULUCF. During the technical analysis, Lebanon provided additional information in sectoral reports. [1] However, information on the methodology for AD, EF and time series were not reported in the BUR. Lebanon provided in its BUR a summary of the estimated national GHG inventory for 2011 in table 4 and annex I.

31. The TTE commends the efforts made by Lebanon to perform a key category analysis in accordance with the IPCC good practice guidance and the IPCC good practice guidance for LULUCF. In the BUR, eight categories were identified as key, with CO_2 being the main gas and the energy sector being the main key category. Lebanon used the key category analysis to focus efforts on developing tier 2 emission estimation methods for the most important sectors.

32. Lebanon reported detailed information in table 20 of its BUR on the technical constraints related to the preparation of its national GHG inventory, namely unavailability of activity data (AD), lack of disaggregated AD, inconsistency of data between different official sources, underdeveloped sectoral databases, deficiencies in technical expertise, discontinuity in data series, difficulty in estimating uncertainty of AD and emission factors (EFs) and inaccuracy of EFs in reflecting national circumstances.

33. Lebanon reported information on the (QA/QC) and verification implemented for its national GHG inventory. Information on a quality assurance measure for the new data collection process was also reported, indicating that entities must have the reported data certified by an auditor or accountant prior to its submission to the Ministry of Environment. The TTE commends the Party for its efforts in implementing QA/QC and verification procedures. During the technical analysis, Lebanon highlighted that, owing to resource constraints, it was not possible to develop a QA/QC manual.

34. For the energy sector, Lebanon reported GHG emissions of 18,284.82 Gg CO_2 eq in 2011, representing 74 per cent of the total national GHG emissions. Information on GHG emissions for four source categories was reported in the BUR: energy industries, manufacturing industry and construction, transport and other. The TTE notes with

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[1] Sectoral reports of Lebanon. Available at: <http://climatechange.moe.gov.lb/publications>.

appreciation that, for the primary key source (CO_2 from mobile combustion: road vehicles), emissions were calculated using tier 2 methods. The TTE encourages the use of tier 2 methods for other key categories when possible. The TTE also notes with appreciation the QA/QC provisions and the institutional arrangements reported for the energy sector. During the technical analysis, Lebanon informed the TTE of its inability to provide data from private generators; however, GHG emission estimates based on fuel consumption were provided in its BUR.

35.   For the industrial processes sector, Lebanon reported GHG emissions of 2,584 Gg CO_2 eq in 2011, representing 10 per cent of the total national emissions. The key sectoral source of GHG emissions was the cement industry, which is a major contributor to Lebanon's CO_2 emissions, accounting for 99.76 per cent, mainly from cement manufacturing. Emissions were estimated using tier 2 methods along with country-specific EFs. Information on emissions of fluorinated gases was not reported in the BUR. During the technical analysis, Lebanon reported that its national ozone office will prepare estimates of GHG emissions, mainly for hydrofluorocarbons, and information will be provided in its subsequent BURs.

36.   Lebanon reported that emissions from the solvent and other product use sector were not estimated. The TTE notes that the emissions from that sector are basically volatile organic compound and indirect CO_2 emissions and that transparency could be enhanced if information on the solvent and other product use sector were included in the BUR.

37.   For the agriculture sector, Lebanon estimated GHG emissions in 2011 for the Enteric fermentation (4A), Manure management (4B), Agricultural soils (4D) and Filed burning of agricultural residues (4F) source categories. Lebanon did not report GHG emissions for the Rice cultivation (4C) and Prescribed burning of savannahs (4E) source categories. In Table 4 of the BUR, categories 4C and 4E were reported as not occurring. Lebanon applied the Revised 1996 IPCC Guidelines and the IPCC good practice guidance and used tier 1 methods for the estimation of emissions from all sources for the agriculture sector (4A, 4B and 4D). Total sectoral GHG emissions were estimated at 872.15 Gg CO_2 eq, accounting for 4 per cent of the total national emissions. The main sectoral source of GHG emissions is nitrous oxide (N_2O) from agricultural soils, which accounts for half of the emissions from agriculture.

38.   Information on which institution was involved in the preparation of the GHG inventory for the agriculture sector was not reported in the BUR. During the technical analysis Lebanon clarified that the GHG inventory for the agriculture sector was prepared by a local independent consultant and that a series of consultations with different institutions was held. The estimation methodology and assumptions used for the sector were validated in March 2014. The TTE notes that the inclusion of that information in the BUR could enhance the transparency of the reporting.

39.   Lebanon provided information on the institutional arrangements for incentivizing the wider participation of the private sector in the reporting of information. Specifically, Lebanon provided information on decision 99/1 of the Minister of Environment on incentives for the direct reporting of GHG emissions and related AD to the Ministry of Environment. Additionally, Lebanon describes joining efforts with other ministries and the use of existing formal procedures to achieve a sustainable cooperation of the private sector.

40.   Lebanon reported in its BUR general information on the sources used to prepare its GHG inventory for 2011, namely its Ministry of Agriculture, its Directorate General of Customs, the Food and Agriculture Organization of the United Nations (FAO), the Lebanese Syndicate of Cattle Importers, surveys and personal communications. However, no detailed information on how each source was used for estimating emissions was provided. During the technical analysis, Lebanon provided detailed information and figures

on the AD used.[2] Lebanon retrieved data from FAOSTAT(e.g. on livestock populationand crop production of alfalfa), while nitrogen fertilizer consumption data were retrieved from the Directorate General of Customs and poultry population data from the Ministry of Agriculture. Lebanon also clarified that information on manure management systems was obtained through expert judgement and a survey on selected animal categories. The TTE notes that the inclusion of all that information in the BUR could increase the transparency of the reporting.

41.   Lebanon provided information on the parameters used for estimating N_2O emissions from 4B; however, no information on EFs was provided in the BUR. During the technical analysis, Lebanon informed the TTE that default values and parameters were used. The TTE notes that the inclusion of that information in the BUR could enhance the transparency of the reporting.

42.   Lebanon provided aggregated estimates of GHG emissions from4D. During the technical analysis, Lebanon provided the TTE with disaggregated figures for this source category. The TTE notes that the inclusion of that information in the BUR could enhance the transparency of the reporting.

43.   The IPCC good practice guidance for LULUCF was used to prepare the GHG inventory for the LULUCF sector. Information on which institution was involved in the preparation of the GHG inventory for the LULUCF sector was not reported. During the technical analysis, Lebanon explained that the GHG inventory for the LULUCF sector was prepared by the Institute for the Environment of the University of Balamand.

44.   Information on GHG emissions for the Forest Land (5A), Cropland (5B) and Settlements (5E) source categories was reported in the BUR, but information was not reported for the Cropland converted to Cropland (5.B.2), Grassland (5C), Wetland (5D) and Other Land (5F) categories. During the technical analysis, Lebanon provided detailed information on those categories. Lebanon clarified that, owing to the low quality of satellite images and the absence of relevant information from stakeholders. The TTE notes with appreciation the efforts of Lebanon to prepare estimates for the LULUCF sector and that transparency could be enhanced if relevant information were reported in the BUR, including notation keys.

45.   Lebanon reported that a new methodology for the LULUCF sector was adopted, which is based on recent available data and a more detailed approach; however, further information on the methodology was not provided in the BUR. During the technical analysis, Lebanon clarified that the appropriate tier estimation method for the land categories and subcategories, non-CO_2 gases and carbon pools was selected on the basis of the resources available. Lebanon's representation of most land-use areas and land conversions was done following approach 3 for land representation. Lebanon also clarified that emission and removal factors for the LULUCF sector were collected following a Tier 1 method using default data or assumptions from the IPCC good practice guidance and a Tier 2 method using country-specific data from global databases, literature or surveys and personal communications. Lebanon provided the TTE with a report that contains detailed information on the methodology, AD and EFs used to calculate the estimations for the LULUCF sector.[3]The TTE notes that including that information in the BUR could enhance the transparency of the reporting.

46.   Lebanon reported general information on the sources used to prepare the GHG inventory for the LULUCF sector, namely the Ministry of Agriculture, FAO, satellite

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[2] Please see footnote 1.
[3] Available at <http://climatechange.moe.gov.lb/viewfile.aspx?id=223>;see annex B.

images, scientific publications, surveys and personal communications. However, no detailed information on how each source was used for estimating emissions was reported in the BUR. During the technical analysis, Lebanon provided information on the satellite imagery used (SPOT-5 imagery (2.5 m) and 30 Landsat Thematic Mapper and Enhanced Thematic Mapper Plus imagery (25 m)). Lebanon also conducted field surveys and communicated with key stakeholders such as the Association for Forests, Development and Conservation and the Lebanese Reforestation Initiative. Lebanon further conducted a general consultation meeting in September 2013 to validate the methodology used and main assumptions made. The TTE notes that including that information in the BUR could enhance the transparency of the reporting on this sector.

47.   Information on emission drivers was not reported in the BUR. During the technical analysis, Lebanon provided detailed information and explained that the categories contributing significantly to the emissions or removals from the LULUCF sector were land conversion from forest land, cropland and grassland to settlements. The TTE notes that the transparency of the information reported could be enhanced if that information were reported in the BUR.

48.   For the waste sector, Lebanon reported GHG emissions of 2,742.27 Gg CO_2eq in 2011, contributing 11 per cent of the total national GHG emissions. Two key sectoral sources of GHG emissions were reported: methane emissions from solid waste disposal sites and from wastewater handling. N_2O and CO_2 emissions were generated from wastewater and health care waste incineration, respectively. Information reported in the BUR indicated that solid waste generation and management activities contributed more than 80 per cent of the emissions from the waste sector. Calculation tables and information describing methodologies and parameters were not reported; however, information on emissions was provided in table 14 of the BUR. During the technical analysis, Lebanon provided information on methane recovery and flaring as well as on assumptions on wastewater management.[4]

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

49.   As indicated in table 2, Lebanon reported in its BUR, in line with paragraph 13 of the UNFCCC reporting guidelines on BURs, information on mitigation actions and their effects. The TTE acknowledges that the information describing mitigation is very comprehensive, providing a good understanding of the national context.

50.   The information reported provides a general understanding of Lebanon's mitigation actions in the context of three key sectors: energy, agriculture and LULUCF. Lebanon reported that climate change has been mainstreamed and integrated into its development plans, including mitigation, and that to date mitigation measures contributing to an estimated abatement of 1,084,829 t CO_2eq in the period 2005–2012 have been implemented, with LULUCF being the main source of emission reductions or avoided emissions. Lebanon also reported that, provided that all activities are well sustained, the anticipated minimum annual reduction of GHG emissions is expected to be 226,710 t CO_2 eq. However, that estimation does not take into account the implementation of other additional planned activities across the transport and waste sectors. During the technical analysis, Lebanon informed the TTE that emission reductions expected to result from planned sectoral mitigation actions are being modelled as part of its third national communication project and are expected to be published by the end of 2016.

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[4] Please see footnote 1.

51.   Consistent with the provisions contained in paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, the information reported in table 16 of the BUR highlights 13 implemented mitigation actions that contributed to the emission reductions achieved by Lebanon in the energy, agriculture and LULUCF sectors. The transport and waste sectors were also identified as potential areas for mitigation actions, but implementation of such actions has not yet occurred. Further, Lebanon reported that an MRV system is being prepared, which will facilitate the identification and reporting of new initiatives and enhance the qualitative and quantitative assessment of such mitigation activities.

52.   Six mitigation actions were reported for the energy sector, including a general description of the actions, their geographical coverage and their goals. Information on GHGs was not reported for all actions. The methodologies used for these mitigation actions were identified as being from the Revised 1996 IPCC Guidelines and internal calculations, but additional information was not reported. Assumptions used were provided for five of the mitigation actions. Although the objectives of the mitigation actions were not reported, the steps taken to implement them were. Progress in their implementation was reported, in terms of achievements and estimated GHG emission reductions up to 2012, totalling 262,712 t CO_2 eq.

53.   For the agriculture sector, Lebanon provided information on mitigation actions, which are mainly focused on cropland management, livestock management and organic farming, among others. Information related to quantitative goals for emission reduction and methodologies or assumptions used for emission estimation was not provided. During the technical analysis, Lebanon clarified that emission reductions associated with the agriculture sector were not calculated owing to the absence of complete data and to avoid any underestimation or overestimation of emissions.

54.   Regarding the LULUCF sector, Lebanon reported that mitigation measures were categorized as reforestation/afforestation and forest landscape restoration activities or forest fire management activities. Overall, the total GHG emission reduction resulting from reforestation/afforestation activities achieved between 2005 and 2012 was estimated at 19.64 Gg CO_2eq; while the total GHG emission reduction resulting from forest fire management activities within the same time frame was estimated at 786.45 Gg CO_2 eq. The methodologies used for the reduction estimation are from the Revised 1996 IPCC Guidelines and the IPCC good practice guidance for LULUCF. Similar to for the agriculture sector, some information related to assumptions used and expected emission reductions was not provided. During the technical analysis, Lebanon clarified that there was a lack of reliable data.

55.   Regarding the transport and waste sectors, Lebanon reported that nationally appropriate mitigation actions (NAMAs) are currently under preparation. In the transport sector, the goal is to replace old cars on a national scale and, upon implementation, the approximate expected GHG emission reduction would be 625,000 t CO_2 eq, to be achieved by 2030. In the waste sector, the activities are mainly gas recovery and power production at current landfills and at large open dumpsites that are to be closed and the application of waste-to-energy technologies. An estimated annual GHG emission reduction of 1,470 Gg CO_2 eq was reported for these activities. However, further information related to the methodologies and assumptions used for the calculation of the expected emission reductions was not provided. In response to the request of the TTE for technical clarification, Lebanon explained that further information will be presented in its third national communication.

56.   In its BUR, Lebanon presented aggregated estimated emission reductions resulting from its implemented mitigation actions; however, further methodological information related to the approach taken for the aggregation was not provided. During the technical analysis, Lebanon informed the TTE that the aggregated emission reductions were

calculated in consultation with stakeholders, who provided quantified results, similar to the approach taken for aggregating emissions for the national GHG inventory, using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF. The TTE commends the effort made by Lebanon in providing such clarification.

57.   Information on gases covered and progress indicators in relation to mitigation actions, was not reported in the BUR. During the technical analysis, Lebanon informed the TTE that currently there are no specific methodologies for gathering information on the progress in the implementation of the mitigation actions described. However, there are plans to develop sectoral progress indicators and to systematize the information gathering among stakeholders in order to facilitate information gathering on the progress in the implementation of mitigation actions in the future and to enhance the transparency of the reporting.

58.   Lebanon provided comprehensive information in its BUR, including additional information on quantitative and qualitative results in chapter 3 and annex II, on the sectoral approaches to addressing the mitigation of GHG emissions and the steps taken to achieve effective emission reductions. The TTE recognizes the effort made by Lebanon in providing extensive information regarding the implementation of mitigation actions and the additional information sent during the technical analysis in order to enhance the transparency of the information provided.

59.   Among the sectoral information provided in chapter 3 of its BUR, Lebanon named some of the actions implemented to reduce emissions. Some of those actions are well described, including estimated mitigation potential. Lebanon indicated that it understands the importance of having correct estimated emission reductions and is aware of its capacity needs in this regard. The TTE, while commending the Party for providing such information, notes that the transparency of reported information could further be enhanced by providing information on mitigation potential of all implemented actions.

60.   With regard to NAMAs, the TTE notes that Lebanon reported information on its national approach and procedures related to addressing the national target of introducing 12 per cent renewable energy in the national energy mix and reducing emissions from other sectors. For that reason, the TTE notes that providing further information on planned NAMAs in its subsequent BURs could further enhance the transparency.

61.   Information on international mechanisms was not reported in the BUR. During the technical analysis, Lebanon provided information on its participation in the clean development mechanism, presenting relevant statistics, including information on the total projects and the quantity of certified emission reductions that have been issued for Lebanon's projects.

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

62.   Information on constraints and gaps and related financial, technical and capacity-building needs, including a description of support needed and received, was reported in the BUR. Lebanon included in tabular format a summary of the key gaps and constraints identified in the preparation of its BUR as well as the main needs related to those gaps.

63.   The information was reported in three categories (administrative, technical and institutional) and as such the TTE experienced a challenge in identifying specific financial, technical and capacity-building needs. Information was also reported in annex III to the BUR on gaps and constraints and proposed measures for improving data collection during the preparation of the national GHG inventory, specific to the energy sector. The TTE commends Lebanon for the comprehensive information provided but notes that the

information reported could be enhanced by clearly outlining financial, technical and capacity-building needs.

64. Information on the approach taken to identify gaps, constraints and needs was not reported in the BUR. During the technical analysis, Lebanon informed the TTE that the gaps reported in the BUR were identified by the project management team throughout the different phases of the preparation of the BUR, rather than being the result of an in-depth study on gaps and needs that involved all relevant institutions.

65. The TTE notes that Lebanon could enhance the transparency of its reporting by providing separate information on technical, technological, financial and capacity-building needs, respectively.

66. In addition to the information reported by Lebanon in its BUR on key gaps and constraints, Lebanon explained during the technical analysis that resource and time constraints prevented the Lebanese climate change team from presenting a complete list of capacity-building, training, equipment and other resources needed for the preparation of the BUR.

67. Furthermore, Lebanon emphasized that the main constraint related to the preparation of its BUR was the lack of sustainability of the team responsible for the climate reporting processes at the Ministry of Environment. The main need that Lebanon identified in this regard was the provision of permanent financial and administrative support in order to guarantee the sustainability, continuity and integrity of the information reported in the BUR. This could be ensured through the establishment of an MRV unit, which will be responsible not only for tracking climate change activities and collecting relevant data, but also for identifying needs to strengthen the climate reporting processes in Lebanon.

68. Regarding the MRV system, Lebanon highlighted the main MRV challenges: lack of institutional memory of compiling previous GHG inventories, difficulties in sharing data between agencies and the need for greater involvement of the private sector. The TTE commends Lebanon for providing those identified challenges.

69. Information on support received and needed from both a general and a particular perspective was reported in the BUR. Overall information on the support received and needed for the preparation of the BUR was presented, as well as details on the amount and source of the finance received for the developed mitigation actions and for the development of the MRV system. During the technical analysis, Lebanon indicated that such information was gathered from a mapping exercise of climate change activities that was conducted to capture the funding of climate change activities undertaken in the country since 2005 and the sources of support for the implementation of those projects. Lebanon highlighted that the mapping initiative was a one-time initiative with no planned sustainability. The TTE highlights the relevance of the effort made by Lebanon to develop the exercise, which contributes to enhancing the transparency of the climate finance activities undertaken.

70. In section 4.2 of the BUR, information was provided on the funding received for its preparation. Specifically, Lebanon reported that the preparation of its BUR was funded by the Global Environment Facility, providing USD 352,000, and managed by UNDP in Lebanon.

71. Additionally, Lebanon provided information in tabular format in annex II to its BUR on mitigation actions, including information on budget, source of funding and implementing agency.

72. Regarding technology needs and technology transfer, information on technology practices associated with mitigation measures was reported in the BUR. However, identified technology needs and technology transfer processes that might have been developed in the country were mentioned only briefly. During the technical analysis,

Lebanon informed the TTE of a comprehensive exercise carried out in the country to assess its priority technology needs as part of the technology needs assessment that was published in 2012 and is available online. Lebanon stated that, owing to time constraints, its technology needs and priorities could not be summarized and incorporated in its BUR. The TTE notes that the transparency of the reporting could be enhanced by including that information.

73. Lebanon reported that it is undertaking a project (under the UNDP Low Emission Capacity Building Programme) to develop a national inventory and MRV system. During the technical analysis, Lebanon informed the TTE that the establishment of the national MRV system is a main element in ensuring the implementation of its intended national determined contribution. Lebanon aims to establish an MRV unit for ensuring a sustainable national system.

74. The main constraints, gaps and needs identified by Lebanon related to the establishment of its MRV system are: (1) institutional arrangements for the technical and financial functioning of the MRV unit, in addition to adopted legislative texts that make the unit official; (2) availability of sufficient funds to sustain a team of experts to undertake in-depth work to improve Lebanon's nationally determined contribution in the light of the outcomes of the unit's work; (3) lack of political stability in the country that would allow policymakers from relevant ministries to be fully dedicated to the implementation of climate change related activities; and (4) lack of sufficient staff outside the Ministry of Environment qualified to mainstream climate change in their respective fields. The climate change project at the Ministry of Environment has established a technical climate change coordination unit to build the capacity of officials regarding linking their work area to climate change. The progress of different institutions is not homogeneous.

5. Domestic measurement, reporting and verification

75. Lebanon reported information on MRV arrangements at the national level within four main areas: the BUR preparation process, the GHG inventory system, the preparation of NAMAs and the MRV of required and received support.

76. Regarding the BUR preparation process, Lebanon reported information on its project for developing a national inventory and MRV system and provided information on the current progress in the implementation of the MRV system, which Lebanon stated during the technical analysis was slow given the unstable political situation of the country.

77. Regarding the information reported related to the GHG inventory system, Lebanon indicated that an operational national system for data collection and processing, QA/QC or reporting and monitoring was not available. The Party emphasized the need to establish a permanent climate change and MRV unit for articulating the national system.

78. The information reported on the preparation of NAMAs indicated that the Ministry of Environment is the official national coordinator for NAMAs and that, in 2014, decision 196/1 made the NAMA mechanism official. Although its NAMAs have not been presented to the UNFCCC, Lebanon reported that six NAMA ideas were prioritized in the energy and waste sectors and two NAMAs were being developed. A mechanism for preparing and approving NAMAs has been established, which includes six steps: design, selection, preparation, registration, implementation and MRV. The TTE commends the Party for the effort made in establishing such a mechanism.

79. Regarding MRV support required and received, Lebanon emphasized the need to establish an MRV unit to ensure the sustainability of the future MRV system and included in its BUR a list of proposed tasks of the MRV unit.

D. Identification of capacity-building needs

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

(a)   Enhancing the capacity of experts in the different ministries and agencies involved to prepare the BUR in accordance with the relevant guidelines;

(b)   Enhancing national capacity to formalize processes and protocols to ensure the continuous involvement of relevant national institutions in the systematic collection, compilation and verification of the AD and information required to be included in the BUR;

(c)   Designing and implementing a complete national GHG inventory system;

(d)   Enhancing the capacity of the relevant institutions involved in the planning, preparation and analysis of the GHG inventory;

(e)   Developing an online AD and EF database and enabling its use by those providing data for the GHG inventory;

(f)   Establishing and operationalizing a database to systematically collect information for the GHG inventory and on mitigation actions;

(g)   Developing processes and incentives to facilitate the collaboration of the private sector on data collection for the GHG inventory;

(h)   Undertaking an uncertainty assessment of the national GHG inventory, providing information on the level of uncertainty of inventory data and underlying assumptions and describing the methodologies used for estimating those uncertainties;

(i)   Improving the key category analysis, taking into account the aforementioned uncertainty assessment;

(j)   Collecting key data needed for the calculation of emissions from key sectors (LULUCF, waste, energy, fluorinated gases, etc.) and assistance in developing country-specific EFs where possible for a greater number of key emission categories, especially agriculture, transport, energy and waste;

(k)   Enhancing the capacity of the inventory team and mentoring additional experts by means of customized training;

(l)   Enhancing the capacity of sectoral experts and the project management team to analyse and report on mitigation actions;

(m)   Developing progress indicators to calculate emission reductions resulting from incomplete projects;

(n)   Supporting the quantification of emission reductions resulting from:

(i)   Soft projects, such as combating forest fires, forest conversation or good agricultural practices;

(ii)   National strategies (such as in the transport or waste sector);

(o)   Supporting the linkage of mitigation actions with the intended nationally determined contribution;

(p)   Enhancing the capacity of experts working in the different ministries and agencies involved in the preparation, development and monitoring of NAMAs;

(q)   Supporting the identification of gaps and constraints in a more institutional manner and better translating them into concrete financial, technology and capacity-building needs;

(r)   Developing and implementing clear criteria to differentiate climate from non-climate funding of projects;

(s)   Identifying and characterizing climate change projects at the national level in order to improve knowledge on the tracking of climate change financial resources;

(t)   Quantifying the support aimed at climate change within projects that have only one component relevant to climate change;

(u)   Tracking the technology transfer carried out within the country;

(v)   Identifying and quantifying support needed.

III.   Conclusions

81.   The TTE concludes that:

(a)   Lebanon included in its first BUR most of the elements of information listed in paragraph 3(a) of the ICA modalities and guidelines;

(b)   Overall, Lebanon presented a comprehensive description of the institutional arrangements in place or planned and the improvements undertaken to ensure the sustainability of the BUR preparation process on a continuous basis. The enhanced areas of reporting contained in the BUR, such as mitigation actions and their effects, finance, technology and capacity-building needs and support received, and the MRV system, are the priority areas in which institutional arrangements need to be further defined and strengthened;

(c)   Lebanon presented in its BUR a detailed description of its GHG inventory, covering GHG emissions and removals estimated for year2011, using the Revised 1996 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF. The total GHG emissions for year 2011 are of 24,652 Gg carbon dioxide equivalent (CO_2-eq); eight categories were identified as key, with CO_2 being the main gas and the energy sector being the main key category. Lebanon reported table 1, but not the sectoral report tables or the tables included in annex 3.A.2 to the IPCC good practice guidance for LULUCF necessary for transparency. However, it presented comparable information for some sectors;

(d)   Further, table 2 was not reported in the BUR owing to the absence of national data. Lebanon did not update or report its estimation methods used for the prior inventory years of 1994 and 2000. With regard to the completeness of the inventory, in addition to the findings referred to in paragraph X above, Lebanon did not estimate emissions from chemical industry. It did provide a key source category analysis;

(e)   Regarding mitigation actions, Lebanon transparently and comprehensively described the implementation of mitigation actions in different sectors. It estimated that its mitigation effort achieved an emission reduction of 1,084,829 t CO_2 eq between 2005 and 2012;

(f)   The information reported in the BUR is in accordance with the UNFCCC reporting guidelines on BURs and provides a complete picture of mitigation within the country;

(g)   Lebanon's lack of information on the progress of individual mitigation actions is related to capacity-building needs that it has identified as a key step in building a robust domestic MRV system;

(h)   Identifying, implementing and documenting appropriate methodologies, approaches and processes for data collection, including identifying key data for monitoring and verifying mitigation actions, appear to be a constraint and a key need for Lebanon to enhance its future reporting;

(i)   Lebanon extensively and comprehensively provided information on key constraints, gaps and related needs; however, the TTE experienced a challenge in identifying specific information as the information reported was presented as administrative, technical and institutional aspects of the BUR preparation. The BUR includes an annex on the constraints, gaps and needs identified related to the development of the national GHG inventory. During the technical analysis, Lebanon provided additional information on key challenges and needs: namely designing and implementing a systematic methodology for identifying constraints, gaps and needs; and translating the identified needs into financial, technical, technological and capacity-building needs;

(j)   Information on support received and needed from both a general and a particular perspective was presented in the BUR: on the one hand, overall information on the support received and needed for the preparation of the BUR; on the other hand, the amount and source of the finance received for the developed mitigation actions and for the development of the MRV system. The main challenge that Lebanon faces in this regard is the establishment of a standardized and sustainable system for monitoring the financial support received;

(k)   Lebanon provided information on technology practices associated with mitigation measures. During the technical analysis, Lebanon informed the TTE of a technology needs assessment carried out in the country in 2012. Additionally, Lebanon informed the TTE of the need for finance to continue with that exercise in the future;

(l)   The TTE, in consultation with Lebanon, identified 22 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, which are summarized in chapter II.D above. The key capacity-building needs prioritized by Lebanon are:

(i)   Establishing and operationalizing a database to systematically collect information for its GHG inventory and on mitigation actions;

(ii)   Mentoring additional experts for the preparation and development of the national GHG inventory;

(iii)   Assistance in designing and implementing a complete national GHG inventory system;

(iv)   Developing progress indicators for mitigation actions;

(v)   Enhancing the capacity of experts working in the different ministries and agencies involved in the preparation, development and monitoring of NAMAs;

(vi)   Identifying and characterizing climate change projects at the national level in order to improve knowledge on tracking climate change financial resources.

Annex

Documents and information used during the technical analysis

A.   Reference documents

"Composition, modalities and procedures of the team of technical experts for undertaking the technical analysis of biennial update reports from Parties not included in Annex I to the Convention". Annex to decision 20/CP.19. Available at <http://unfccc.int/resource/docs/2013/cop19/eng/10a02.pdf#page=12>.

"Modalities and guidelines for international consultation and analysis". Annex IV to decision 2/CP.17.Available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

"UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention". Annex III to decision 2/CP.17.Available at <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>.

"Guidelines for the preparation of national communications from Parties not included in Annex I to the Convention". Annex to decision 17/CP.8.Available at <http://unfccc.int/resource/docs/cop8/07a02.pdf#page=2>.

First biennial update report of Lebanon. Available at <http://unfccc.int/8722.php>.

First and second national communications of Lebanon. Available at <http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php>.

B.   Additional information provided by the Party

The following document was provided by the Party in response to the request for technical clarification during the technical analysis:

National Greenhouse Gas Inventory Report and Mitigation Analysis for the Land.

Use, Land-Use Change and Forestry Sector in Lebanon. Available at <http://climatechange.moe.gov.lb/viewfile.aspx?id=223>.

Sectoral reports of Lebanon. Available at < http://climatechange.moe.gov.lb/publications>.

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