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Technical analysis of the first biennial update report of the Republic of Moldova submitted on 5 April 2016

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) will 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 the Republic of Moldova 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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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) will 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 the Republic of Moldova 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. The Republic of Moldova submitted its first BUR on 5 April 2016, as well as two reports related to its national greenhouse gas (GHG) emissions as annexes to the BUR: the *Report on the National Greenhouse Gas Inventory System in the Republic of Moldova* and the National Inventory Report (NIR) *1990–2013, Greenhouse Gas Sources and Sinks in the Republic of Moldova* (hereinafter referred to as the NIR). During the technical analysis, the Party clarified that its first BUR was submitted after December 2014 because the project proposal process to receive funding, took longer than expected.

4. The technical analysis of the BUR took place from 19 to 23 September 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: Mr. Sin Liang Cheah (member of the Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE) from Singapore), Ms. Patience Damptey (former member of the CGE from Ghana), Ms. Yu'e Li (China), Ms. Helen Plume (New Zealand), Mr. Marcelo Rocha (Brazil) and Mr. Daniel Tutu Benefoh (Ghana). Ms. Damptey and Ms. Plume were the co-leads. The technical analysis was coordinated by Mr. Daniel Hooper and Ms. Alma Jean (secretariat).

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 the Republic of Moldova engaged in consultation via e-mail on the identification of capacity-building needs for the preparation of BURs and participation in the ICA process. Following the technical analysis of the BUR, the TTE prepared and shared a draft summary report with the Republic of Moldova on 3 January 2017 for its review and comment. The Republic of Moldova, in turn, provided its feedback on the draft summary report on 12 January 2017.

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 the Republic of Moldova on 10 February 2017.

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 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 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 the Republic of Moldova'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 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 below.

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 their 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 the Republic of Moldova 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 the Republic of Moldova

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	The GHG inventory reported the calendar years from 1990 to 2013
Decision 2/CP.17, annex III, paragraph 4	Non-Annex I Parties should use the methodologies established by the latest UNFCCC guidelines for the preparation of national communications from non-Annex I Parties approved by COP or those determined by any future decision of the COP on this matter	Yes	The Party used a combination of the Revised 1996 IPCC Guidelines, the IPCC good practice guidance, the IPCC good practice guidance for LULUCF and the 2006 IPCC Guidelines
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	Updates and recalculations were reported
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:		Rather than reporting on land-use change and forestry, as per the Revised 1996 IPCC Guidelines, the Party reported land use, land-use change and forestry (LULUCF), as per IPCC good practice guidance for LULUCF
	(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	Table 1 was reported for every year of the 1990–2013 time-series (see annex 1 of the BUR)
	(b) Table 2 (National greenhouse gas inventory of anthropogenic emissions of HFCs, PFCs and SF_6)	Yes	Table 2 was reported for every year of the 1995–2013 time-series (see annex 1 of the BUR)

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
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:		Information is reported in both tabular and textual format
	(a) Tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF	Yes	Comparable tables were included in the BUR (table 2-15) and in the NIR (table 7-1)
	(b) The sectoral report tables annexed to the Revised 1996 IPCC Guidelines	Yes	Sectoral-level data are provided in the BUR
Decision 2/CP.17, annex III, paragraph 7	Each non-Annex I Party is encouraged to provide a consistent time series back to the years reported in the previous national communications	Yes	The complete time series from 1990 to 2013 is provided, with F-gases starting in 1995
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)	Yes	The complete time series from 1990 to 2013 is provided, with data recalculated to ensure time-series consistency
Decision 2/CP.17, annex III, paragraph 10	Additional or supporting information, including sector-specific information, may be supplied in a technical annex	Yes	The Party submitted a full NIR and a report on the national inventory system, with the BUR
Decision 17/CP.8, annex, paragraph 13	Non-Annex I Parties are encouraged to describe procedures and arrangements undertaken to collect and archive data for the preparation of national GHG inventories, as well as efforts to make this a continuous process, including information on the role of the institutions involved	Yes	
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	Yes	
Decision 17/CP.8, annex, paragraph 19	Non-Annex I Parties should, to the extent possible, and if disaggregated data are available, report emissions from international aviation and marine bunker fuels separately in their inventories:		

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
	(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 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 approaches, and to explain any large differences between the two approaches	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 equivalents should use the GWP provided by the IPCC in its Second Assessment Report based on the effects of GHGs over a 100-year time horizon	Yes	
Decision 17/CP.8, annex, paragraph 21	Non-Annex I Parties are encouraged to provide information on methodologies used in the estimation of anthropogenic emissions by sources and removals by sinks of GHGs not controlled by the Montreal Protocol, including a brief explanation of the sources of 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	Yes	
	(b) Explanation of the sources of emission factors	Yes	
	(c) Explanation of the sources of activity	Yes	

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No/NA*	*Comments on the extent of the information provided*
	data		
	(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) Emission factors		
	(iv) Activity data		
	(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 to 17 of the same decision. In preparing those tables, Parties should strive to present information which is as complete as possible. Where numerical data are not provided, Parties should use the notation keys as indicated	Yes	Tables 1 and 2 of the guidelines annexed to decision 17/CP.8 were used in reporting the national GHG inventory for every year of the 1990–2013 and 1995–2013 time-series respectively; the information reported in these tables reflects a change from land-use change and forestry to LULUCF (see annex 1 of the BUR)
Decision 17/CP.8, annex, paragraph 24	Non-Annex I Parties are encouraged to provide information on the level of uncertainty associated with inventory data and their underlying assumptions, and to describe the methodologies used, if any, for estimating these uncertainties:		
	(a) Level of uncertainty associated with inventory data	Yes	
	(b) Underlying assumptions	Yes	
	(c) Methodologies used, if any, for estimating these uncertainties	Yes	

Abbreviations: BUR = biennial update report, COP = Conference of the Parties, F-gases = fluorinated gases, GHG = greenhouse gas, GWP = global warming potential, 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*, NA = not applicable, NIR = national inventory report, NMVOC = non-methane volatile organic compound, Revised 1996 IPCC Guidelines = *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, 2006 IPCC Guidelines = *2006 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 decision 2/CP.17, annex III, paragraphs 11–13 of the UNFCCC reporting guidelines on BURs.

14. The Republic of Moldova reported 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 the Republic of Moldova 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 the Republic of Moldova

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
Decision 2/CP.17, annex III, paragraph 11	Non-Annex I Parties should provide information, in a tabular format, on actions to mitigate climate change, by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol	Yes	
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	Yes	
	(b) Information on:		
	(i) Methodologies	Yes	
	(ii) Assumptions	Yes	
	(c) Information on:		
	(i) Objectives of the action	Yes	
	(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	The Republic of Moldova has reported mitigation actions (i.e. nationally appropriate mitigation actions) that are in the process of

Decision	*Provision of the reporting guidelines*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
			implementation
	(ii) Progress of implementation of the 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	The Party includes both greenhouse gas emission reductions and other relevant metrics
	(e) Information on international market mechanisms	Yes	
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 decision 2/CP.17, annex III, paragraphs 14–16.

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 the Republic of Moldova 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 the Republic of Moldova

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	
	(b) Related financial, technical and capacity-building needs	Yes	
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	
Decision 2/CP.17, annex	With regard to the development and transfer of technology, non-Annex I Parties should provide information on technology needs,		

Decision	*Provision of the reporting requirements*	*Yes/ Partly/No*	*Comments on the extent of the information provided*
III, paragraph 16	which must be nationally determined, and technology support received:		
	(a) Technology needs, which must be nationally determined	Yes	
	(b) Technology support received	Yes	

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 the 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 communication, including, among other things, information on national circumstances and institutional arrangements relevant to the preparation of national communications on a continuous basis. For their 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, the Republic of Moldova, in its BUR, reported the following information on its national circumstances: geographic profile, climate, institutional arrangements, natural resources, population and demographics, economic conditions, education, health, energy, industry, transportation, agriculture, land-use change and forestry, and waste management.

23. The information reported indicates that from 1887 to 2014 there has been an increase in the average annual temperature in the Republic of Moldova of 1.0°C, while the increase in precipitation from 1891 to 2014 constituted only 54.7 mm. From 1990 to 2013, the population decreased by 6.8 per cent owing to negative natural balance and migration. After the dissolution of the Soviet Union, the Republic of Moldova experienced a significant economic decline. However, since 2000, there has been considerable growth in gross domestic product (GDP), reaching, in 2014, 69.6 per cent of the 1990 GDP level. In 2014, the GDP structure was as follows: industry 14.1 per cent; agriculture 12.8 per cent; transport and communication 9.9 per cent; construction 3.6 per cent; wholesale and retail trade 13.8 per cent; financial activities 4.7 per cent; net products and import taxes 15.7 per cent; and other 27.1 per cent.

24. The Republic of Moldova reported on its institutional arrangements relevant to the preparation of its national communications and BURs on a continuous basis. The description covers key aspects of the institutional arrangements, such as: the legal status and roles and responsibilities of the overall coordinating entity; the involvement and roles

of other institutions and experts; the mechanisms for information and data exchange; quality assurance/quality control (QA/QC) procedures; provisions for public consultation and other forms of stakeholder engagement; and future improvement plans.

25. The Party reported that the Ministry of Environment (MoEN) is responsible for the implementation of all environmental treaties in the Republic of Moldova, and therefore has the overall responsibility to prepare the NIRs, BURs and national communications on a continuous basis. To assist with this process, the MoEN has established an interministerial steering committee and the Climate Change Office (CCO), which work with four thematic working groups made up of relevant national experts. The CCO is fully responsible for activities related to the preparation of national communications as well as the BURs. The CCO also provides support to Government, central and local public administration authorities, and non-governmental and academic institutions in implementing programmes, projects and activities related to the NIRs. Within the CCO, the national inventory team is responsible for estimating emissions by sources and removals by sinks, key categories analysis, QA/QC procedures, uncertainties assessment, documentation, reporting and archiving of data related to the GHG inventory, BURs and the national communication preparation process.

26. A diagram has been provided in the BUR (figure 1-14) which illustrates the institutional arrangements for the preparation of national communications, NIRs and BURs. The Republic of Moldova also reported on legislation which regulates the relationships between information providers and individual/legal entities in the process of ensuring and implementing the constitutional right of access to information. The information, which is reported transparently, describes the institutional arrangements of the Republic of Moldova and also demonstrates that the arrangements are able to meet the requirements for the preparation of national communications and BURs on a continuous basis. The TTE commends the Party for its efforts to ensure the transparency of its reporting.

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

27. As indicated in table 1 above, the Republic of Moldova reported information on its GHG inventory in its BUR, completely in accordance with paragraphs 3–10 of the UNFCCC reporting guidelines on BURs and 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.

28. The Republic of Moldova reported in its BUR information on its national GHG inventories covering GHG emissions and removals for 1990–2013 using: for the energy sector, the IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance) and the *2006 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the 2006 IPCC Guidelines); for the industrial processes sector, the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (hereinafter referred to as the Revised 1996 IPCC Guidelines), the IPCC good practice guidance, the 2006 IPCC Guidelines, *the EMEP/CORINAIR emission inventory guidebook*[1] and *the EMEP/EEA air pollutant emission inventory guidebook*[2]; for the solvents and other product use sector, *the EMEP/EEA air pollutant emission inventory guidebook*[3]; for the agriculture sector, the 2006 IPCC Guidelines; for the LULUCF sector, the IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (hereinafter referred to as the IPCC good

[1] European Environment Agency, 2005.
[2] European Environment Agency, 2013.
[3] European Environment Agency, 2013.

practice guidance for LULUCF) and the 2006 IPCC Guidelines; and, for the waste sector, the Revised 1996 IPCC Guidelines and the IPCC good practice guidance. As part of its BUR, the Republic of Moldova submitted two reports related to its national GHG emissions: the *Report on the National Greenhouse Gas Inventory System in the Republic of Moldova* and its *NIR: 1990-2013, Greenhouse Gas Sources and Sinks in the Republic of Moldova*.

29. The *Report on the National Greenhouse Gas Inventory System in the Republic of Moldova* contains details of the specific methodology used for each inventory category, including which set of guidelines, as noted in paragraph 28 above, were applied. The Party's NIR covers sources and sinks of GHGs in the country for the period 1990–2013. The TTE commends the Party for submitting these reports and the additional transparency they provide, and for the extensive use of the 2006 IPCC Guidelines in the preparation of its GHG inventory. The information from these reports is summarized in the BUR; however, the TTE noted that although some cross references to these reports are provided, including additional cross references could further enhance the transparency of the Party's reporting, in particular, relating to the specific methodologies used to estimate emissions and removals. In addition, the TTE noted that transparency could be further enhanced if the Party reported the information requested in the tables included in annex 3A.2 to chapter 3 of the IPCC good practice guidance for LULUCF and the sectoral report tables annexed to the Revised 1996 IPCC Guidelines (as per decision 2/CP.17, annex III, paragraph 6).

30. As reported in its BUR, total GHG emissions in 2013 excluding LULUCF in the Republic of Moldova were 12.84 million tonnes of carbon dioxide equivalent (Mt CO_2 eq), which is a decrease of 70.4 per cent compared with the 1990 level (43.42 Mt CO_2 eq). The Party's total GHG emissions in 2013 including LULUCF were 12.74 Mt CO_2 eq, which is a decrease of 66.1 per cent compared with the 1990 level (37.53 Mt CO_2 eq). The GHG emissions reported in 2013 include 8.33 Mt of carbon dioxide (CO_2), 2.69 Mt CO_2 eq of methane (CH_4), 1.67 Mt CO_2 eq of nitrous oxide (N_2O) and a total amount of 0.14 Mt CO_2 eq of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6). Other emissions reported include 0.04 Mt of nitrogen oxides, 0.15 Mt of carbon monoxide, 0.13 Mt of non-methane volatile organic compounds (NMVOCs) and 0.02 Mt of sulphur oxides. Recalculations in all sectors were performed throughout the time series to ensure time-series consistency and are well explained in the NIR.

31. The Party fully describes its institutional arrangements for the preparation of its national GHG inventory in its *Report on the National Greenhouse Gas Inventory System in the Republic of Moldova*, with a summary of this information provided in the BUR. The institutional arrangements include a description of responsibilities at the national level, which identifies the CCO as the designated inventory agency, together with a cross-organizational national inventory team and sector-specific roles and arrangements. The multiple aims of the institutional arrangements are also reported, including assisting the national inventory team to assess and document the strengths and weaknesses of existing institutional arrangements for the development of the GHG inventory, and to facilitate the prioritization of future improvements.

32. The *Report on the National Greenhouse Gas Inventory System in the Republic of Moldova* includes detailed descriptions of the methodologies applied in each sector. In addition, the Party's NIR includes detailed information on sector-specific recalculations, key category analyses, uncertainty assessment, assessment of completeness, QA/QC and category-specific planned improvements. The TTE commends the Republic of Moldova for the level of detail included in the reports and for the high level of transparency they provide.

33. In the energy sector, the Republic of Moldova reports GHG emissions from fuel combustion and fugitive emissions from fuels. From 1990 to 2013, GHG emissions in the energy sector decreased by 75.7 per cent (from 34.5 Mt CO_2 eq in 1990, to 8.4 Mt CO_2 eq in 2013). The energy sector accounted for 65.5 per cent of total GHG emissions in 2013

(excluding LULUCF). In its NIR, the Republic of Moldova indicated that the main driver for the decrease in GHG emissions was the global and regional economic decline. The Party further reported that the majority of GHG emissions from the energy sector in 2013 originate from the energy industries category (39.4 per cent), followed by the other sectors category (24.4 per cent) and the transport category (22.3 per cent). The other contributors to GHG emissions are the manufacturing industries and construction category (7.3 per cent), oil and natural gas category (6.2 per cent) and other (0.4 per cent).

34. In the NIR, the Republic of Moldova reports CO_2 emissions from fuel combustion using both the reference and sectoral approaches and reports the differences between them for the period 1990–2013. The difference in the CO_2 emissions from the two approaches were consistently below 2 per cent throughout the time series. The TTE commends the Republic of Moldova for the transparent manner in which this information was reported.

35. In the BUR, the Republic of Moldova reports both the notation keys "NE" (not estimated) and "NO" for some of the same categories and gases, including 1.B.1 (solid fuels), 2.B (chemical industry), 2.E (production of halocarbons and SF_6) and 6.C (waste incineration). During the technical analysis, the Party provided further clarification that, because there is no production of coal and halocarbons in the country, the correct notation key for categories 1.B.1 and 2.E is "NO". Regarding categories 2.B and 6.C, the Party considers the use of both notation keys "NE" and "NO" to be appropriate because official statistics are not available for the entire territory of the country. As outlined in Revised 1996 IPCC Guidelines, if the activity in the category occurs in the Party's official territory but it is not estimated because of difficulty in gathering national statistics, it is appropriate to use the notation key "NE" instead of both "NO" and "NE" for the same category and gas. Consistent with the Revised 1996 IPCC Guidelines, the Republic of Moldova also has the option to use internationally available data to estimate the emissions in any applicable category using a tier 1 approach. The TTE noted that transparency could be further enhanced if the Party were to use the appropriate notation keys for the categories where numerical data are not reported, as encouraged by decision 17/CP.8, annex, paragraph 22.

36. In its BUR, the Republic of Moldova reports emissions from the industrial processes sector generated by non-energy industrial activities. From 1990 to 2013, GHG emissions in the industrial processes sector decreased by 63.6 per cent (from 1.84 Mt CO_2 eq in 1990 to 0.67 Mt CO_2 eq in 2013). Significant GHG emission reductions occurred from 2008 to 2009 because of the global and regional economic crises, which negatively affected industrial productivity in the country. In 2013, GHG emissions from the industrial processes sector accounted for 5.2 per cent of total GHG emissions (excluding LULUCF). The majority of the emissions in the industrial processes sector are from mineral products (78.3 per cent), particularly cement production, followed by consumption of halocarbons and SF_6 (21.2 per cent) and metal production (0.05 per cent). In addition, in the NIR, the Republic of Moldova reports category-specific descriptions of methodological approaches, emission factors and activity data used in the estimation of emissions.

37. In 2013, GHG emissions from the solvent and other product use sector were 0.07 Mt CO_2 eq, accounting for 0.5 per cent of total emissions (excluding LULUCF). The Republic of Moldova reports that this sector is a major source of emissions of NMVOCs, accounting for 17.7 per cent of emissions from the solvent and other product use sector. The majority of solvents used in the country are obtained from fossil fuels, and CO_2 emissions are estimated based on the carbon content in NMVOC emissions. The other main contributor to total GHG emissions in this sector are N_2O emissions from the use of N_2O for anaesthesia. In 2013, total emissions from the solvent and other product use sector had decreased by 47.2 per cent compared with the 1990 level. The largest source of emissions within the sector is the degreasing and dry cleaning category (3.B).

38. In 2013, the agriculture sector accounted for 16.6 per cent of total emissions in the Republic of Moldova; with the main sources of emissions in this sector being CH_4 emissions from enteric fermentation and manure management, and N_2O emissions from manure management and agricultural soils. However, emissions from the agriculture sector have declined by 58.0 per cent (from 5.06 Mt CO_2 eq in 1990 to 2.13 Mt CO_2 eq in 2013). The main drivers of the reduction in GHG emissions include the declining in livestock numbers, a reduction in the amount of fertilizer applied to soils, carbon losses from mineral soils and changing tillage practices. The NIR and the *Report on the National Greenhouse Gas Inventory System in the Republic of Moldova* contain detailed activity data and other relevant parameters involved in the estimation of emissions from the agriculture sector and descriptions of the associated methodologies, respectively. However, as reported in the BUR and the NIR, the Party is aware of underlying problems with the reliability of some of the activity data (animal populations) in the agriculture sector and is working to improve the situation, including through collaboration with the National Bureau of Statistics.

39. The Republic of Moldova reported emissions and removals in the LULUCF sector for the forest land, cropland and grassland categories, and used notation keys for the wetlands, settlements and other land categories. Based on the reported information, the LULUCF sector is a net CO_2 sink. However, from 1990 to 2013 there has been a deceasing trend in CO_2 removals, from removals of 5.89 Mt CO_2 eq in 1990 to removals of 0.10 Mt CO_2 eq in 2013 (a decrease of 98.3 per cent). The main drivers of this trend are clearly identified in the BUR, including changes in the use and management of agricultural soils (in the cropland category), which contributed to the substantial decrease of organic carbon in these soils.

40. The cropland category changed from being a net sink of 2.21 Mt CO_2 eq in 1990 to a net source of 3.25 Mt CO_2 eq in 2013. Other contributing factors include changes in the maintenance and use of forests (in the forest land category) with increased authorized harvesting, increased illegal logging and increased conversion of forest land into cropland. Consequently, the forest land category remained a net sink, although this decreased from 2.20 Mt CO_2 eq in 1990 to 1.89 Mt CO_2 eq in 2013 (a decrease of 14 per cent). According to the information reported in the BUR, there is minimal change in the net removals in the grasslands category from 1990 to 2013, with net removals of 1.48 and 1.46 Mt CO_2 eq, respectively. In its NIR, the Republic of Moldova acknowledges the need to improve some of the activity data used to estimate emissions in the LULUCF sector, such as gathering accurate statistics on harvest volume during forest clearing, but the Party faces funding constraints. Despite these constraints, in its inventory improvement plan, the Republic of Moldova provides potential improvements that may help address the data gaps and the TTE commends the Republic of Moldova for this pragmatic approach.

41. In its BUR, the Republic of Moldova reports waste sector emissions from solid waste disposal (6.A) and wastewater handling (6.B). Between 1990 and 2013, the emissions in the waste sector decreased by 16.1 per cent (from 1.87 Mt CO_2 eq in 1990 to 1.57 Mt CO_2 eq in 2013). In 2013, the waste sector accounted for 12.2 per cent of total GHG emissions (excluding LULUCF). The Party also reports that, currently, GHG emissions from the 'waste incineration' category are not occurring. The main driver of this decrease is the reduction in economic activity, which led to a decline in the incomes of the population and the capacities to generate waste. In 2013, the largest source of GHG emissions within the waste sector was the category solid waste disposal, accounting for 85.8 per cent of emissions from the waste sector.

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

42. As indicated in table 2 above, the Republic of Moldova reported in its BUR, completely in accordance with paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, information on mitigation actions and their effects, to the extent possible.

43. The Republic of Moldova reports in its BUR that it has associated itself with the Copenhagen Accord and has set an emissions reduction target which is specified as a reduction of total national GHG emissions by not less than 25 per cent compared with the base year (1990) by 2020, through the implementation of economic mechanisms focused on climate change mitigation globally, in accordance with the principles and provisions of the Convention. This target was proposed without indication of identified and quantified specific nationally appropriate mitigation actions (NAMAs) and without further clarification regarding the needed support to achieve it. As reported in the BUR, the achievement of the target set by the Republic of Moldova will require financial, technological and capacity-building support that can be offered through the UNFCCC mechanisms.

44. Consistent with the reporting provisions for mitigation actions contained in decision 2/CP.17, annex III, paragraphs 11 and 12, the Republic of Moldova reported on its NAMAs in its BUR. After the application of a multi-criteria decision analysis conducted by the national team of experts, the results of which have been approved by the "National Commission for the implementation of UNFCCC provisions and the provisions and mechanisms of the Kyoto Protocol" (hereinafter referred to as the National Commission) on 136 NAMAs proposals, the Party prioritized a total of 14 NAMAs within 7 different sectors (i.e. 2 NAMAs per sector: power generation, transport, buildings, industry, agriculture, forestry and waste). These 14 NAMAs are aggregated in the Republic of Moldova's BUR as 11 mitigation actions, all of which are in the process of implementation. Consistent with decision 2/CP.17, annex III, paragraph 12(a)–(d), the Party provides the name and description of each mitigation action, coverage of sectors and gases, quantitative goals, progress indicators, methodologies, assumptions, objectives, steps taken and envisaged and the progress of implementation (outputs and estimated GHG reductions) in the tables contained in annex 2 of its BUR.

45. Four of the 11 mitigations actions described in the BUR were selected for detailed consideration by the "Low Emission Capacity Building Programme (LECBP)" project, funded by the European Union and United Nations Development Programme, the Federal Ministry of Environment Nature Conservation and Nuclear Safety of Germany and the Australian Government, to be developed as fully supported NAMA project proposals. These include:

(a) The construction of a combined heat and power plant (CHP) with a capacity of 1 MW to supply heat to residential blocks "Melestiu" in Chisinau;

(b) Replacing inefficient bulbs with energy-efficient (LED) bulbs;

(c) Afforestation of degraded land, which is impracticable for agriculture;

(d) Electricity production based on biogas created at the Cahul landfill site, while extending the project to use waste from the Cantemir-Cahul-Taraclia region, and later from another seven landfills.

46. During the technical analysis, additional information was provided by the Party to the TTE to facilitate a better understanding of the progress of implementation of the mitigation actions and the results achieved; in particular, about the methodologies and

assumptions used to estimate the emission reductions of the mitigation actions.[4] The Republic of Moldova also clarified that clean development mechanism (CDM) methodologies are being applied to estimate the emission reductions for the four NAMAs selected for the LECBP project. The TTE considered that transparency could be further enhanced if the Republic of Moldova reported this additional information in the BUR.

47. Since 24 April 2014, to support the implementation of its mitigation actions, the Republic of Moldova has been implementing its "Environmental Strategy of the Republic of Moldova" for the years 2014–2023. The strategy envisages the creation of an integrated air quality management system, reducing emissions of atmospheric pollutants by 30 per cent by 2023, and reducing GHG emissions by at least 20 per cent by 2020 compared with a business-as-usual (BAU) scenario. Specific goals include:

(a) A 25 per cent reduction in GHG emissions from the energy sector;

(b) A 20 per cent reduction in GHG emissions from the buildings, industry and agriculture sectors;

(c) A 15 per cent reduction in GHG emissions from the transport and waste sectors;

(d) A 25 per cent increase in of CO_2 removals by the LULUCF sector.

48. In the energy sector, the production of renewable electricity and heat reported by the Party has the potential to achieve emission reductions of 241.30 and 1,126.05 kt CO_2 eq by 2020 and 2030, respectively, as a result of the use of renewable energy sources in the national grid system. In addition, another mitigation action to expand the capacity for electricity import from neighbouring countries could reduce GHG emissions in Moldova by an additional 10 per cent compared with the BAU scenario by 2030.

49. The Republic of Moldova's mitigation action to enhance energy efficiency covers several sectors and includes the use of various instruments, such as loans for residential buildings and private companies. This mitigation action has already reduced GHG emissions in 2015 by 1.13 kt CO_2 eq through the "Energy Efficiency Fund" projects, by 2.89 kt CO_2 eq through the "Moldovan Residential Energy Efficiency Financing Facility" and by 66.88 kt CO_2 eq through the "Moldovan Sustainable Energy Financing Facility".

50. In the buildings sector, the mitigation action "Heat production in the residential and tertiary sectors" has the potential to achieve emission reductions of 72.77 kt CO_2 eq annually by 2017. In the transportation sector, the use of 10 per cent biofuels by 2020 has the potential to achieve emission reductions of 50 kt CO_2 eq by 2030. In the industrial processes sector, the partial replacement of clinker in cement production is projected to result in emission reductions of 174.50 kt CO_2 eq annually by 2030.

51. Several mitigation actions in the agriculture sector were reported, such as the "Creation of a more productive structure of livestock and poultry numbers", "Concentration of cattle and swine breeding in large farms" and "Sustainable practices for agricultural soil tillage". Collectively, these mitigation actions have the potential to achieve total emission reductions of 867 and 2,102 kt CO_2 eq by 2020 and 2030, respectively. In the forestry sector, the afforestation of new territories could promote the removal of 111 and 414 kt CO_2 eq, by 2020 and 2030, respectively.

52. Finally, in the waste sector the efficient management of municipal solid waste could result in annual emission reductions of 300 kt CO_2 eq by 2020.

[4] Technology Needs Assessment, 2012.

53. The Republic of Moldova recognizes that the CDM contributes to and could further play an important role for accomplishing its emission reductions goals. To date, eight CDM project activities in the Republic of Moldova have been registered by the Executive Board of the CDM. Although the Party has not established a carbon trading market, the idea is being assessed by the National Commission.

54. The Republic of Moldova is in the process of developing and designing a domestic MRV system for mitigation actions. As outlined in the BUR, MoEN will be responsible for overseeing the MRV system, while the National Commission will have the mandate to prioritize, evaluate, approve or reject NAMA projects, as well as monitor their implementation. A Technical Committee will provide technical support to the National Commission by evaluating specific NAMAs, including their MRV components. A working group will support the Technical Committee with informal consultations, as needed. Initially, the working group will be located within MoEN, with the support of the CCO. Once the Environmental Protection Agency is established, the working group may be relocated there.

55. The national MRV system will focus on: the GHG inventory; the implementation of the "Low Emissions Development Strategy (LEDS) of the Republic of Moldova" until 2030 (during the review of its summary report, the Party clarified that this strategy was approved by the Government of the Republic of Moldova on 14 December 2016); the implementation of NAMA projects and activities focused on reducing GHG emissions; and the support obtained from external donors for NAMA projects. Regarding the MRV for NAMAs, three types of template will be developed based on the type of mitigation action:

(a) Unilateral NAMAs;

(b) NAMAs developed with donor support;

(c) CDM projects.

56. The templates will be used for monitoring the emission reductions for NAMA projects of all categories. However, the NAMA projects of type (b) and (c) will have their own MRV systems, with the MRV systems for type (b) set up by donors. Regarding NAMA projects of type (c), the MRV system will comply with UNFCCC requirements set out under the Convention. The templates for NAMA projects of type (a) and (b) will include data on support obtained for the specific NAMA, such as: financial flows and their impact; transfer of technology and its impact; capacity-building and associated impact. During the technical analysis, additional information was provided to the TTE about the conceptual framework for the MRV of NAMAs (Pedersen, 2015) in particular relating to the constraints and gaps, and related financial, technical and capacity needs.

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

57. As indicated in table 3 above, the Republic of Moldova reported in its BUR, completely in accordance with paragraphs 14–16 of the UNFCCC reporting guidelines on BURs, information on finance, technology and capacity-building needs and support received.

58. Section 5.1 of the BUR contains information on capacity needs in the area of institutional and procedural improvements for the preparation of the annual GHG inventory. The Republic of Moldova highlighted the need for institutional strengthening, enhancing the knowledge level of national experts and capacity of institutions, developing a data management system and full transition to use of the 2006 IPCC Guidelines. However, the Party reported that, for future GHG inventory cycles, a series of improvements have been planned that could enable it to enhance the estimation process of anthropogenic GHG

emissions and removals. These improvements include: strengthening institutional arrangements to ensure the ongoing development of GHG national inventories through a legislative/regulatory framework; enhancing the knowledge of national experts and capacity of institutions involved in developing the national GHG emission inventory; developing a data management system for tracking and archiving inventory information used in each inventory cycle; and gradual transition to the 2006 IPCC Guidelines for all sectors.

59. The LEDS referred to in paragraph 55 above, identifies financial, technological and institutional constraints to low-carbon economic development in key sectors of the Party's economy, including energy, transport, buildings, industry, agriculture, forestry and waste. The constraints and barriers include a lack of regulatory and legislative frameworks, a lack of human resources, the need for institutional strengthening, and other financial and technological needs. The Republic of Moldova reported that, in order to strengthen its capacity to address low-carbon development-related problems, it would need approximately USD 1.9 million over the next five years.

60. The Republic of Moldova reported that its capacity-building needs relating to mitigation were considered as an integral part of a series of efforts towards achieving sustainable development. The Party identified four mitigation capacity-building needs, namely: carrying out climate studies, research and assessments; formulating climate strategies and policies; implementing climate strategies and policies; and negotiating climate issues internationally, primarily to attract financing.

61. In its BUR, the Republic of Moldova reported that it has a national innovation system comprising relevant stakeholders to support the technology transfer mechanism at the national level. The Party reported that, in spite of its constraints in the area of technology transfer, such as the low innovation capacity of companies, it has made modest gains in the promotion of technologies leading to mitigation of GHG emissions. For example, it reported on a partnership with Enterprise Europe Network, which creates a consortium between the Party's Chamber of Commerce and Industry, the Agency for Innovation and Technology Transfer and the Organization for Development of Small and Medium Enterprises. The goal of this partnership is to provide a wide range of services to businesses to facilitate access to the European market and implementation of innovative technologies. The TTE commends the Republic of Moldova in its efforts to enhance technology transfer.

62. The Republic of Moldova reported on financial and technical support received from other multilateral and bilateral agencies, as well as donor countries. For example, the Party reported that it recently received USD 120,000 from the United Nations Environment Programme (UNEP) to undertake a technology needs assessment for climate change adaptation and mitigation. In addition, financial support (USD 832,000) for the preparation of the first BUR and fourth national communication was provided by the Global Environment Facility and UNEP.

63. The TTE noted that the information on financial resources, technology transfer, capacity-building and technical support received is reported by the Republic of Moldova in a comprehensive manner and commends the Party for its efforts.

5. Domestic measurement, reporting and verification

64. As indicated in table 2 above, the Republic of Moldova reported information on the description of domestic MRV arrangements in accordance with paragraph 13 of the UNFCCC reporting guidelines on BURs.

65. As outlined in paragraphs 54–56 above, the Republic of Moldova reported on its commitment to establish an adequate national MRV system. The national MRV system will be focused on three types of MRV framework:

(a) MRV of GHG emissions;

(b) MRV of NAMA projects and activities focused on reducing GHG emissions;

(c) MRV of the support obtained from external donors for supported NAMA projects.

66. The MRV for GHG emissions includes identifying and/or defining institutional roles and responsibilities to ensure smooth movement and standardization of information for all entities which develop reports and verify GHG estimates. The current system will be improved by establishing an appropriate regulatory framework. In relation to the NAMA projects developed with donor support, the MRV system will be set up by the donor.

D. Identification of capacity-building needs

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

(a) Sustaining the Party's capacity-building capabilities and strengthening the national inventory system, including:

(i) Strengthening institutional arrangements;

(ii) Enhancing the level of knowledge of national experts and the capacity of the institutions involved in the GHG inventory;

(iii) Developing a data management system for a full transition to the use of the 2006 IPCC Guidelines in all sectors, and for transitioning from the use of default emission factors and tier 1 methodologies to country-specific emission factors and higher-tier methodologies with a focus on key categories (such as 1.A.1 energy industry, 1.A.3 transport and 1.B.2 fugitive emissions from oil and natural gas, as detailed in section 5.1 of the BUR);

(b) Specific capacity-building needs, as outlined in the inventory improvement plan.

(i) Improving the Party's capacity to be able to process primary data on fuel use in the national economy and/or at the sectoral level, taking particular account of structural changes in energy use (e.g. the emergence of new types of fuels in primary energy use, increase of the share of renewables in primary energy use);

(ii) Undertaking studies to assess trends in the use of fuels and energy (electricity and heat) at the national and sectoral level, as well as aspects of documenting and archiving the information collected;

(iii) Developing the human and institutional capacities to ensure continued high quality of the compilation process and review of inventory data for all sectors;

(c) Enhancing the national capacity for the development of the GHG inventory for the LULUCF sector, including the development of the land-use matrix and completing the transition to the use of the 2006 IPCC Guidelines for the LULUCF sector;

(d) Enhancing the capacity of the national network of research institutions to conduct studies, research and assessments to identify further mitigation opportunities that include financial and organizational justification in terms of social, technical and economic impacts;

(e) Enhancing the national capacity to prepare viable project proposals to attract financing, such as developing project design documents for NAMAs in the transport, industry and agriculture sectors;

(f) Strengthening policies, the legal framework and the management of the Republic of Moldova's forestry sector, including:

(i) Revising the Forest Code to align with European Union (EU) directives, as well as international agreements related to forestry, biodiversity and climate change;

(ii) Undertaking a new national forest inventory;

(iii) Preparing management plans to assist local public authorities with the sustainable management of community forests and pastures;

(iv) Building human and institutional capacities in wildlife management;

(v) Institutional and human capacity-building in the management of state-protected natural areas;

(vi) Institutional and human capacity-building of forestry research institutions in the areas of: forest soil science and forest vegetation conditions; vulnerability and adaptability of forest ecosystems to climate change; genetic resources and forest seed base; forest dendrometry; technology transfer;

(vii) Promoting and implementing information technologies and remote sensing techniques in the forest sector;

(g) Strengthening the capacity of stakeholders in the waste sector to implement EU directives and regulations, including:

(i) Strengthening the institutional capacities of MoEN in applying new legislation;

(ii) Developing a secondary regulatory framework to enforce waste laws;

(iii) Developing a training programme for the private sector related to "Expended Producer Responsibility" to improve the collection and recycling of packaging, electronic and electric equipment waste, vehicle waste, waste oils and tyres;

(h) Negotiating climate issues internationally, primarily to attract financing;

(i) Formulating and implementing climate strategies and policies;

(j) Facilitating dialogue to share experiences and lessons learned, and training stakeholders and relevant experts within the Republic of Moldova's administrative structure to successfully implement the national MRV system, with a specific focus on the MRV of LEDS and NAMAs;

(k) Training stakeholders and facilitating workshops on afforestation, land restoration practices, the establishment of silvopastoral systems and sustainable pasture management (in the context of the NAMA "Afforestation of degraded land, which is impracticable for agriculture");

(l) Training stakeholders and facilitating workshops on renewable energy sources and energy efficiency for various stakeholders, as well as the development of technical and financial demonstration tools (in the context of the NAMA "Construction of a CHP with a capacity of 1 MW to supply heat to residential blocks "Melestiu" in Chisinau");

(m) Training stakeholders and facilitating workshops on coordination, implementation, regulation, funding and MRV of waste-to-energy technologies (in the

context of the NAMA "Electricity production based on the biogas created at the Cahul landfill site");

(n) Training stakeholders and enhancing the awareness for energy-efficient lighting (in the context of the NAMA "Replacing inefficient bulbs with energy-efficient bulbs").

III. Conclusions

68. The TTE concludes that all of the elements of information listed in paragraph 3(a) of the ICA modalities and guidelines have been included in the first BUR of the Republic of Moldova. Overall the reporting is comprehensive and transparent, and areas where transparency can be further enhanced are identified in the subparagraphs below:

(a) The Republic of Moldova reported information on its national circumstances and institutional arrangements in accordance with paragraph 2(a) of the UNFCCC reporting guidelines on BURs. Moldova reported information on its geographic profile, climate information on its geographic profile, climate, natural resources, population and demographics, economic conditions, education, health, energy, industry, transportation, agriculture, land-use change and forestry, and waste management. The Republic of Moldova also reported on its institutional arrangements for the preparation of GHG inventories, national communications and BURs, as well as its commitment to establish a national MRV system. MoEN is responsible for the implementation of all environmental treaties in the Republic of Moldova, and therefore has the overall responsibility to prepare the NIRs, BURs and national communications on a continuous basis. To assist with this process, MoEN has established an interministerial steering committee and the CCO, which works with four thematic working groups made up of relevant national experts;

(b) The Republic of Moldova reported information on its GHG inventory in its BUR, completely in accordance with paragraphs 3–10 of the UNFCCC reporting guidelines on BURs and 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 Party provided a GHG inventory time series covering all years from 1990 to 2013, including updates of previously reported inventory information. The inventory covers emissions and removals of CO_2, CH_4, N_2O, HFCs, PFCs, SF_6 and precursor gases. The Party used the 2006 IPCC Guidelines, the IPCC good practice guidance and the IPCC good practice guidance for LULUCF, in addition to the Revised 1996 IPCC Guidelines, to prepare its GHG inventory. The two reports submitted as an annex to the BUR (the NIR and the Report on the National Greenhouse Gas Inventory System in the Republic of Moldova) provide transparent and comprehensive explanations on the methods and data used to prepare the national GHG inventory in a systematic and well-organized way. The TTE commends the Republic of Moldova for going beyond the requirements of the UNFCCC reporting guidelines on BURs and for including a comprehensive improvement plan in the Report on the National Greenhouse Gas Inventory System in the Republic of Moldova, because it facilitates continuous and systematic improvement of the national GHG inventory. The TTE notes that the transparency could be further enhanced if additional cross references between the BUR and the two reports were provided, as well as using a more appropriate approach to notation keys;

(c) The Republic of Moldova reported in its BUR, completely in accordance with paragraphs 11–13 of the UNFCCC reporting guidelines on BURs, information on mitigation actions and their effects, to the extent possible. This information on mitigation actions in the BUR includes the names and descriptions of the mitigation actions, coverage of sectors and gases, quantitative goals, progress indicators, methodologies, and

assumptions used in estimating their emission reductions, objectives, steps taken and envisaged and the progress of implementation (outputs and estimated GHG reductions). In its BUR, the Republic of Moldova prioritized a total of 14 NAMAs within 7 different sectors (i.e. 2 per sector: power generation, transport, buildings, industry, agriculture, forestry and waste). These 14 NAMAs are part of 11 mitigation actions, all of which are in the process of implementation;

(d) The Republic of Moldova reported in its BUR, information on finance, technology and capacity-building needs and support received, completely in accordance with paragraphs 14–16 of the UNFCCC reporting guidelines on BURs. Financial, technological and institutional constraints reported by the Party include a lack of regulatory and legislative frameworks, a lack of human resources, the need for institutional strengthening, and other financial and technological needs. The Republic of Moldova reported that in order to strengthen its capacity to address low-carbon development-related problems, it would need approximately USD 1.9 million over the next five years. The Party also provided a comprehensive summary of financial support received for the preparation of its BUR and for other related climate change activities.

69. The TTE, in consultation with the Republic of Moldova, identified 13[5] 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 as outlined in para 67. The Republic of Moldova further identified as high and medium priority capacity-building needs paragraphs 67(a–h) and 67(i–m) above, respectively.

[5] This refers to the number of capacity-building needs listed in chapter II.D

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 the Republic of Moldova. Available at http://unfccc.int/8722.php.

National Inventory Report: 1990–2013. Greenhouse Gas Sources and Sinks in the Republic of Moldova. Available at http://unfccc.int/8722.php.

Report on the National Greenhouse Gas Inventory System in the Republic of Moldova. Available at http://unfccc.int/8722.php.

First, second and third national communication of the Republic of Moldova. Available at http://unfccc.int/national_reports/non-annex_i_natcom/items/2979.php.

B. Additional information provided by the Party

The following documents[1] were provided by the Party in response to the request for technical clarification during the technical analysis:

Report on the technical review of the National Greenhouse Gas (GHG) Inventories of the Republic of Moldova – Energy Sector, by Ms. Veronika Ginzburg, PhD, leading research scientist, Department of Monitoring of GHG Emissions in Energy and Industry, Institute of Global Climate and Ecology, Moscow, Russian Federation. Available at: http://clima.md/doc.php?l=en&idc=82&id=3852.

Report on the technical review of the National Greenhouse Gas (GHG) Inventories of the Republic of Moldova – LULUCF Sector, by Mr. Viorel Blujdea, PhD, leading research scientist, National Institute for Forest Researches and Development "Marin Dracea", Bucharest, Romania. Available at: http://clima.md/doc.php?l=ro&idc=82&id=3853.

[1] Reproduced as received from the Party.

CDM methodology AMS-II.K.: Installation of co-generation or tri-generation systems supplying energy to commercial building - Version 2.0. Available at: http://cdm.unfccc.int/methodologies/DB/B5PBIP57SKC8VG133CZ3JG7B6J4WHY.

CDM methodology AMS-II.L.: Demand-side activities for efficient outdoor and street lighting technologies - Version 2.0. Available at: http://cdm.unfccc.int/methodologies/DB/JXH8OI21V4PIQTL2WJLG6KJP5BTY3H.

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