

## **Preliminary guidance for experts participating in the individual reviews of national greenhouse gas inventories**

*Updated version for the review of 2001 inventory submission  
September 2001*

### **I. INTRODUCTION**

1. The secretariat prepared this preliminary guidance with the assistance of three experts from the roster, Ms Astrid Olsson (Sweden), Mr. Bill Irving (USA) and Mr. Todd Ngara (Zimbabwe). Its aim is to help review experts in performing their tasks and to promote consistency in the different types of reviews of national greenhouse gas (GHG) inventories (desk, centralized and in-country review teams) during the trial period for the technical review of GHG inventories.
2. This guidance has a preliminary character. It is a live document subject to changes during the trial period. Experts participating in different individual reviews will be asked to assess the usefulness of the guidance and to make suggestions for its improvement.
3. This document contains two parts and two addenda:
  - (a) General information. This part provides background for reviewers, and detailed explanations of all the materials provided in the review package;
  - (b) Additional tasks for the lead authors. This part identifies those tasks to be performed by the lead authors of the expert review teams that do not fall under any specific sector or source category review. This guidance for lead authors is mainly addressed to lead authors of desk reviews, however, many elements of the guidance are also applicable for lead authors of centralized and in-country reviews.
  - (c) Annex I: Review report. This part outlines the structure of the final written document to be completed by the expert review team under the direction of the lead authors and co-ordination of the secretariat.
  - (d) Annex II: Review checklist: This list of questions aims at helping reviewers to focus on specific areas during the review.

### **II. GENERAL INFORMATION**

#### **A. Background**

4. Decision 6/CP.5 adopted for a trial period covering inventory submissions due in 2000 and 2001 the guidelines for the technical review of greenhouse gas inventories from Annex I Parties (contained in document FCCC/CP/1999/7, part IV) (FCCC/CP/1999/6).
5. The technical review process comprises three stages:
  - (a) Initial check of annual inventories;
  - (b) Synthesis and assessment of annual inventories; and

- (c) Expert review of individual inventories (individual review).

(The stages of the technical review process complement each other. Experts participating in the individual review use the information resulting from previous stages.)

6. During the trial period the secretariat is requested to organize individual reviews of greenhouse gas inventories for a limited number of Annex I Parties which have volunteered to participate. In decision 6/CP.5 it was also decided that individual reviews of all Annex I Parties will be initiated in 2003.

### **B. Objective of the GHG inventory review**

7. The main overall objective of the GHG inventory review is to ensure that the Conference of the Parties (COP) has adequate information on the greenhouse gas inventories and greenhouse gas emission trends, and to provide the COP with a technical assessment of Annex I Parties' implementation of Articles 4.1(a) and 12.1(a) of the Convention.

8. The inventory review should also assess the progress of Parties towards fulfilling the requirements outlined in the UNFCCC Reporting Guidelines on annual inventories. The reviews and the result of the reviews will help Annex I Parties improve their inventories with guidance from the reviewing experts and share experiences on inventory work with other Parties.

### **C. What needs to be done?**

9. The expert review teams participating in individual reviews have to provide the COP with a thorough technical assessment of the implementation of the commitments of Annex I Parties under Articles 4.1(a) and 12.1(a) of the Convention. This information has to be included in the review report.

10. The assessment of the fulfilment of the requirements of the guidelines should also include the use of the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, hereinafter referred to as IPCC guidelines, as well as the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*, hereinafter referred to as good practice guidance. Experts should be aware that Parties have not yet fully implemented the use of the good practice guidance (see paragraph 36 below).

11. The UNFCCC guidelines for the technical review of greenhouse gas inventories include main elements that should be considered during the review.

12. The review experts should, check the consistency with the UNFCCC reporting guidelines, including the use of the IPCC guidelines and good practice, , look at questions raised in previous stages of the review as well as questions raised in previous year reviews for the whole inventory and for each sector and key source, and where possible, but in particular for the in-country review, look at the institutional arrangements, documentation and archiving procedures. The review experts should also identify areas of improvement in the Party's inventory as a whole and for the methodologies used and the reporting of inventory information.

13. Since during the centralized and the desk reviews two experts work on the same sector, a close co-operation between them is needed. The review experts should share their

views and consolidate their conclusions on the identified findings for each individual GHG inventory under review.

**D. How should the work be done?**

14. The review report is prepared under the collective responsibility of the whole expert review team.

15. The product of the individual greenhouse gas inventory review should be a written report no longer than 25 pages. A draft version of this report will be sent to Parties for comments, in accordance with the provisions of the review guidelines. The comments from the Parties, if any, will be taken into account for the finalization of the report before it is published on the UNFCCC web site.

16. The review report should contain an overview section for the review of the whole inventory, which is prepared by the expert invited to work as a generalist, as well as sections for each sector, which are prepared by the experts reviewing the individual sectors.

17. The secretariat will provide the review experts with the basic information needed for the review. The Party's inventory submission, which includes the common reporting format (CRF) and the national inventory report (NIR), will be the focus of the review. The CRF-tables and the NIR should include enough information for the reviewers to be able to perform their task. If the Party has not provided a NIR, or if there is not enough information in the NIR to enable a full review, the Party has not fully implemented the UNFCCC Reporting Guidelines. In this case, information should be requested by review experts as appropriate. This should be noted in the review report.

18. Additional basic materials for conducting the individual reviews include:

**Review reports and related information**

- (a) The status report;
- (b) The synthesis and assessment report (including inventory information in tabular form for all Annex I Parties (section I) and potential issues/preliminary findings for the individual Party (section II));
- (c) The Party's comments on the status report and the synthesis and assessment report;
- (d) Results from previous inventory reviews;
- (e) Key source assessment on annual inventories by Annex I Parties;

**Guidelines**

- (f) The UNFCCC reporting guidelines (FCCC/CP/1999/7);
- (g) The UNFCCC guidelines for the technical review of GHG inventories from Annex I Parties (FCCC/CP/1999/7), which provide guidance on how the review should be conducted;

(h) The Revised 1996 IPCC Guidelines and IPCC Good Practice Guidance to be used in the review of each individual sector  
(see <http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.htm> and <http://www.ipcc-nggip.iges.or.jp/public/gp/gpgaum.htm>, respectively).

19. Reviewers are requested to study these materials before the beginning of the individual reviews.

20. Reviewers are requested to :

(a) Prepare questions to Party(ies) that are necessary to be clarified to complete the review report and send them to Party(ies) through the secretariat; and

(b) Prepare the review report (see Annex I).

### **E. Summary and description of materials for the review**

The Party (ies)' inventory submission(s)

#### The CRF-tables

21. The CRF-tables should include all emission estimates for the whole time series, activity data and other related data, including calculated implied emission factors for all sources and sinks. These tables are the basis for the preparation of the status report and the synthesis and assessment report.

22. The CRF-tables should be used together with the NIR throughout the whole process of the individual review,.

#### The National Inventory Report

23. If the NIR is prepared following the UNFCCC reporting guidelines on annual inventories, it should include ALL necessary information for the reviewers to perform their task. In the document FCCC/CP/1999/7, which contains these guidelines, paragraphs 32-34 state what information shall be included in the NIR.

24. The reviewer should be able to find all the necessary information regarding annual inventories as well as calculation sheets in each sector for all years from the base year to the year of the current annual inventory submission, methodology used, available activity data, emission factors, the rationale for these choices, information on the implementation of uncertainty and quality assurance/quality control (QA/QC) procedures, information on any recalculations related to previously submitted data and a separate section identifying changes to previous years regarding methodologies used, sources of information and assumptions, as well as responses to the review process.

25. The national inventory report is the main document/main “reference” material to be used for the individual review. This is the only stage of the review process where the NIR is reviewed in detail.

## Outcomes from the review process

### The status report

26. The status report is the result of the initial check stage of UNFCCC inventory review. It summarises the contents of a Party's submission and gives an indication as to the completeness of the inventory submission (i.e. gases and years provided, tables provides for each inventory year, submission of a national inventory report and a short description of its content). The status report may give the reviewer a first "hint" if something might be missing from the submitted inventory. The reviewer should check if the Party has provided any additional information to explain the missing data. (See section on "Party's response to the status report and the synthesis and assessment report").

### The synthesis and assessment report

27. The purpose of the synthesis and assessment of Annex I Parties' greenhouse gas inventories are to facilitate the consideration of inventory data and other information across Parties, and to identify issues for further consideration during the review of individual inventories. This report consists of two sections.

#### *Section I*

28. This section contains information on Parties' inventories in a tabular format to provide comparisons of data across the Parties. It presents emission data, implied emission factors, activity data and information on methods and emission factors used, as reported in the CRF, data from international sources, and other information related to greenhouse gas inventory estimates. This section of the report focuses mainly on those source categories that are key sources for most of the countries. For the whole list of key sources see the section on "Key Sources Assessment".

29. Reviewers are recommended to assess in depth the information provided by the Party under review and compare the national data with data from other Parties and, if available, data from International organizations (United Nations, International Energy Agency etc.)

30. For this purpose reviewers are recommended to use in depth the corresponding information of the national inventory under review in all tables of section 1 of the synthesis and assessment report. For example, it is possible to compare national energy data with data from the IEA, or to compare implied emission factors for many sources to those of other Parties. Such comparisons do not necessarily identify problems with an inventory but may help to focus the review. If, however, problems are identified, then they should be forwarded to the Party (through the secretariat) or incorporated in the draft report for the Party.

#### *Section II*

31. Prior to the individual inventory review, technical experts analysed the inventory information during the synthesis and assessment to identify issues for further consideration during the review of individual inventories. Section II of the synthesis and assessment report contains these identified issues on a country-by-country basis.

32. This part of the synthesis and assessment report goes into more details in the findings than in initial checks. It also assesses the consistency of the CRF-tables with the national inventory report, time series consistency, recalculations, self-verification, information on the status report, and a sector-by-sector analysis.

33. Reviewers should follow up on all potential issues/problems identified in the preliminary findings, after checking if the Party has provided any additional information with explanations/reasons for the questions/findings raised in the synthesis and assessment report.

#### *Party's response to the status report and the synthesis and assessment report*

34. The Party has the opportunity to comment on the status report and the synthesis and assessment report. Hopefully the Party being reviewed is able to address the issues raised in these first stages of the review process and provide explanations and additional information. This information is an important supplement to the submitted national inventory report and might facilitate the individual reviews.

#### *Results from Previous Inventory Reviews*

35. In previous years, reviewers have examined the Party's inventory submission and identified issues and problems, and also recommended areas for improvement. These issues should also be the focus for detailed assessment in the current review period to evaluate the Party's progress over time. The reviewers address the issues identified in previous reviews explicitly in the final report. (Note: For the 2000 submission, previous reviews are limited to the inventory component of the in-depth review of the 2<sup>nd</sup> national communication. For the 2001 inventory submission, the latest review information is, for most countries, that of the synthesis and assessment report of the 2000 submissions)<sup>1</sup>.

#### *Other supporting materials*

#### *Key sources assessment*

36. Key Sources. The IPCC good practice guidance recommends that countries prioritise their key source categories in terms of improving methods and data collection. Because the time available for inventory review is limited, expert reviews should focus mainly on these key source categories during the individual review.

37. For the year 2000 inventory submission, the secretariat had completed the identification of the key sources of all reporting Parties which used the CRF, using the Tier I level assessment of the IPCC good practice guidance (see page 7.7 of the report). This assessment identifies those larger sources which, when summed together, account for 95% of the total emissions *level*. For the inventories submitted in 2001, the secretariat also performed an identification of key sources according to the tier 1 trend assessment. This assessment identifies those source categories whose trend diverges significantly from the total trend, weighted by the emission level of that source category. Key sources using the trend

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<sup>1</sup> This is only the case if the Party submitted a CRF as part of its 2000 submission. For those Parties that did not submit an inventory in the CRF in the year 2000, previous available reviews are those of the inventory component of the in-depth review of the 2<sup>nd</sup> national communications, which can be found on the UNFCCC website: <http://www.unfccc.int/resource/idr.html>.

assessment are those sources which, when summed together, contribute to 95 per cent to the trend of the inventory in absolute terms. However, the key source identification according to the trend assessment was performed for only those Parties that, in addition to the CRF for 1999, also submitted an inventory for the year 1990 in the CRF.

38. As Parties make progress towards complete implementation of IPCC good practice guidance, they will submit the results of their own key source analysis of both the level and the trend. Reviewers are encouraged to use the key source identification provided by Parties and are also encouraged to check whether some of the key sources identified by the secretariat are not included in the key source identification provided by the Party, and try to find the cause for any such possible differences.

#### The Review Report Template

39. The review report template annexed to this preliminary guidance (see Annex A) defines the structure of the review report and describes what should be included in the different sections. It also includes questions that should be addressed by the reviewers in preparing the review report.

#### IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories

40. According to the conclusions of the SBSTA at its 12<sup>th</sup> session, “the good practice guidance should be applied by Annex I Parties to the extent possible for inventories due in 2001 and 2002 and should be used for inventories due in 2003 and beyond. Annex I Parties with economies in transition may phase in the good practice guidance two years later than other Annex I Parties” (FCCC/SBSTA/2000/5).

41. The cross-cutting and source-specific information provided in the good practice guidance can be used as a resource during the individual inventory review. Reviewers are encouraged to use the guidance as an additional source of information on selection and implementation of methods, choice of activity data and emission factors, and also for recommendations on completeness, QA/QC and uncertainty. Good practice also provides a useful reference for ensuring time series consistency, which is a requirement under the UNFCCC reporting guidelines. However, experts should not pass judgements on the non-use of the good practice guidance in the preparation of the national GHG inventory by a given Party until the deadlines for the implementation of the SBSTA conclusions are determined.

### **III. ADDITIONAL TASKS FOR THE LEAD AUTHORS**

42. Lead authors of the individual greenhouse gas inventory review have additional responsibilities to ensure the overall completion of the work. Lead authors should co-ordinate the whole review process and finalize the draft report.

43. Additional tasks for the lead authors include:

(a) Creating a brief “work plan” for the review team, including the time-table for the review and drafting of the report;

(b) Ensuring that the reviewers have all the necessary information;

(c) Working with the review team to prioritize individual source categories for review. This should include a strategy to ensure that all of the non-key sources are eventually reviewed in detail over the course of a few years;

(d) Maintaining constant contact with the other reviewers to monitor the progress of the review;

(e) Co-ordinating all additional questions sent to the Party and the secretariat (generally only through the secretariat);

(f) Helping the reviewers and/or the country in case of questions/problems;

(g) Reviewing the whole inventory, particularly the NIR, for a general assessment of its conformity with the UNFCCC Reporting Guidelines; and

(h) Drafting a 2-3 page overview section according to the outline presented in the document on review report structure.

44. The tasks described in paragraph 38 above have to be adapted to each type of individual review, as appropriate.

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