

## **Annotated outline of the National Inventory Report including reporting elements under the Kyoto Protocol**

### **Introduction**

The national inventory report (NIR), as established by decision 18/CP.8, is one element of the annual greenhouse gas (GHG) inventory that is required to be submitted to the UNFCCC by Annex I Parties to the Convention on 15 April of each year. The other elements of this submission include the reporting of GHG emissions by sources and removals by sinks in the common reporting format (CRF) tables, and any other additional information in support of this submission.

Annex I Parties that are also Parties to the Kyoto Protocol are also required to report supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol, with the inventory submission due under the Convention, in accordance with paragraph 3(a) of decision 15/CMP.1. This supplementary information comprises:

- Information on anthropogenic GHG emissions by sources and removals by sinks from land use, land-use change and forestry (LULUCF) activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, of the Kyoto Protocol, as set out in section I.D of the annex to decision 15/CMP.1.
- Information on Kyoto units (emission reduction units (ERUs), certified emission reductions (CERs), temporary certified emission reductions (tCERs), long-term certified emission reductions (lCERs), assigned amount units (AAUs) and removal units (RMUs)), as set out in section I.E of the annex to decision 15/CMP.1.
- Changes in national systems in accordance with Article 5, paragraph 1, and set out in section I.F of the annex to decision 15/CMP.1.
- Changes in national registries as set out in section I.G of the annex to decision 15/CMP.1.
- Minimization of adverse impacts in accordance with Article 3, paragraph 14, as set out in section I.H of the annex to decision 15/CMP.1.

The outline of the NIR, as set out in the *updated UNFCCC reporting guidelines on annual inventories following incorporation of the provisions of decision 14/CP.11* (hereinafter referred to as the UNFCCC reporting guidelines),<sup>1</sup> was noted by the SBSTA at its twenty-fifth session with Parties requested to make use of this updated document in their preparation of national inventories. However, this NIR outline provides only for the submission due under the Convention. Therefore the secretariat has prepared an example of a NIR outline for reporting by Annex I Parties who are also Parties to the Kyoto Protocol of supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol, and includes elements and sections for the Kyoto Protocol following the guidelines for the preparation of information required under Article 7, paragraph 1, of the Kyoto Protocol (Kyoto reporting guidelines as set out in decision 15/CMP.1) and decision 15/CP.10 (Good practice guidance for land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol).

This NIR outline and its annotations are provided herewith as the *annotated outline of the national inventory report including reporting elements under the Kyoto Protocol*, and clearly distinguishes between the UNFCCC and the Kyoto Protocol reporting elements by using italics in the titles for the Kyoto elements. Annotations are provided on the NIR outline that encompass

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<sup>1</sup> FCCC/SBSTA/2006/9

guidance inscribed in the NIR outline set out in the UNFCCC reporting guidelines, reporting requirements stemming from the Kyoto reporting guidelines (decision 15/CMP.1) and any comments relating to linkages of the reporting elements.

## An Outline and General Structure of the NIR

### EXECUTIVE SUMMARY

- ES.1. Background information on greenhouse gas inventories, climate change and *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol* (e.g., as it pertains to the national context, to provide information to the general public)
  - ES.1.1 Background information on climate change (e.g. as it pertains to national context)
  - ES.1.2 Background information on greenhouse gas inventories
  - ES.1.3 *Background information on supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*
- ES.2. Summary of national emission and removal related trends, *and emission and removals from KP-LULUCF activities*
  - ES.2.1 GHG inventory
  - ES.2.2 *KP-LULUCF activities*
- ES.3. Overview of source and sink category emission estimates and trends, *including KP-LULUCF activities*
  - ES.3.1 GHG inventory
  - ES.3.2 *KP-LULUCF activities*
- ES.4. Other information (e.g., indirect greenhouse gases)

### PART 1: ANNUAL INVENTORY SUBMISSION

#### Chapter 1: Introduction

- 1.1. Background information on greenhouse gas inventories, climate change and *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol* (e.g., as it pertains to the national context, to provide information to the general public)
  - 1.1.1. Background information on climate change (e.g. as it pertains to national context)
  - 1.1.2. Background information on greenhouse gas inventories
  - 1.1.3. *Background information on supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*
- 1.2. A description of the institutional arrangements for inventory preparation, *including the legal and procedural arrangements for inventory planning, preparation and management*
  - 1.2.1. Overview of institutional, *legal and procedural* arrangements for compiling GHG inventory *and supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*
  - 1.2.2. *Overview of inventory planning*
  - 1.2.3. *Overview of inventory preparation and management, including for supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*
- 1.3. Inventory preparation
  - 1.3.1. GHG inventory *and KP-LULUCF inventory*
  - 1.3.2. Data collection, processing and storage, *including for KP-LULUCF inventory*
  - 1.3.3. Quality assurance/quality control (QA/QC) procedures and extensive review of GHG inventory *and KP-LULUCF inventory*
- 1.4. Brief general description of methodologies and data sources used
  - 1.4.1. GHG inventory
  - 1.4.2. *KP-LULUCF inventory*
- 1.5. Brief description of key categories, *including for KP-LULUCF*
  - 1.5.1. GHG inventory (including and excluding LULUCF)
  - 1.5.2. *KP-LULUCF inventory*

- 1.6. Information on the QA/QC plan including verification and treatment of confidentiality issues where relevant
  - 1.6.1. QA/QC procedures (i.e. applied in this submission and results)
  - 1.6.2. Verification activities (i.e. undertaken in this submission)
  - 1.6.3. Treatment of confidentiality issues
- 1.7. General uncertainty evaluation, including data on the overall uncertainty for the inventory totals
  - 1.7.1. GHG inventory (e.g. assumptions, expert judgement, data)
  - 1.7.2. *KP-LULUCF inventory* (e.g. assumptions, expert judgement, data)
- 1.8. General assessment of the completeness (with reference to annex 5 of the structure of the national inventory report (NIR))
  - 1.8.1. GHG inventory
  - 1.8.2. *KP-LULUCF inventory*

## **Chapter 2: Trends in greenhouse gas emissions**

- 2.1. Description and interpretation of emission trends for aggregated greenhouse gas emissions
- 2.2. Description and interpretation of emission trends by gas
- 2.3. Description and interpretation of emission trends by category
- 2.4. Description and interpretation of emission trends for indirect greenhouse gases and SO<sub>2</sub>
- 2.5. *Description and interpretation of emission trends for KP-LULUCF inventory in aggregate and by activity, and by gas*

## **Chapters 3–9: (e.g. *SECTOR NAME (CRF sector number)*)**

- X.1. Overview of sector (e.g., quantitative overview and description)
- X.2. Source category (CRF source category number)
  - X.2.1. Source category description (e.g., characteristics of sources)
  - X.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - X.2.3. Uncertainties and time-series consistency
  - X.2.4. Source-specific QA/QC and verification, if applicable
  - X.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - X.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

## **Chapter 3: Energy (CRF sector 1)**

- 3.1. Overview of sector (e.g., quantitative overview and description)
- 3.2. Fuel combustion (CRF 1.A), including detailed information on
  - 3.2.1. Comparison of the sectoral approach with the reference approach
  - 3.2.2. International bunker fuels
  - 3.2.3. Feedstocks and non-energy use of fuels
  - 3.2.4. CO<sub>2</sub> capture from flue gases and subsequent CO<sub>2</sub> storage, if applicable
  - 3.2.5. Country-specific issues
  - 3.2.6. Source category (CRF source category number)
    - 3.2.6.1. Source category description (e.g., characteristics of sources)
    - 3.2.6.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))

- 3.2.6.3 Uncertainties and time-series consistency
- 3.2.6.4 Source-specific QA/QC and verification, if applicable
- 3.2.6.5 Source-specific recalculations, if applicable, including changes made in response to the review process
- 3.2.6.6 Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process
- 3.3. Fugitive emissions from solid fuels and oil and natural gas (CRF 1.B)
  - 3.3.1. Source category (CRF source category number)
    - 3.3.1.1. Source category description (e.g., characteristics of sources)
    - 3.3.1.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
    - 3.3.1.3. Uncertainties and time-series consistency
    - 3.3.1.4. Source-specific QA/QC and verification, if applicable
    - 3.3.1.5. Source-specific recalculations, if applicable, including changes made in response to the review process
    - 3.3.1.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

#### **Chapter 4: Industrial processes (CRF sector 2)**

- 4.1. Overview of sector (e.g., quantitative overview and description)
- 4.2. Source category (CRF source category number)
  - 4.2.1. Source category description (e.g., characteristics of sources)
  - 4.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 4.2.3. Uncertainties and time-series consistency
  - 4.2.4. Source-specific QA/QC and verification, if applicable
  - 4.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 4.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

#### **Chapter 5: Solvent and other product use (CRF sector 3)**

- 5.1. Overview of sector (e.g., quantitative overview and description)
- 5.2. Source category (CRF source category number)
  - 5.2.1. Source category description (e.g., characteristics of sources)
  - 5.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 5.2.3. Uncertainties and time-series consistency
  - 5.2.4. Source-specific QA/QC and verification, if applicable
  - 5.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 5.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

## **Chapter 6: Agriculture (CRF sector 4)**

- 6.1. Overview of sector (e.g., quantitative overview and description)
- 6.2. Source category (CRF source category number)
  - 6.2.1. Source category description (e.g., characteristics of sources)
  - 6.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 6.2.3. Uncertainties and time-series consistency
  - 6.2.4. Source-specific QA/QC and verification, if applicable
  - 6.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 6.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

## **Chapter 7: LULUCF (CRF sector 5)**

- 7.1. Overview of LULUCF (e.g., quantitative overview and description)
- 7.2. Category (LULUCF) (CRF category number)
  - 7.2.1. Description (e.g., characteristics of category)
  - 7.2.2. Information on approaches used for representing land areas and on land-use databases used for the inventory preparation
  - 7.2.3. Land-use definitions and the classification systems used and their correspondence to the LULUCF categories (e.g. land use and land-use change matrix)
  - 7.2.4. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 7.2.5. Uncertainties and time-series consistency
  - 7.2.6. Category-specific QA/QC and verification, if applicable
  - 7.2.7. Category-specific recalculations, if applicable, including changes made in response to the review process
  - 7.2.8. Category-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

## **Chapter 8: Waste (CRF sector 6)**

- 8.1. Overview of sector (e.g., quantitative overview and description)
- 8.2. Source category (CRF source category number)
  - 8.2.1. Source category description (e.g., characteristics of sources)
  - 8.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 8.2.3. Uncertainties and time-series consistency
  - 8.2.4. Source-specific QA/QC and verification, if applicable
  - 8.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 8.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

## **Chapter 9: Other (CRF sector 7) (if applicable)**

## **Chapter 10: Recalculations and improvements**

- 10.1. Explanations and justifications for recalculations, *including for KP-LULUCF inventory*
  - 10.1.1 GHG inventory
  - 10.1.2 *KP-LULUCF inventory*
- 10.2. Implications for emission levels, *including on KP-LULUCF emission levels*
  - 10.2.1 GHG inventory
  - 10.2.2 *KP-LULUCF inventory*
- 10.3. Implications for emission trends, including time series consistency, *and also for the KP-LULUCF inventory*
  - 10.3.1 GHG inventory
  - 10.3.2 *KP-LULUCF inventory*
- 10.4. Recalculations, including in response to the review process, and planned improvements to the inventory (e.g., institutional arrangements, inventory preparation), *including for KP-LULUCF inventory*
  - 10.4.1 GHG inventory
  - 10.4.2 *KP-LULUCF inventory*

## **PART II: SUPPLEMENTARY INFORMATION REQUIRED UNDER ARTICLE 7, PARAGRAPH 1**

### **Chapter 11: KP-LULUCF**

#### **11.1 General information**

- 11.1.1 *Definition of forest and any other criteria*
- 11.1.2 *Elected activities under Article 3, paragraph 4, of the Kyoto Protocol*
- 11.1.3 *Description of how the definitions of each activity under Article 3.3 and each elected activity under Article 3.4 have been implemented and applied consistently over time*
- 11.1.4 *Description of precedence conditions and/or hierarchy among Article 3.4 activities, and how they have been consistently applied in determining how land was classified.*

#### **11.2 Land-related information**

- 11.2.1 *Spatial assessment unit used for determining the area of the units of land under Article 3.3*
- 11.2.2 *Methodology used to develop the land transition matrix*
- 11.2.3 *Maps and/or database to identify the geographical locations, and the system of identification codes for the geographical locations*

#### **11.3 Activity-specific information**

- 11.3.1 *Methods for carbon stock change and GHG emission and removal estimates*
  - 11.3.1.1 *Description of the methodologies and the underlying assumptions used*
  - 11.3.1.2 *Justification when omitting any carbon pool or GHG emissions/removals from activities under Article 3.3 and elected activities under Article 3.4*
  - 11.3.1.3 *Information on whether or not indirect and natural GHG emissions and removals have been factored out*
  - 11.3.1.4 *Changes in data and methods since the previous submission (recalculations)*
  - 11.3.1.5 *Uncertainty estimates*
  - 11.3.1.6 *Information on other methodological issues*
  - 11.3.1.7 *The year of the onset of an activity, if after 2008*

#### **11.4 Article 3.3**

- 11.4.1 *Information that demonstrates that activities under Article 3.3 began on or after 1 January 1990 and before 31 December 2012 and are direct human-induced*
- 11.4.2 *Information on how harvesting or forest disturbance that is followed by the re-establishment of forest is distinguished from deforestation*

- 11.4.3 *Information on the size and geographical location of forest areas that have lost forest cover but which are not yet classified as deforested*
- 11.5 *Article 3.4*
  - 11.5.1 *Information that demonstrates that activities under Article 3.4 have occurred since 1 January 1990 and are human-induced*
  - 11.5.2 *Information relating to Cropland Management, Grazing Land Management and Revegetation, if elected, for the base year*
  - 11.5.3 *Information relating to Forest Management*
- 11.6 *Other information*
  - 11.6.1 *Key category analysis for Article 3.3 activities and any elected activities under Article 3.4*
- 11.7 *Information relating to Article 6*

### **Chapter 12: Information on accounting of Kyoto units**

- 12.1 *Background information*
- 12.2 *Summary of information reported in the SEF tables*
- 12.3 *Discrepancies and notifications*
- 12.4 *Publicly accessible information*
- 12.5 *Calculation of the commitment period reserve (CPR)*
- 12.6 *KP-LULUCF accounting*

### **Chapter 13: Information on changes in national system**

### **Chapter 14: Information on changes in national registry**

### **Chapter 15: Information on minimization of adverse impacts in accordance with Article 3, paragraph 14**

### **Chapter 16: Other information**

## **REFERENCES**

## **ANNEXES TO THE NATIONAL INVENTORY REPORT**

### **Annex 1: Key categories**

- Description of methodology used for identifying key categories, *including for KP-LULUCF*.
- Reference to the key category tables in the CRF, *including in the KP-LULUCF CRF tables*.
- Information on the level of disaggregation
- Tables 7.A1 - 7.A3 of the IPCC good practice guidance
- *Table NIR.3, as contained in the annex to decision 6/CMP.3.*

**Annex 2:** Detailed discussion of methodology and data for estimating CO<sub>2</sub> emissions from fossil fuel combustion

**Annex 3:** Other detailed methodological descriptions for individual source or sink categories, *including for KP-LULUCF activities*

A.3.X (sector or category name)

**Annex 4:** CO<sub>2</sub> reference approach and comparison with sectoral approach, and relevant information on the national energy balance



**Annex 5:** Assessment of completeness and (potential) sources and sinks of greenhouse gas emissions and removals excluded for the annual inventory submission *and also for the KP-LULUCF inventory*

A.5.1: GHG inventory

A.5.2: *KP-LULUCF inventory*

**Annex 6:** Additional information to be considered as part of the annual inventory submission and the *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol* or other useful reference information

**Annex 7:** Tables 6.1 and 6.2 of the IPCC good practice guidance

**Annex 8:** Other annexes - (Any other relevant information – optional).

## Annotated Outline of the NIR

### EXECUTIVE SUMMARY

**ES.1.** Background information on greenhouse gas inventories, climate change and *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol* (e.g., as it pertains to the national context, to provide information to the general public)

ES.1.1 Background information on climate change (e.g. as it pertains to national context)

ES.1.2 Background information on greenhouse gas inventories

ES.1.3 *Background information on supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*

**ES.2.** Summary of national emission and removal related trends, *and emission and removals from KP-LULUCF activities*

ES.2.1 GHG inventory

ES.2.2 *KP-LULUCF activities*

**Paragraph 5 of the annex to decision 15/CMP.1** requires Annex 1 Parties to provide information on emissions by sources and removals by sinks from land use, land-use change and forestry of activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4 of the Kyoto Protocol, with these emissions to be distinguished from emissions of Annex A sources.

*Parties may wish to include in this section an overview of emission and removal related trends of KP-LULUCF activities, including both quantitative information in tables and also a qualitative overview and description of the emissions and trends.*

**ES.3.** Overview of source and sink category emission estimates and trends, *including KP-LULUCF activities*

ES.3.1 GHG inventory

ES.3.2 *KP-LULUCF activities*

**ES.4.** Other information (e.g., indirect greenhouse gases)

## PART I: ANNUAL INVENTORY SUBMISSION

### Chapter 1: INTRODUCTION

The reporting requirements that underpin the annual inventory submission due under the Convention with respect to institutional arrangements, inventory preparation and QA/QC do to some extent overlap with the corresponding guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol (**decision 19/CMP.1**) and the Kyoto reporting guidelines (**decision 15/CMP.1**) concerning the general functions of the national system (as defined in paragraph 10 of the annex to decision 19/CMP.1 with respect to inventory planning, preparation and management). The guidelines for national systems of relevance to this ‘introduction’ section of the NIR were reported by Annex I Parties who are also Parties to the Kyoto Protocol in their initial report under the Kyoto Protocol. Importantly, Annex I Parties who are also Parties to the Kyoto Protocol are also required to report as part of its annual submission changes in its national system, as required by **section F of the annex to decision 15/CMP.1**<sup>2</sup>.

*Parties may wish to consider a centralized approach for reporting institutional arrangements under the Convention and other information required by the guidelines for national systems (**decision 19/CMP.1**), and to report an aggregation of this information in this section. This approach minimizes duplication in the reporting of such information and would significantly improve the transparency and the consistency of this reported information.*

*Additional information on the institutional arrangements / national system can be provided in annex 6 of the NIR (e.g. QA/QC plan, output from the implementation of QA/QC procedures (e.g. QC checklists), diagrams, etc).*

*Parties may wish to report information on any change to its institutional arrangements / national system, in accordance with the Kyoto reporting guidelines (**decision 15/CMP.1**), in chapter 13 of this NIR outline. Again, additional information on the change to a national system can be provided in annex 6 of the NIR (e.g. diagrams).*

*In addition, the secretariat provides in annex-A of the annotated NIR a checklist, and supplementary guidance, for Parties to use in order to prepare information for this section of the NIR. This checklist is based on the provisions included in the **annex to decision 19/CMP.1** that outline the requirements of the general and specific functions of the national system.*

- 1.1. Background information on greenhouse gas inventories, climate change and *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol* (e.g., as it pertains to the national context, to provide information to the general public)
  - 1.1.1. Background information on climate change (e.g. as it pertains to national context)
  - 1.1.2. Background information on greenhouse gas inventories
  - 1.1.3. *Background information on supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*
- 1.2. A description of the institutional arrangements for inventory preparation, *including the legal and procedural arrangements for inventory planning, preparation and management*
  - 1.2.1. Overview of institutional, *legal and procedural* arrangements for compiling GHG inventory and *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*

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<sup>2</sup> Section F of the annex to decision 15/CMP.1.

**Paragraph 10(a) of the annex to decision 19/CMP.1** requires an Annex I Party to “establish and maintain institutional, legal and procedural arrangements necessary to perform the functions for national systems”. Annex I Parties are therefore required to report information on the arrangements between government agencies and other entities responsible for the performance of all functions of the national system. Further, **paragraph 10(b) of the annex to decision 19/CMP.1** requires that the national system comprises staff with technical competence for inventory development, **paragraph 10(c) of the annex to decision 19/CMP.1** requires a Party to designate a single national entity with overall responsibility for the national inventory, and **paragraph 10(e) of the annex to decision 19/CMP.1** requires that the national system is able to provide information necessary to meet reporting requirements defined in the guidelines under Article 7.

*Parties may wish to provide in this section information that adequately describes the institutional, legal and procedural arrangements that are to be reported, along with diagrams and tables that depict these arrangements.*

*Parties may wish to report information on any change to this aspect of the institutional arrangements / national system, in accordance with the Kyoto reporting guidelines (**decision 15/CMP.1**), in chapter 13 of this NIR outline. Again, additional information on the change to institutional arrangements / national system can be provided in annex 6 of the NIR (e.g. diagrams).*

#### 1.2.2. Overview of inventory planning

**Paragraph 10(d) of the annex to decision 19/CMP.1** requests that a national system is able to prepare national inventories and supplementary information in a timely manner in accordance with Article 5 and Article 7, paragraphs 1 and 2. Further, **paragraph 10(b) of the annex to decision 19/CMP.1** requests that a Party ensures sufficient capacity for timely performance of the functions of the national system, including data collection and arrangements for technical competence of staff. With respect to inventory planning, specific requirements of Annex I Parties are to provide contact details of the single national entity with overall responsible for the national inventory (**paragraph 12(a) of the annex to decision 19/CMP.1**); define and allocate specific responsibilities in the inventory development process, including specifying roles of, and cooperation between, government agencies and other entities involved in the preparation of the inventory (**paragraph 12(c) of the annex to decision 19/CMP.1**); elaborate a QA/QC plan that describes specific QC procedures, facilitate the overall QA procedures, and establish quality objectives (**paragraph 12(d) of the annex to decision 19/CMP.1**); and establish a process for consideration and approval of the inventory (**paragraph 12(e) of the annex to decision 19/CMP.1**). Further, Annex I Parties are required, in the context of inventory planning, to consider ways to improve the quality of the inventory using outputs from QA/QC procedures, Article 8 expert review and other reviews (**paragraph 13 of the annex to decision 19/CMP.1**).

*Parties may wish to explore providing not only qualitative information on these specific functional requirements of the guidelines for national regarding inventory planning, but to complement this information with: diagrams and/or flow charts that depict the arrangements, roles and responsibilities and interactions between actors on this specific function of the national system; summary information on the correspondence of the QA/QC plan, key category analysis and the uncertainty analysis to the inventory improvement plan and subsequent planning activities. Some of these diagrams or more detailed qualitative information could be included in annex 6 of the NIR.*

*Parties may wish to report information on any change to this aspect of the national system, in accordance with the Kyoto reporting guidelines (**decision 15/CMP.1**), in chapter 13 of this NIR*

*outline. Again, additional information on the change to a national system can be provided in annex 6 of the NIR (e.g. diagrams).*

1.2.3. *Overview of inventory preparation and management, including for supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol*

As to the requirements of the guidelines on national systems (**decision 19/CMP.1**) in relation to inventory preparation, **paragraph 14 of the annex to decision 19/CMP.1** lists specific requirements of Annex I Parties on: identify key categories following the IPCC good practice guidance methods (superseded by the method prescribed by the IPCC good practice guidance for LULUCF); preparation of estimates using methods described in the Revised 1996 IPCC guidelines, as elaborated by the IPCC good practice guidance, and ensure that appropriate methods are used to estimate emissions from key categories; collect sufficient activity data, process information and emission factors for carriage of selected methods; preparation of quantitative estimates of uncertainty for each category and for the inventory in total, following the IPCC good practice guidance; perform recalculations in accordance with the IPCC good practice guidance; compile a national inventory in accordance with Article 7, paragraph 1, of the Kyoto Protocol; and implement general QC procedures in accordance with its QA/QC plan following the IPCC good practice guidance.

Further, **paragraph 15 of the annex to decision 19/CMP.1** requests that Parties consider: applying category-specific QC procedures for key categories and for categories in which significant methodological and/or data revisions have occurred, in accordance with the IPCC good practice guidance; implementing QA (i.e. a basic review by staff not directly involved) of the inventory before it is submitted; implementing a more extensive review of the inventory for key categories and categories for which significant methodological and/or data revisions have occurred; and re-evaluate the inventory planning process based on the outcome of the abovementioned 2 reviews and a period internal review of the inventory preparation process.

As to the requirements of the guidelines on national systems (**decision 19/CMP.1**) in relation to inventory management, **paragraph 16 (a) of the annex to decision 19/CMP.1** requires Annex I Parties to: archive inventory information, including disaggregated emission factors, activity data and documentation on the on these; internal documentation on QA/QC procedures, external and internal reviews; documentation on key categories and key category analysis; and planned inventory improvements. Further, **paragraph 17 of the annex to decision 19/CMP.1** states that Annex I Parties should archive all of the above in a central location.

*Parties may wish to explore providing not only qualitative information on these specific functional requirements of national systems regarding inventory preparation and management, but to complement this information with: diagrams and/or flow charts that depict the arrangements and interactions between actors within the national system; and process and procedures for preparing and managing a GHG inventory and the supplementary information required under Article 7, paragraph 1 (i.e. KP-LULUCF, including ensuring that areas of land and land-use change are identifiable). Some of these diagrams or more detailed qualitative information could be included in the annex 6 of the NIR.*

*Parties may wish to report information on any change to this aspect of the national system, in accordance with the Kyoto reporting guidelines (**decision 15/CMP.1**), in chapter 13 of this NIR outline. Again, additional information on the change to a national system can be provided in annex 6 of the NIR (e.g. diagrams).*

### 1.3. Inventory preparation

*Parties may wish to provide more detailed information in this section on data collection, processing and storage; rationale of choice of methodology; uncertainty analysis; and QA/QC. Annex I Parties may also consider to report here on activities associated with the review of availability of data to improve the completeness of the GHG and the KP-LULUCF inventories.*

*Parties may wish to report information on any change to this aspect of the national system, in accordance with the Kyoto reporting guidelines (**decision 15/CMP.1**), in chapter 13 of this NIR outline. Again, additional information on the change to a national system can be provided in annex 6 of the NIR (e.g. diagrams).*

1.3.1. GHG inventory and KP-LULUCF inventory

1.3.2. Data collection, processing and storage, including for KP-LULUCF inventory

1.3.3. QA/QC procedures and extensive review of GHG inventory and KP-LULUCF inventory

### 1.4. Brief general description of methodologies and data sources used

1.4.1. GHG inventory

1.4.2. KP-LULUCF activities

**Paragraphs 5 and 6(a) of the annex to decision 15/CMP.1** requires Annex I Parties to report information on methods and data used in the KP-LULUCF inventory, recognizing the principles laid out in **decision 16/CMP.1**.

*Parties may wish to consider providing both qualitative and quantitative information on methods and data used to compile the KP-LULUCF inventory. Further, Parties may wish to explore including methods, emission factors (and data sources) for KP-LULUCF activities in a table equivalent to CRF summary 3 (used for Convention reporting). Parties may also wish to provide an upper-level overview of the methodological-related requirements of **paragraph 5 to 9 of the annex to decision 15/CMP.1**, how the methods have been applied taking into account the IPCC good practice guidance for LULUCF and the principles as laid out in **decision 16/CMP.1**.*

*Parties may also consider explaining and/or discussing, if any, differences in either methodology or data sources with respect to the corresponding LULUCF inventory under the Convention.*

*Centralizing this information in one location (as opposed to each category sub-section of the NIR) improves the transparency of the inventory and access to such information.*

*The Party may explore the use of internal document cross-referencing to refer a reader to a specific chapter (or annex) of the NIR where more detailed information on KP-LULUCF methodology and data sources are described and/or discussed further.*

*A check-list of the requirements included in **paragraph 5 to 9 of the annex to decision 15/CMP.1** is included in annex B of the annotated NIR.*

- 1.5. Brief description of key categories, *including KP-LULUCF key categories*
- 1.5.1. GHG inventory (including and excluding LULUCF)
- 1.5.2. *KP-LULUCF activities*

The UNFCCC reporting guidelines require Annex I Parties to identify key categories, in line with the methodology of the IPCC good practice guidance (and the IPCC good practice guidance for LULUCF). Further, the UNFCCC reporting guidelines require information on the key categories to be reported in the NIR and also CRF table 7 (Annex A categories) and table NIR.3 (KP-LULUCF table included in **decision 6/CMP.3**).

*Parties may wish to include in this section the required information or to use internal document cross-referencing to either chapter 11.6.1 or to annex 1. If the Party elects to include the information in this chapter it may consider providing table NIR.3 (KP-LULUCF reporting table included in **decision 6/CMP.3**), and a discussion on the outcomes of the key category analysis and how this analysis is used to prioritise improvement of the KP-LULUCF inventory.*

- 1.6. Information on the QA/QC plan including verification and treatment of confidentiality issues where relevant

The guidelines for national systems (**decision 19/CMP.1**) establishes a number of requirements for Annex I Parties with respect to QA/QC. The **annex to decision 19/CMP.1** sets out the following requirements of Annex I Parties:

- define roles and responsibilities in relation to QA and QC (**paragraph 12(c)**);
- elaborate a QA/QC plan (**paragraph 12(d)**);
- implement general inventory QC procedures (tier 1) in accordance with its QA/QC plan (**paragraph 12(g)**);
- archive internal documentation on QA/QC procedures (**paragraph 16(a)**).

Also these guidelines provide requirements that an Annex I Party should consider:

- use of the outcomes of QA/QC activities in the improvement of the inventory (**paragraph 13**);
- apply category-specific QC procedures (tier 2) for key categories and for those categories in which significant methodological and/or data revisions have occurred (**paragraph 15(a)**);
- provide for a basic review of the inventory by personnel not directly involved in the development of the inventory, in accordance with its planned QA procedures (**paragraph 15(b)**).

The IPCC good practice guidance for LULUCF also sets out processes and procedures for QA/QC and verification that a Party should consider in its inventory planning, preparation and management.

*Parties may wish to report information on each of the items above in this section of the NIR and how these relate to the KP-LULUCF inventory. Parties also may wish to provide information on any verification activities that were undertaken, and whether output from any of the requirements are archived.*

*Parties may wish to consider including in the annex 6 to the NIR its elaborated QA/QC plan, along with checklists etc. used to record outcomes of the implementation of tier 1 or tier 2 QC procedures, and further information on any verification activities undertaken.*

*Parties may wish to report information on any change to this aspect of the national system, in accordance with the Kyoto reporting guidelines (**decision 15/CMP.1**), in*

*chapter 13 of this NIR outline. Again, additional information on the change to a national system can be provided in annex 6 of the NIR (e.g. diagrams).*

- 1.6.1. QA/QC procedures (i.e. applied in this submission and results)
- 1.6.2. Verification activities (i.e. undertaken in this submission)
- 1.6.3. Treatment of confidentiality issues
  
- 1.7. General uncertainty evaluation, including data on the overall uncertainty for the inventory totals
  - 1.7.1. GHG inventory (e.g. assumptions, expert judgement, data)
  - 1.7.2. *KP-LULUCF activities*

The UNFCCC reporting guidelines require Annex I Parties to quantitatively estimate the certainty of data used to estimate emissions using at least a tier 1 method, as provided in the IPCC good practice guidance (and the IPCC good practice guidance for LULUCF), for categories and the total inventory. Further, the UNFCCC reporting guidelines require qualitative information on the uncertainty analysis to be included in the NIR.

Annex I Parties are required to report qualitative and quantitative information on the uncertainty estimates that are provided by category and for the inventory in total. Uncertainties should be provided for activity data, emission factors, other parameters and for the emission estimate, with documentation on assumptions, expert judgement, references, underlying data and models used also provided. The IPCC good practice guidance for land use, land-use change and forestry sets out the procedures for uncertainty estimation, including an option to report uncertainties using table 6.1.

*Parties may wish to report information on: uncertainties for activity data, emission factors, other parameters and for the emission estimate; documentation on assumptions, expert judgement, references; and documentation of underlying data and models used. Parties may wish to explore providing information on how the uncertainties of the Convention LULUCF inventory correspond to the uncertainty of the KP-LULUCF inventory. Further, Parties may wish to provide information on how the uncertainty analysis is used to improve the quality of the KP-LULUCF inventory.*

*Parties may explore reporting here or in annex 7 the IPCC good practice table 6.1 for uncertainties.*

*The Party could explore the use of internal document cross-referencing to refer a reader to a specific chapter of the NIR where uncertainties for specific activities within the KP-LULUCF are described and/or discussed further, and to where table 6.1 (for the KP-LULUCF inventory) is reported..*

- 1.8. General assessment of the completeness (with reference to annex 5 of the structure of the national inventory report (NIR))
  - 1.8.1. GHG inventory
  - 1.8.2. KP-LULUCF

The UNFCCC reporting guidelines require Parties to explain ‘gaps’ in its inventory, in line with the IPCC good practice guidance (and the IPCC good practice guidance for LULUCF). With respect to the KP-LULUCF inventory, paragraph **6(e)of the annex to decision 15/CMP.1** requires Parties to provide information on why any carbon pool is not estimated together with verifiable information that demonstrates that the unaccounted pool(s) were not a net source of emissions.

*Parties may wish to include in this section a discussion on the completeness of the KP-*



*LULUCF inventory stating clearly the reasons why a particular activity and/or carbon pool is not estimated and, if possible, identify how the coverage of the KP-LULUCF inventory can be improved. Further, the Party may also wish to explore providing the required verifiable information for an unaccounted carbon pool.*

*The Party could explore the use of internal document cross-referencing to refer a reader to a specific chapter (or annex 5) of the NIR where completeness of the KP-LULUCF inventory is discussed further.*

## **Chapter 2: TRENDS IN GREENHOUSE GAS EMISSIONS**

*Information should be provided in this chapter that provides an overview of emission trends, but it is not necessary to repeat information that is provided in the sector chapters and in the common reporting format (CRF) trend tables.*

- 2.1. Description and interpretation of emission trends for aggregated greenhouse gas emissions
- 2.2. Description and interpretation of emission trends by gas
- 2.3. Description and interpretation of emission trends by category
- 2.4. Description and interpretation of emission trends for indirect greenhouse gases and SO<sub>2</sub>
- 2.5. *Description and interpretation of emission trends for KP-LULUCF inventory in aggregate and by activity, and by gas*

*Parties may wish to consider providing both qualitative and quantitative information on emission trends for KP-LULUCF activities at both an aggregated and disaggregated level, and by gas.*

*The Party could explore the use of internal document cross-referencing to refer a reader to a specific chapter of the NIR where emissions and trends by gas and by KP-LULUCF activity are discussed further.*

## **Chapters 3–9: (e.g. SECTOR NAME (CRF sector number))**

*Below is a broad outline established by the UNFCCC reporting guidelines for the sector sections of the NIR. These reporting guidelines also provide the following guidance: "the structure outlined below should be followed in each of the following sectoral chapters. The information should be reported following the IPCC sectors"; "for each IPCC source category (i.e., at the level of the table Summary 1.A of the CRF, or the level at which IPCC methods are described, or at the level that the Annex I Party estimates its greenhouse gas emissions) the following information should be provided" (which are included in the sectoral outline; and "Annex I Parties may report some of the information requested [below in the broad outline] in an aggregate form for some/several source categories if the same methodology, activity data and/or emission factors are used, in order to avoid repetition of information. For key categories, the information should be detailed in order to enable a thorough review of the inventory".*

*The UNFCCC reporting guidelines also provides more detailed guidance on a sector-by-sector basis on what should be included in the NIR. Parties may consider reading this additional guidance in preparing its NIR submission.*

- X.1. Overview of sector (e.g., quantitative overview and description)
- X.2. Source category (CRF source category number)
  - X.2.1. Source category description (e.g., characteristics of sources)

- X.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
- X.2.3. Uncertainties and time-series consistency
- X.2.4. Source-specific QA/QC and verification, if applicable
- X.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
- X.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 3: ENERGY (CRF sector 1)**

*The outline for the energy sector combines the broad outline provided in the UNFCCC reporting guidelines with complementary guidance contained within the UNFCCC reporting guidelines on what should be considered in the energy section of the NIR.*

*Parties may wish to explore implementing the outline provided below.*

- 3.1. Overview of sector (e.g., quantitative overview and description)
- 3.2. Fuel combustion (CRF 1.A), including detailed information on
  - 3.2.1 Comparison of the sectoral approach with the reference approach
  - 3.2.2 International bunker fuels
  - 3.2.3 Feedstocks and non-energy use of fuels
  - 3.2.4 CO<sub>2</sub> capture from flue gases and subsequent CO<sub>2</sub> storage, if applicable
  - 3.2.5 Country-specific issues
  - 3.2.6 Source category (CRF source category number)
    - 3.2.6.1 Source category description (e.g., characteristics of sources)
    - 3.2.6.2 Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
    - 3.2.6.3 Uncertainties and time-series consistency
    - 3.2.6.4 Source-specific QA/QC and verification, if applicable
    - 3.2.6.5 Source-specific recalculations, if applicable, including changes made in response to the review process
    - 3.2.6.6 Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process
- 3.3. Fugitive emissions from solid fuels and oil and natural gas (CRF 1.B)
  - 3.3.1. Source category (CRF source category number)
    - 3.3.1.1. Source category description (e.g., characteristics of sources)
    - 3.3.1.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
    - 3.3.1.3. Uncertainties and time-series consistency
    - 3.3.1.4. Source-specific QA/QC and verification, if applicable
    - 3.3.1.5. Source-specific recalculations, if applicable, including changes made in response to the review process
    - 3.3.1.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 4: INDUSTRIAL PROCESSES (CRF sector 2)**

- 4.1. Overview of sector (e.g., quantitative overview and description)
- 4.2. Source category (CRF source category number)
  - 4.2.1. Source category description (e.g., characteristics of sources)
  - 4.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 4.2.3. Uncertainties and time-series consistency
  - 4.2.4. Source-specific QA/QC and verification, if applicable
  - 4.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 4.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 5: SOLVENT AND OTHER PRODUCT USE (CRF sector 3)**

- 5.1. Overview of sector (e.g., quantitative overview and description)
- 5.2. Source category (CRF source category number)
  - 5.2.1. Source category description (e.g., characteristics of sources)
  - 5.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 5.2.3. Uncertainties and time-series consistency
  - 5.2.4. Source-specific QA/QC and verification, if applicable
  - 5.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 5.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 6: Agriculture (CRF sector 4)**

- 6.1. Overview of sector (e.g., quantitative overview and description)
- 6.2. Source category (CRF source category number)
  - 6.2.1. Source category description (e.g., characteristics of sources)
  - 6.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 6.2.3. Uncertainties and time-series consistency
  - 6.2.4. Source-specific QA/QC and verification, if applicable
  - 6.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 6.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 7: LULUCF (CRF sector 5)**

- 7.1. Overview of LULUCF (e.g., quantitative overview and description)
- 7.2. Category (LULUCF) (CRF category number)
  - 7.2.1. Description (e.g., characteristics of category)

- 7.2.2 Information on approaches used for representing land areas and on land-use databases used for the inventory preparation
- 7.2.3 Land-use definitions and the classification systems used and their correspondence to the LULUCF categories (e.g. land use and land-use change matrix)
- 7.2.4 Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
- 7.2.5 Uncertainties and time-series consistency
- 7.2.6 Category-specific QA/QC and verification, if applicable
- 7.2.7 Category-specific recalculations, if applicable, including changes made in response to the review process
- 7.2.8 Category-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 8: WASTE (CRF sector 6)**

- 8.1. Overview of sector (e.g., quantitative overview and description)
- 8.2. Source category (CRF source category number)
  - 8.2.1. Source category description (e.g., characteristics of sources)
  - 8.2.2. Methodological issues (e.g., choice of methods/activity data/emission factors, assumptions, parameters and conventions underlying the emission and removal estimates – the rationale for their selection, any specific methodological issues (e.g. description of national methods))
  - 8.2.3. Uncertainties and time-series consistency
  - 8.2.4. Source-specific QA/QC and verification, if applicable
  - 8.2.5. Source-specific recalculations, if applicable, including changes made in response to the review process
  - 8.2.6. Source-specific planned improvements, if applicable (e.g., methodologies, activity data, emission factors, etc.), including those in response to the review process

### **Chapter 9: OTHER (CRF sector 7) (if applicable)**

The UNFCCC reporting guidelines states that “in addition, information previously included in the additional information and the documentation boxes of the CRF should be included and expanded in the NIR, where relevant, as specified in the appendix to this proposed structure.”

*Parties may wish to explore providing such information in its NIR submission.*

### **Chapter 10: RECALCULATIONS AND IMPROVEMENTS**

The UNFCCC reporting guidelines states that “information should be provided in this chapter that provides an overview of recalculations and improvements made to the inventory, but it is not necessary to repeat information that is provided in the sector chapters, specifically the category-specific information to be provided, and in particular, Annex I Parties should cross-reference information provided in the sector chapters”.

*Parties may wish to consider this guidance when preparing information for this section of the NIR, particularly information pertaining to the KP-LULUCF inventory for which recalculation information by category, activity and aggregate could be described by the Party.*

- 10.1. Explanations and justifications for recalculations, *including for KP-LULUCF activities*

- 10.1.1 GHG inventory
- 10.1.2 *KP-LULUCF inventory*
- 10.2. Implications for emission levels, *including on KP-LULUCF emission levels*
  - 10.2.1 GHG inventory
  - 10.2.2 *KP-LULUCF inventory*
- 10.3. Implications for emission trends, including time series consistency, *and also for KP-LULUCF trends and time series consistency*
  - 10.3.1 GHG inventory
  - 10.3.2 *KP-LULUCF inventory*
- 10.4. Recalculations, including in response to the review process, and planned improvements to the inventory (e.g., institutional arrangements, inventory preparation), *including for the KP-LULUCF activities*
  - 10.4.1 GHG inventory
  - 10.4.2 *KP-LULUCF inventory*

The UNFCCC reporting guidelines require Annex I Parties to report on any recalculations that were undertaken, in line with the IPCC good practice guidance (and the IPCC good practice guidance for LULUCF). Annex I Parties are required to report this information in both the CRF tables and also in the sector and this section of the NIR. The CRF tables adopted by **decision 6/CMP.3** do not support the reporting of recalculations performed on the KP-LULUCF inventory.

*Parties may wish to explore the reporting of both quantitative and qualitative information on recalculations undertaken on the KP-LULUCF inventory. The Party may wish to provide information consistent with the recalculation reporting requirements under the Convention, namely to provide: an explanation and justification for each recalculation, and its implication on the KP-LULUCF emission level; implication of the recalculation on the KP-LULUCF emission trend, including on time series consistency; and whether the recalculation is a result of an inventory improvement or a recommendation of the expert review team.*

*Parties may wish to explore the reporting of planned improvements to the KP-LULUCF inventory by listing (in a table) and describing any improvement activities.*

*The Party could explore the use of internal document cross-referencing to refer a reader to a specific chapter of the NIR where recalculations or planned improvements concerning KP-LULUCF activities are discussed further.*

## **References and Annexes**

Moved to after Part II of the NIR.

## ***PART II: SUPPLEMENTARY INFORMATION REQUIRED UNDER ARTICLE 7, PARAGRAPH 1***

### **Note for Part II, in particular chapters 11 to 14 of the annotated NIR**

The KP-LULUCF tables attached to **decision 6/CMP.3** include a series of tables that are to be reported by Parties as 1 element of its submission of supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol. These tables can be clustered into 3 distincts group: NIR tables (1 to 3); CRF tables; and accounting quantity table. These tables are to be submitted in conjunction with information required to be reported and set out in **section D of the annex to decision 15/CMP.1**, using the outline included in the **annex to decision 15/CP.10**.

The registry systems administrators (RSA) forum has developed procedures and guidance documentation in support of reporting and review of information submitted by Annex I Parties who are also Parties to the Kyoto Protocol, in accordance with **sections E and G of the annex to decision 15/CMP.1**. The relevant procedures are those pertaining to the standard electronic format (SEF) table comparison report and the standard independent assessment report (SIAR) which itself is based on the independent assessment report used during the review of the initial report. The SIAR also considers outcomes of the SEF comparison, and other reports submitted by Parties on discrepancies, notifications (from the Executive Board of the clean development mechanisms (CDM), non-replacement and invalid Kyoto units. The objective of the SIAR process and its procedures is to firstly verify the completeness of information submitted by a Party with respect to the requirements of **sections E and G of the annex to decision 15/CMP.1**, and secondly, to report on the substantive review, if required, of this information reported by an Annex I Party in accordance with sections **E and G of the annex to decision 15/CMP.1**.

With respect to **section E of the annex to decision 15/CMP.1**, Parties are required to include in its submission 4 reports:

- list of discrepancies (**paragraph 12 of the annex to decision 15/CMP.1**);
- list of notifications received from Executive Board of the CDM on
  - (i) reversal of storage (**paragraph 13 of the annex to decision 15/CMP.1**)
  - (ii) failure of certification (**paragraph 14 of the annex to decision 15/CMP.1**);
- list of non-replacements (**paragraph 15 of the annex to decision 15/CMP.1**); and a list of invalid Kyoto units (**paragraph 16 of the annex to decision 15/CMP.1**).

*National Focal Points of Parties may wish to consider obtaining from the national registry system administrator guidance documentation on the SIAR and SEF in order to ensure that its annual submission includes all information and the required reports in accordance with the relevant decisions. These guidance documents include in table format explicit reporting requirements and correspondence to decision text (13/CMP.1; 15/CMP.1).*

### ***Chapter 11: KP-LULUCF***

*Reporting of activities under Article 3, paragraph 4, are mandatory for Parties that in their initial report elected to account for these activities. If a Party did not elect any activities under Article 3, paragraph 4, of the Kyoto Protocol in its initial report, then it need not report information to the sections below specific to these activities. However, the Party should clearly state that it has not elected any activities under Article 3, paragraph 4, with a possible option to provide a sentence under general information.*

*Parties may wish to explore providing a table that outlines differences between the Convention and the KP-LULUCF inventories (e.g. definitions, methodologies, etc.). Parties may also explore using in this chapter internal document referencing to minimize*

*duplication of reported information provided in chapter 7 on LULUCF under the Convention.*

## 11.1 General information

### 11.1.1 Definition of forest and any other criteria

*The Party may wish to explore providing detailed information on its definitions of forest, including providing the forest parameters submitted in its initial report and in table NIR.1, and any other criteria (e.g. minimum width). The Party may wish to consider providing contextual information under-pinning these parameters.*

### 11.1.2 Elected activities under Article 3, paragraph 4, of the Kyoto Protocol

*11.1.3 Description of how the definitions of each activity under Article 3.3 and each elected activity under Article 3.4 have been implemented and applied consistently over time*

*11.1.4 Description of precedence conditions and/or hierarchy among Article 3.4 activities, and how they have been consistently applied in determining how land was classified.*

## 11.2 Land-related information

### 11.2.1 Spatial assessment unit used for determining the area of the units of land under Article 3.3

The spatial assessment unit is required to be reported by Parties in accordance with **paragraph 3 of the annex to decision 15/CMP.1**.

### 11.2.2 Methodology used to develop the land transition matrix

Parties are required to provide information on the methodology used to develop its land transition matrix that is reported in table NIR.2 (KP-LULUCF reporting table included in **decision 6/CMP.3**).

### 11.2.3 Maps and/or database to identify the geographical locations, and the system of identification codes for the geographical locations

Parties are required to provide information on how it identify areas of land and areas of land-use change, in accordance with **paragraph 20 of the annex to decision 16/CMP.1**. Further, **paragraph 6(b) of the annex to decision 15/CMP.1** requires specific information on the geographic location.

*Parties may wish to explore providing here or in annex 3 detailed information on the capacity and process of identifying geographical locations and the system of identification codes for the geographical locations.*

*Further, Parties may wish to explore reporting either here or in chapter 13 any change to its national system with respect to this capacity to identify areas of land and areas of land-use change, and provide related internal document cross-references to refer the reader to a specific part of the NIR.*

## 11.3 Activity-specific information

### 11.3.1 Methods for carbon stock change and GHG emission and removal estimates

#### 11.3.1.1 Description of the methodologies and the underlying assumptions used

Required by **paragraph 6(a) of the annex to decision 15/CMP.1** to be reported by Parties.

*Parties may wish to explore providing here or in annex 3 more detailed information on higher*

*tier methods and models used to estimate emissions and removals from activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, of the Kyoto Protocol. Such information could comprise technical documentation, publications and additional information on, for example, verification of results from higher tier methods and models, discussion on activity data, emission factors, verification activities, etc. .*

*11.3.1.2 Justification when omitting any carbon pool or GHG emissions/removals from activities under Article 3.3 and elected activities under Article 3.4*

*Required by paragraph 6(e) of the annex to decision 15/CMP.1 to be reported by Parties.*

*The Party may wish to explore referring the reader to table NIR 1 (KP-LULUCF reporting tables included in **decision 6/CMP.3**).*

*11.3.1.3 Information on whether or not indirect and natural GHG emissions and removals have been factored out*

**Required by paragraph 7 of the annex to decision 15/CMP.1 to be reported by Parties.**

*11.3.1.4 Changes in data and methods since the previous submission (recalculations)*

*11.3.1.5 Uncertainty estimates*

*11.3.1.6 Information on other methodological issues*

*The Party may explore providing information on measurement intervals, inter-annual variability, etc (see, inter alia, section 4.2.3 of the IPCC good practice guidance for LULUCF*

*11.3.1.7 The year of the onset of an activity, if after 2008*

**For the purpose of accounting, as required by paragraph 18 of the annex to decision 16/CMP.1 (Land use, land-use change and forestry).**

*11.4 Article 3.3*

*11.4.1 Information that demonstrates that activities under Article 3.3 began on or after 1 January 1990 and before 31 December 2012 and are direct human-induced*

*11.4.2 Information on how harvesting or forest disturbance that is followed by the re-establishment of forest is distinguished from deforestation*

*11.4.3 Information on the size and geographical location of forest areas that have lost forest cover but which are not yet classified as deforested*

*11.5 Article 3.4*

*11.5.1 Information that demonstrates that activities under Article 3.4 have occurred since 1 January 1990 and are human-induced*

*11.5.2 Information relating to Cropland Management, Grazing Land Management and Revegetation, if elected, for the base year*

*11.5.3 Information relating to Forest Management*

*11.5.3.1 That the definition of forest for this category conforms with the definition in item 11.1 above*

*11.5.3.2 That forest management is a system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological (including biological diversity), economic and social functions of the forest in a sustainable manner (paragraph 1 (f) of the annex to decision 16/CMP.1 (Land use, land-use change and forestry))*



## 11.6 Other information

### 11.6.1 Key category analysis for Article 3.3 activities and any elected activities under Article 3.4

Annex 1 Parties who are also Parties to the Kyoto Protocol are required to report key category analysis for KP-LULUCF in table NIR.3 and in the context of section 5.4 of the IPCC good practice guidance for LULUCF.

*If Parties have elected to report information on the KP-LULUCF key category analysis in either chapter 1.5.2 or in annex 1, then it may consider using internal document cross-referencing to refer the reader to the location of this information. If the Party elects to include the information in this chapter it may consider providing table NIR.3 (KP-LULUCF reporting table included in **decision 6/CMP.3**), and a discussion on the outcomes of the key category analysis and how this analysis is used to prioritise improvement of the KP-LULUCF inventory.*

## 11.7 Information relating to Article 6

**Paragraph 3 of the annex to decision 15/CP.10** includes a provision in the NIR outline on information relating to Article 6 (Joint Implementation projects). The annotation provided with this provision states that the identification code in the relevant KP-LULUCF CRF tables for activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol should include a specific indication of whether the boundary of the geographical location encompasses land subject to a project under Article 6 of the Kyoto Protocol.

*Parties may wish to consider providing this information, if applicable, in this section of the NIR.*

## Chapter 12: Information on accounting of Kyoto units

### 12.1 Background information

### 12.2 Summary of information reported in the SEF tables

Annex I Parties are required to report from its national registry holding of, and transactions of, Kyoto units (ERUs, CERs, ICERs, tCERs, AAUs and RMUs) in the previous calendar year (**paragraph 10 of the annex to decision 15/CMP.1**). Further, **paragraph 11 of the annex to decision 15/CMP.1** requires Parties to report this information using the standard electronic format (SEF) tables defined in the **annex to decision 14/CMP.1**.

*Parties may wish to explore providing here a summary of information reported in the SEF and a discussion with a view to including qualitative and quantitative information to improve the transparency of reporting.*

*National Focal Points of Parties may wish to consider obtaining from the national registry system administrator guidance documentation on the SIAR and SEF in order to ensure that its annual submission includes all information and the required reports in accordance with the relevant decisions. These guidance documents include in table format explicit reporting requirements and correspondence to decision text (13/CMP.1; 15/CMP.1).*

### 12.3 Discrepancies and notifications

Annex I Parties are required to report on specific provisions included in **paragraphs 12 to 16 of the annex to decision 15/CMP.1**, namely to submit reports on: list of discrepancies (paragraph 12 of the annex to decision 15/CMP.1); list of notifications received from Executive Board of the CDM on (i) reversal of storage (paragraph 13 of the annex to decision 15/CMP.1) and (ii) failure of certification (paragraph 14 of the annex to decision 15/CMP.1); list of non-replacements (paragraph 15 of the annex to decision 15/CMP.1); and a list of invalid Kyoto units (paragraph 16 of the annex to decision 15/CMP.1).

*Parties may wish to provide this information here in summary form using tables and complemented with a general discussion. The Party may wish to explore the use of internal document cross-referencing to refer a reader to annex 6 of the NIR that contains more detailed information on each of the above reports and any other additional and detailed information submitted by the Party in support of this requirement.*

*National Focal Points of Parties may wish to consider obtaining from the national registry system administrator guidance documentation on the SIAR and SEF in order to ensure that its annual submission includes all information and the required reports in accordance with the relevant decisions. These guidance documents include in table format explicit reporting requirements and correspondence to decision text (13/CMP.1; 15/CMP.1).*

### 12.4 Publicly accessible information

**Section E of the annex to decision 15/CMP.1** outlines provisions for the national registry to support, via a user-interface, non-confidential information being made available to the public.

*The Party may wish to provide the internet address where this information is publicly available. A discussion could complement this information, particularly if the Party deems such information to be confidential.*

### 12.5 Calculation of the commitment period reserve (CPR)

**Paragraph 18 of the annex to decision 15/CMP.1** requires Parties to report its calculation of the commitment period reserve.

*This requirement is most relevant to those Parties whose CPR is based on its most recently reviewed annual inventory.*

*For those Parties whose CPR is based on the assigned amount and therefore fixed during the commitment period, the Party may explore providing a sentence to this effect in this section.*

### 12.6 KP-LULUCF accounting

*Parties may wish to explore reporting detailed information and explanation on its accounting of KP-LULUCF activities, including the accounting quantity. Further, the Party may consider providing in the NIR (or in annex 6) the accounting quantity table.*

### **Chapter 13: Information on changes in national system**

**Paragraph 21 of the annex to decision 15/CMP.1** requires Parties to report on any changes to its national system when compared to the previous submission.

*Parties may wish to explore providing the required information as a list and complemented with a description and explanation on the change(s) to the national system when compared to the previous submission. Further, Parties, where appropriate, may wish to explore complementing the description of the change with a diagram or flow chart. Parties may consider providing more detailed information of diagrams in annex 6 of the NIR.*

### **Chapter 14: Information on changes in national registry**

**Paragraph 22 of the annex to decision 15/CMP.1** requires Annex I Parties to include in its NIR information on any changes that have occurred in its national registry, compared with information reported in its last submission, including information submitted in accordance with **paragraph 32 of the annex to decision 15/CMP.1**.

*Parties may wish to provide this information here in summary form using tables and complemented with a general discussion. The Party may wish to explore the use of internal document cross-referencing to refer a reader to annex 6 of the NIR that contains more detailed information on the change(s) to a national registry and any other additional and detailed information submitted by the Party in support of this requirement.*

*National Focal Points of Parties may wish to consider obtaining from the national registry system administrator guidance documentation on the SIAR and SEF in order to ensure that its annual submission includes all information required by paragraph 22 of the annex to decision 15/CMP.1. These guidance documents include in table format explicit reporting requirements and correspondence to decision text (13/CMP.1; 15/CMP.1).*

### **Chapter 15: Information on minimization of adverse impacts in accordance with Article 3, paragraph 14**

Parties included in Annex I are required to provide information relating to how it is striving under Article 3.14 to implement its commitments mentioned in Article 3.1. This section should provide an overview of its commitments under Article 3, paragraph 1, and how these are to be implemented to minimize adverse social, environmental and economic impacts on developing countries.

Further, Parties included in Annex II, and other Parties included in Annex I that are in a position to do so, are required to incorporate information on how priority is given in implementing their commitments under Article 3.14 to numerous actions listed in **paragraph 24 of the annex to decision 15/CMP.1**.

## REFERENCES

### ANNEXES TO THE NATIONAL INVENTORY REPORT

#### **Annex 1:** Key categories

- Description of methodology used for identifying key categories, *including for KP-LULUCF*.
- Reference to the key category tables in the CRF, *including in the KP-LULUCF CRF tables*).
- Information on the level of disaggregation
- Tables 7.A1 - 7.A3 of the IPCC good practice guidance
- *Table NIR.3, as contained in the **annex to decision 6/CMP.3**.*

**Annex 2:** Detailed discussion of methodology and data for estimating CO<sub>2</sub> emissions from fossil fuel combustion

**Annex 3:** Other detailed methodological descriptions for individual source or sink categories, *including for KP-LULUCF activities*

*Parties may wish to consider providing in this annex detailed information on methodologies used in the KP-LULUCF inventory, particularly if higher tier methods and models have been used. Further, a Party may also consider presenting here detailed information and discussion on activity data, emission factors, verification activities, etc.*

A.3.X (sector or category name)

**Annex 4:** CO<sub>2</sub> reference approach and comparison with sectoral approach, and relevant information on the national energy balance

**Annex 5:** Assessment of completeness and (potential) sources and sinks of greenhouse gas emissions and removals excluded for the annual inventory submission *and also for the KP-LULUCF inventory*

A.5.1: GHG inventory

A.5.2: *KP-LULUCF inventory*

**Annex 6:** Additional information to be considered as part of the annual inventory submission and the *supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol* or other useful reference information

A.6.1: Annual inventory submission

A.6.2: *Supplementary information under Article 7.1*

*Parties may wish to explore using this annex to provide more detailed information on any of the elements of the supplementary information required under Article 7, paragraph 1, of the Kyoto Protocol. This information could comprise:*

1. *KP-LULUCF (accounting table, CRF and/or NIR tables)*
2. *Standard electronic format (SEF) tables*
3. *More detailed information (including diagrams etc.) on the national system and changes in the national system*
4. *More detailed information on the national registry and the accounting of Kyoto units, including*
  - a. *changes in the national registry*
  - b. *reports required by decision 15/CMP.1, namely list of discrepancies (Annex, paragraph 12), notifications from the Executive Board of the CDM on reversal of storage (Annex, paragraph 13) and on failure of certification (Annex, paragraph 14), record on non-replacement (Annex, paragraph 15) and invalid*

*Kyoto units (Annex, paragraph 16)*

- c. actions undertaken to correct any problems that caused a discrepancy, any changes to the national registry to prevent a discrepancy from reoccurring, and the resolution of any previously identified questions of implementation pertaining to transactions (Annex, paragraph 17)*
  - d. publicly available information (section II.E, paragraph 44 of the annex to decision 13/CMP.1)*
- 5. More detailed information on adverse impacts under Article 3, paragraph 14, of the Kyoto Protocol, including changes in information since it was previously submitted.*

**Annex 7:** Tables 6.1 and 6.2 of the IPCC good practice guidance

*Parties may explore reporting here the IPCC good practice table 6.1 for uncertainties.*

*The Party could explore the use of internal document cross-referencing to refer a reader to chapter 1.7 of the NIR where uncertainties for specific activities within the KP-LULUCF inventory are described and/or discussed further, and, if applicable, to where table 6.1 (for the KP-LULUCF inventory) is reported..*

**Annex 8:** Other annexes - (Any other relevant information – optional).

## **Annex-A: Checklist for reporting on the national system (and a change to the national system)**

The checklist below is consistent with the provisions of **paragraphs 10 to 17 of the annex to decision 19/CMP.1** (Guidelines for national systems under Article 5, paragraph 1, of the Kyoto Protocol, regarding the specific requirements on the national system for a Party.

Parties are encouraged to use this check-list for self-verification in order to ensure that its annual submission contains the required information on its national system, and a change to its national system (as required by **paragraph 22 of the annex to decision 15/CMP.1**.

| CHECKLIST FOR REPORTING ON THE NATIONAL SYSTEM AND ON CHANGES TO THE NATIONAL SYSTEM                                |   |   | Provided      | Changes <sup>2</sup> |
|---|---|---|---------------|----------------------|
| Reporting requirements from paragraphs 10 to 17 of the annex to decision 19/CMP.1 (guidelines for national systems) | <b>General functions of the national system:<sup>1</sup></b>  |   |               |                      |
|   | 10(a)   | Information the institutional, legal and procedural arrangements and maintenance thereof  | <i>shall</i>  |                      |
|   | 10(b)   | Information on the capacity for timely performance of the general and specific functions of the NS  | <i>shall</i>  |                      |
|   | 10(b)   | Information on the technical competence of staff  | <i>shall</i>  |                      |
|   | <b>Specific functions of the national system:<sup>1</sup></b> |   |               |                      |
|   | <b>Inventory Planning</b>                                     |   |               |                      |
|   | 12(a)   | Information on the designated single national entity with overall responsibility for the national inventory   | <i>shall</i>  |                      |
|   | 12(b)   | Contact details of the single national entity   | <i>shall</i>  |                      |
|   | 12(c)   | Information on the actors <sup>3</sup> , institutional, legal and procedural arrangements and how these relate to the roles and responsibilities, and cooperation between, in the inventory development process   | <i>shall</i>  |                      |
|   | 12(d)   | Elaborated QA/QC plan <sup>4</sup>  | <i>shall</i>  |                      |
|   | 12(e)   | Information on the official consideration and approval of the inventory, including for recalculations   | <i>shall</i>  |                      |
|   | 13  | Information on the process of inventory improvement <sup>5</sup>  | <i>should</i> |                      |
|   | <b>Inventory Preparation</b>                                  |   |               |                      |
|   | 14(a)   | Information on the identification of key categories   | <i>shall</i>  |                      |
|   | 14(b)   | Information on the estimates of emissions and removals and how they are prepared in accordance with the Revised 1996 IPCC guidelines and IPCC good practice guidance (and IPCC good practice guidance for LULUCF) | <i>shall</i>  |                      |
|   | 14(b)   | Information on choice of method for key category(s)   | <i>shall</i>  |                      |
|   | 14(c)   | Information on the collection of activity data, process information and emission factors to support selected methods  | <i>shall</i>  |                      |
|   | 14(d)   | Information on uncertainty analysis (for each category and the total inventory)   | <i>shall</i>  |                      |
|   | 14(e)   | Information on recalculations   | <i>shall</i>  |                      |
|   | 14(g)   | Information on (and evidence of) general inventory QC (tier 1) procedures <sup>4</sup>  | <i>shall</i>  |                      |
|   | 15(a)   | Information on (and evidence of) category-specific QC (tier 2) procedures <sup>4</sup>  | <i>should</i> |                      |
|   | 15(b)   | Information on (and evidence of) QA procedures <sup>3</sup>   | <i>should</i> |                      |
|   | 15(c)   | Information on implemented or planned more extensive review of key categories or categories where significant change has occurred (method and/or data)  | <i>should</i> |                      |
|   | 15(d)   | Information on how 15(b) and 15(c) relate to evaluation of inventory planning process in order to meet quality objectives   | <i>should</i> |                      |
|   | <b>Inventory Management</b>                                   |   |               |                      |
|   | 16(a)   | Information on how this information is archived.  | <i>shall</i>  |                      |
| 16(b)   | Information on what information is archived.                  | <i>should</i>   |               |                      |

1 Not all provisions of 15/CMP.1 are provided.

2 Changes to a national system are required to be reported in accordance with paragraph 22 of the annex to decision 15/CMP.1

3 Description of the actors, as outlined in 10(a), including statistical services and other entities involved in data collection, and staff/entities involved in choice of methods, processing and archiving, and QA and QC.

4 Description (and evidence) of specific QC and overall QA procedures, and quality objectives.

- 5 Description of how information from the implementation of the QA/QC program and Article 8 expert review link to an overarching inventory improvement plan, and on how this plan considers ways to review the QA/QC plan and its quality objectives and to improve the quality of AD, EFs and other technical elements of the inventory.



## Annex-B: Checklist for reporting of KP-LULUCF

The checklist below is consistent with the provisions of paragraphs 5 to 9 of the annex to decision 15/CMP.1 regarding the specific requirements on the reporting of KP-LULUCF. Further, it is consistent with the template used in the initial checks of annual submissions under the Kyoto Protocol.

Annex I Parties may explore using this checklist prior to the official submission of its annual submission to ensure all required information is reported.

| <b>CHECKLIST FOR KP-LULUCF REPORTING</b>  |  | <b>Provided</b> |
|---|--|-----------------|
| <b>Reporting requirements from paragraphs 5 to 9 in the annex to decision 15/CMP.1</b>                                    | <b>Emissions by sources and removals by sinks are clearly distinguished from emissions from Annex A sources.</b>   |                 |
|   | <b>Information on how inventory methodologies have been applied taking into account IPCC good practice guidance for LULUCF and decision 16/CMP.1.</b>  |                 |
|   | <b>Information on geographical location of the boundaries of areas that encompass:</b>   |                 |
|   | Units of land subject to activities under Article 3.3  |                 |
|   | Units of land subject to activities under Article 3.3, which would otherwise be included in land subject to elected activities under Article 3.4   |                 |
|   | Land subject to elected activities under Article 3.4   |                 |
|   | <b>Information on the spatial assessment unit for determining the area of accounting for afforestation, reforestation and deforestation.</b>   |                 |
|   | <b>Information on GHG resulting from activities under Article 3, paragraphs 3 and 4, for all geographical locations reported in the current and previous years since the beginning of the commitment period or the onset of the activity, whichever comes later.</b> |                 |
|   | <b>Information on which pools (above-ground / below-ground biomass, litter, dead wood and soil organic carbon) were not accounted for.</b>   |                 |
|   | <b>Information should also be provided which indicates whether anthropogenic GHG from LULUCF activities under KP3.3 + 3.4 factor out removals from</b>   |                 |
|   | Elevated carbon dioxide concentrations above pre-industrial levels;  |                 |
|   | Indirect nitrogen deposition   |                 |
|   | The dynamic effects of age structure resulting from activities prior to 1 January 1990.  |                 |
|   | <b>Specific information to be reported for Article 3.3 activities:</b>   |                 |
|   | Information that activities under Article 3.3 began on or after 1 January 1990 and before 31 December of the last year of the commitment period.   |                 |
|   | Information on how harvesting or forest disturbance that is followed by the re-establishment of forest is distinguished from deforestation.  |                 |
|   | Information on emissions/removals from lands harvested during the 1 <sup>st</sup> commitment period following afforestation and reforestation on these units of land since 1990.   |                 |
|   | <b>Specific information to be reported for Article 3.4 activities:</b>   |                 |
|   | Information that activities under Article 3.4 occurred since 1 January 1990 and are human induced.   |                 |
|   | Cropland management, grazing land management, revegetation: emissions/removals reported for each year of the commitment period and for the base year for each of the elected activities on the geographical locations reported.                                      |                 |
| Information that emissions/removals from Article 3.4 activities are not accounted for under activities under Article 3.3. |  |                 |
| Forest management: information on the extent GHG removal by sinks offsets the debit incurred under Article 3.3.           |  |                 |