

OVERVIEW

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1.1 INTRODUCTION

In 1998, the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) invited the Intergovernmental Panel on Climate Change (IPCC) to produce *good practice guidance* to the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC Guidelines)*¹. Since the Parties had already agreed to use² the *IPCC Guidelines* for estimating greenhouse gas emissions and removals, the role of *good practice guidance* was not to replace the *IPCC Guidelines*, but rather to provide advice consistent with them.

The IPCC finished its work in time for the first volume of the *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories (GPG2000)*³ to be accepted at the IPCC Plenary meeting held in Montreal in May 2000. The Conference of the Parties (COP) to the UNFCCC as well as its Subsidiary Body for Scientific and Technological Advice (SBSTA) subsequently endorsed⁴ *GPG2000*. The COP has referred extensively to *GPG2000* in subsequent decisions, including those collectively referred to as the Marrakesh Accords⁵, which were achieved at its seventh session. The Marrakesh Accords also invited the IPCC to develop *good practice guidance* for land use, land-use change and forestry (LULUCF), which is not covered in *GPG2000*. The mandate for this work, the definition of *good practice* in this context, its relationship to the *IPCC Guidelines*, and the practical consequences for inventory agencies are described in more detail below in Sections 1.2, 1.3, 1.4 and 1.6 respectively. Sections 1.5 and 1.7 contain an outline of the present document and a discussion of its policy relevance.

1.2 GOOD PRACTICE GUIDANCE FOR LAND USE, LAND-USE CHANGE AND FORESTRY (LULUCF)

The *GPG2000* did not cover the land-use change and forestry (LUCF) activities described in Chapter 5 of the *IPCC Guidelines*⁶ because during the time that the *GPG2000* was being prepared, the IPCC was also preparing the *Special Report on Land Use, Land-Use Change, and Forestry (SR LULUCF)*. Parallel work on *Good Practice Guidance for LULUCF* would have carried a risk of inconsistency with the Special Report. Furthermore, significant negotiations on LULUCF were underway in the UNFCCC process, and the IPCC recognised that it would be better to develop *Good Practice Guidance for LULUCF* in the light of the outcome of these negotiations.

The LULUCF negotiations relating to the implementation of the Kyoto Protocol were completed (except for those relating to rules and modalities for afforestation and reforestation activities under the clean development mechanism) during the second part of the COP6, and at COP7, which took place respectively in Bonn (July 2001)

¹ Intergovernmental Panel on Climate Change (IPCC). (1997). Houghton J.T., Meira Filho L.G., Lim B., Tréanton K., Mamaty I., Bonduki Y., Griggs D.J. and Callander B.A. (Eds). *Revised 1996 IPCC Guidelines for National Greenhouse Inventories*. IPCC/OECD/IEA, Paris, France.

² Notably the Report of the Fourth Session of the Subsidiary Body for Scientific and Technological Advice (FCCC/SBSTA/1996/20), paragraph 30; decisions 2/CP.3 and 3/CP.5 (UNFCCC reporting guidelines for preparation of national communications by Parties included in Annex I to the Convention, part I: UNFCCC reporting guidelines on annual inventories), 18/CP.8 revising the guidelines adopted under 3/CP.5, and 17/CP.8 adopting improved guidelines for the preparation of national communications from Parties not included in Annex I to the Convention.

³ Intergovernmental Panel on Climate Change (IPCC) (2000). Penman J., Kruger D., Galbally I., Hiraishi T., Nyenzi B., Emmanuel S., Buendia L., Hoppaus R., Martinsen T., Meijer J., Miwa K., and Tanabe K. (Eds). *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*. IPCC/OECD/IEA/IGES, Hayama, Japan.

⁴ Report of the Twelfth session of the SBSTA (FCCC/SBSTA/2000/5), paragraph 40 and decisions 3/CP.5 and 19/CP.8.

⁵ Decisions 1/CP.7 to 24/CP.7, decision 21/CP.7 refers specifically to the use of *Good Practice Guidance* in the context of the Kyoto Protocol.

⁶ The *IPCC Guidelines* refer to Land-Use Change and Forestry (LUCF), but Land Use, Land-Use Change and Forestry (LULUCF) has become the usual term in UNFCCC negotiations and was adopted for the title of IPCC's 2000 Special Report on the subject. LUCF is used in this report when referring specifically to the *IPCC Guidelines*.

and Marrakesh (November 2001). Paragraph 3 in the Decision 11/CP.7⁷ agreed at COP7 contains the requests to the IPCC (see Box 1.2.1).

BOX 1.2.1
INVITATION TO THE IPCC IN THE MARRAKESH ACCORDS, DECISION 11/CP.7

The Conference of Parties.....

3. *Invites* the Intergovernmental Panel on Climate Change (IPCC):

(a) To elaborate methods to estimate, measure, monitor, and report changes in carbon stocks and anthropogenic greenhouse gas emissions by sources and removals by sinks resulting from land use, land-use change and forestry activities under Article 3, paragraphs 3 and 4, and Articles 6 and 12 of the Kyoto Protocol, on the basis of the *Revised 1996 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories*, taking into account the present decision (11/CP.7), and draft decision -/CMP.1 (*Land use, land-use change and forestry*) attached hereto, to be submitted for consideration and possible adoption to the Conference of the Parties at its ninth session;

(b) To prepare a report on *good practice guidance* and uncertainty management relating to the measurement, estimation, assessment of uncertainties, monitoring and reporting of net carbon stock changes and anthropogenic greenhouse gas emissions by sources and removals by sinks in land use, land-use change and forestry sector, taking into consideration the present decision (11/CP.7) and draft decision -/CMP.1 (*Land use, land-use change and forestry*) attached hereto, to be submitted for consideration and possible adoption to the Conference of the Parties at its ninth session;

(c) To develop definitions for direct human-induced ‘degradation’ of forests and ‘devegetation’ of other vegetation types and methodological options to inventory and report on emissions resulting from these activities, to be submitted for consideration and possible adoption to the Conference of the Parties at its ninth session; and

(d) To develop practicable methodologies to factor out direct human-induced changes in carbon stocks and greenhouse gas emissions by sources and removals by sinks from changes in carbon stocks and greenhouse gas emissions by sources and removals by sinks due to indirect human-induced and natural effects (such as those from carbon dioxide fertilization and nitrogen deposition), and effects due to past practices in forests (pre-reference year), to be submitted to the Conference of the Parties at its tenth session.

...

The invitations in paragraphs 3(a) and 3(b) of 11/CP.7 are closely linked, and therefore the IPCC has responded to them by producing a single report on *Good Practice Guidance for LULUCF*, on the basis of the *IPCC Guidelines*. This single report completes the set of *good practice guidance* for all sectors of the *IPCC Guidelines*. The first volume of the *good practice guidance (GPG2000)* covers other sectors of the *IPCC Guidelines* – namely Energy, Industrial Processes, Agriculture and Waste.

The IPCC is addressing the requests under the paragraphs 3(c) and 3(d) of 11/CP.7 separately, and this *Good Practice Guidance for LULUCF* does not rely on them for its application.

⁷ The designation 11/CP.7 means the 11th decision adopted by the COP to the UNFCCC at its 7th session. The designation -/CMP.1 refers to draft decisions which will be considered by the COP when it meets for the first time serving as the Meeting of the Parties to the Kyoto Protocol.

1.3 DEFINITION OF INVENTORIES CONSISTENT WITH GOOD PRACTICE GUIDANCE

GPG2000 defines inventories consistent with *good practice* as those which contain neither over- nor under-estimates so far as can be judged, and in which uncertainties are reduced as far as is practicable⁸.

When applied to LULUCF, this definition from *GPG2000* should ensure that estimates of carbon stock changes, emissions by sources and removals by sinks, even if uncertain, are *bona fide* estimates, in the sense of not containing any biases that could have been identified and eliminated, and that uncertainties have been reduced as far as practicable given national circumstances. Estimates of this type are presumably the best attainable, given current scientific knowledge and available resources. *Good practice* aims to satisfy the definition by providing guidance on:

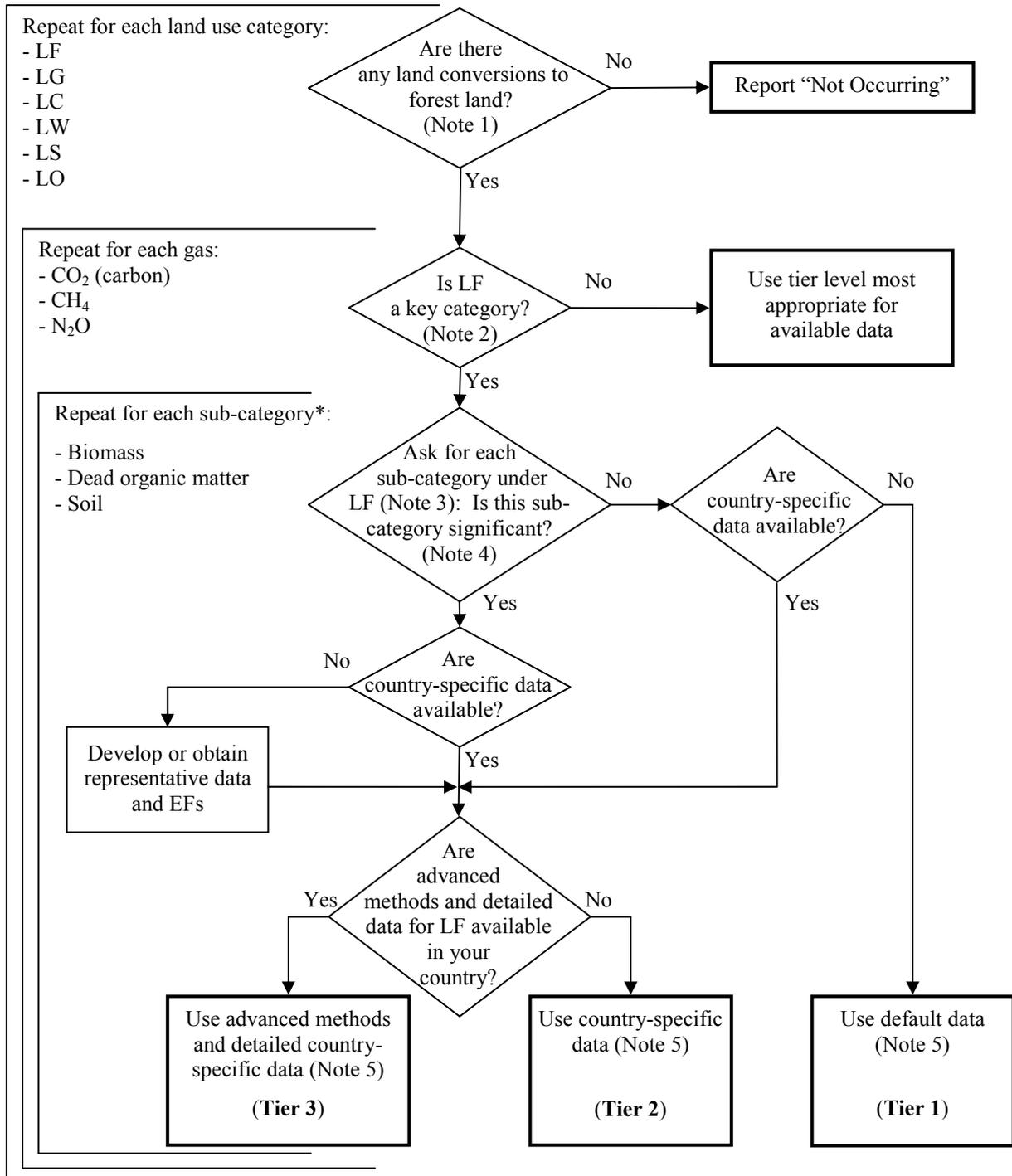
- Choice of estimation method within the context of the *IPCC Guidelines*;
- Quality assurance and quality control procedures to provide cross-checks during inventory compilation;
- Data and information to be documented, archived and reported to facilitate review and assessment of inventory estimates; and
- Quantification of uncertainties at the source or sink category level and for the inventory as a whole, so that resources available can be directed toward reducing uncertainties over time, and the improvement can be tracked.

Good practice guidance further supports the development of inventories that are transparent, documented, consistent over time, complete, comparable, assessed for uncertainties, subject to quality control and assurance, efficient in the use of resources available to inventory agencies, and in which uncertainties are reduced as better information becomes available.

GPG2000 introduced a method to identify the *key sources* that should be prioritised by using more detailed (higher tier) estimation methods where resources are available, because of their significance in affecting absolute level or trend in emissions, their uncertainty, or qualitative factors such as unexpectedly high or low estimates. Chapter 5.4 of this report extends the key source analysis to LULUCF *categories*. The approach augments the key source categories identified without consideration of LULUCF by those identified as key by analysis of the whole inventory including LULUCF categories. Activities under Articles 3.3 and 3.4 of the Kyoto Protocol are key if the associated Chapter 3 category is key, or if the effect of activities spread over several Chapter 3 categories is larger than Chapter 3 categories that are key, or on qualitative grounds. The outcome of the *key category* analysis is then used in decision trees to guide the choice of estimation method for use in preparing the inventory. Figure 1.1 shows an example decision tree (the abbreviations LF, LG, LC, LW, LS and LO in Figure 1.1 are explained in the “Abbreviations and Acronyms” at the end of this report).

⁸ See *GPG2000* Section 1.3.

Figure 1.1 Decision tree for identification of appropriate tier-level for land converted to another land-use category (example given for land converted to forest land, LF)



Note 1: The use of 20 years, as a threshold, is consistent with the defaults contained in the *IPCC Guidelines*. Countries may use different periods where appropriate to national circumstances.

Note 2: The concept of key categories is explained in Chapter 5, Subsection 5.4 (Methodological Choice – Identification of Key Categories).

Note 3: See Table 3.1.2 for the characterisation of sub-categories.

Note 4: A sub-category is significant if it accounts for 25-30% of emissions/removals for the overall category.

Note 5: See Box 3.1.1 for definition of Tier levels.

* If a country reports harvested wood products (HWP) as a separate pool, it should be treated as a sub-category.

1.4 RELATIONSHIP TO THE IPCC GUIDELINES

As explained in the introduction, *good practice guidance* needs to be consistent with the *IPCC Guidelines* since the Parties have agreed to use the latter for estimation of greenhouse gas emissions and removals. *Good Practice Guidance for LULUCF* defines consistency with the *IPCC Guidelines*, using the following three criteria⁹:

- (i) Specific source or sink categories addressed by the *Good Practice Guidance for LULUCF* can be traced back to categories in the *IPCC Guidelines*.
- (ii) *Good practice guidance for LULUCF* uses the same functional forms for the equations that are used in the *IPCC Guidelines*, or their equivalent.
- (iii) *Good practice guidance for LULUCF* allows corrections of any errors or deficiencies that have been identified in the *IPCC Guidelines*.

Good Practice Guidance for LULUCF has some interlinkages with *GPG2000* in estimation of agricultural emissions, particularly nitrous oxide from soils, and must maintain consistency with the advice already agreed upon.

Good Practice Guidance for LULUCF has some additional, though limited and specific, flexibility following the conclusions of the 15th meeting of the Subsidiary Body for Scientific and Technological Advice (SBSTA), held in association with COP7 in Marrakesh. Having noted with appreciation the progress of IPCC's work on LULUCF, the SBSTA:

...encouraged the IPCC to ensure that any elaboration of, or change to, the reporting of categories in Chapter 5¹⁰ of the 1996 Revised IPCC Guidelines for National Greenhouse Gas Inventories allows for a comparison of information reported using *Good Practice Guidance* with previous inventory reporting under the Convention.¹¹

SBSTA suggested this flexibility for the scientific reason that the *IPCC Guidelines* treat all soils as one reporting category, which tends to separate soil organic matter from associated living biomass stocks in the inventory calculations, leading to possible inconsistencies in the estimates due partly to different handling of categories. This advice from SBSTA allows some rearrangement in the *Good Practice Guidance for LULUCF*, as long as the ability to trace back the inventory estimates to the reporting categories in Chapter 5 of the *IPCC Guidelines* is retained. The development of *Good Practice Guidance for LULUCF* has made use of this flexibility, while paying careful attention to the need to ensure consistency with Chapter 5 of the *IPCC Guidelines*.

Criteria (i) to (iii) allow for inclusion of additional source or sink categories on managed land where these are covered under the "Other" category of Chapter 5 of the *IPCC Guidelines*. Default emission or removal factors and model parameters have been updated where these can be linked to particular national circumstances and documented. Advice on more complex methods than those described in the *IPCC Guidelines* is also provided, since the latter anticipate use of such methods¹².

Good Practice Guidance for LULUCF must also serve the needs of the Kyoto Protocol, which introduces LULUCF activities that are a subset of the activities covered in Chapter 5 of the *IPCC Guidelines*. These activities have more precise requirements on definitions, geographical reporting, carbon pools and greenhouse gases to be accounted and *Good Practice Guidance for LULUCF* provides ways to meet these requirements.

1.5 OUTLINE OF PRESENT DOCUMENT

The chapters of the *Good Practice Guidance for LULUCF* are organised as follows:

Chapter 1 Overview

This Chapter sets out the mandate for *Good Practice Guidance for LULUCF*, defines and describes the history of IPCC *good practice guidance* and its relationship to the *IPCC Guidelines*, summarises the practical advice provided to inventory agencies, and discusses policy relevance.

⁹ *GPG2000*, page 1.6.

¹⁰ The Chapter 5 categories referred to are Changes in Forest and Woody Biomass Stocks (5A), Forest and Grassland Conversion (5B), Abandonment of Managed Lands (5C), CO₂ Emissions and Removals from Soil (5D) and Other (5E).

¹¹ Report of SBSTA 15, FCCC/SBSTA/2001/8, paragraph 29(b).

¹² *IPCC Guidelines* (Reference Manual), page 5.4.

Chapter 2 Basis for consistent representation of land areas

The *IPCC Guidelines* contain little, if any, discussion on how to estimate land areas and changes in land area associated with LUCF activities. In practice, countries use a variety of sources including agricultural census data, forest inventories, and remote sensing data, but definitions that different authorities use in assembling the data are not always consistent. Chapter 2 therefore provides advice on different approaches for representing land area depending on the data available. The term “approach” used in Chapter 2 is distinct from the term “tier” used in Chapters 3 to 5. The approaches are not presented as a hierarchy, although the requirements of Article 3.3 and 3.4 under the Kyoto Protocol imply the need for additional supplementary spatial data if Approaches 1 or 2 are used for estimating and reporting on these activities. Using the approaches, singly or in combination, will help ensure the reliability of the area estimates, avoid overlaps and gaps.

The discussion is in terms of six broad categories of land use namely forest land, cropland, grassland, wetlands, settlements, and other land that provide the basis for more detailed discussion in the chapters that follow. Unmanaged as well as managed areas are considered to help ensure consistency of area estimates, although emissions and removals are only estimated in respect of managed areas, as required by the *IPCC Guidelines*.

Chapter 3 LUCF sector good practice guidance

Chapter 3 is organised following the six broad land-use categories identified in Chapter 2. Land may remain in any of these categories (e.g., grassland) or its use may change to another category (e.g., from forest to cropland). Chapter 3 provides advice on the estimation of emissions and removals of CO₂ and non-CO₂ greenhouse gases for both situations, taking account of the long term average carbon stocks associated with particular land uses, and the time taken for carbon stocks to adjust to the new equilibrium following a change in land use. Chapter 3 maintains consistency with the advice in *GPG2000* on estimation of nitrous oxide emissions from land. Decision trees guide the choice of method according to national circumstances. Simple tables are provided to assist countries with the linkage to the *IPCC Guidelines* and *good practices* on the default methods in the *IPCC Guidelines* are clearly identified. There are short summary sections on forest and grassland conversion. The chapter also provides appendices covering wetlands and settlements, for which the *IPCC Guidelines* provide only limited advice and harvested wood products (HWP), which remain under consideration by the UNFCCC. The status of the appendices is further discussed in Section 1.7.

Chapter 4 Supplementary methods and good practice guidance arising from the Kyoto Protocol

The human-induced activities agreed under Article 3.3 of the Kyoto Protocol (afforestation, reforestation and deforestation since 1990), and the activities which Parties may elect to use under Article 3.4 (forest management, cropland management, grazing land management, revegetation) have specific supplementary requirements on temporal and spatial boundaries, identification of areas, avoidance of double counting, inclusion of carbon pools, and dealing with possible definitional differences between LULUCF activities under the Kyoto Protocol and categories under the UNFCCC reporting. These requirements imply the need for supplementary information beyond the information reported in inventories under the Convention. Chapter 4 explains how to use the methods described in the other chapters, and where necessary provides additional methods, to meet these supplementary requirements. Chapter 4 also provides advice on identification of project boundaries and sampling strategies for project activities under Articles 6 and 12 of the Kyoto Protocol. The *good practice* advice for LULUCF related project activities covers only estimation of carbon stock changes and emissions and removals of greenhouse gases within the project boundary; there is no consideration of non-permanence, additionality¹³, leakage, baseline definition or socio-economic and environmental impacts, because these items are under consideration by SBSTA¹⁴.

Chapter 5 Cross-cutting issues

Inventory development is a resource-intensive enterprise, which means that inventory agencies may need to prioritise efforts to improve the estimates by focusing on the more important categories, both in terms of the contribution made to the overall level of emissions and removals, and the contribution to the trend. Chapter 5 provides advice on this, applying the key category concept in *GPG2000* to cover sinks. The Chapter also has sections on quality assurance and quality control, reconstruction of missing data, time series consistency, collecting and analysing data by sampling, quantification and combination of uncertainties, and verification by means of comparison with inventories in other countries, independently compiled datasets, modelling approaches and direct measurements on land and/or atmosphere.

¹³ Whether the emission reductions or removals are additional to those which would have occurred in the absence of the project.

¹⁴ Decision 17/CP.7 in FCCC/CP/2001/13/Add.2.

Glossary

Provides definitions of technical terms commonly used in the Guidance.

1.6 USING THE GUIDANCE - PRACTICAL ADVICE FOR INVENTORY AGENCIES AND OTHERS

Practical advice for using this *good practice guidance* report is given below. The advice summarises how to use the guidance in preparing inventories for submission to the UNFCCC, the additional steps relevant to Parties reporting under Articles 3.3 and 3.4 of the Kyoto Protocol, and the use of the guidance for projects under Articles 6 and 12 of the Kyoto Protocol.

UNFCCC Inventory preparation

Inventory agencies, when preparing the national greenhouse gas inventory for the LULUCF Sector for annual reporting under the UNFCCC, should follow steps 1 to 6:

1. Use the approaches in **Chapter 2** (Basis for Consistent Representation of Land Areas), singly or in combination, to estimate land areas for each land-use category relevant to the country. For each land-use category, inventory agencies should complement the advice in Chapter 2 with the more detailed guidance in Chapters 3 and 4 on the preparation of specific emission and removal estimates and, if relevant, the reporting on the activities under the Kyoto Protocol.
2. Follow the *good practice guidance* in **Chapter 3** (LUCF Sector Good Practice Guidance) to estimate the emissions and removals of greenhouse gases for each land use, land-use change and pool relevant to the country. The decision trees in this chapter guide choices of method in terms of *tiers*. The tier structure used in the *IPCC Guidelines* (Tier 1, Tier 2 and Tier 3) is hierarchical, with higher tiers implying increased accuracy of the method and/or emissions factor and other parameters used in the estimation of the emissions and removals. Key categories should be identified following the guidance in **Chapter 5** and the results taken into account in the application of the decision trees.
3. If necessary, in some cases, collect additional data (if required to implement a particular tier) to improve emission factors, other parameters and activity data.
4. Estimate uncertainties at the 95% confidence level, using sectoral advice and the detailed guidance in **Chapter 5**.
5. Report the emissions and removals in the reporting tables provided in **Chapter 3 Annex 3A.2** taking into account any modifications by SBSTA¹⁵ and any additional information as specified under each category.
6. Implement QA/QC procedures as described in the generic guidance in **Chapter 5** and specific advice under each category, including documentation and archiving of the information used to produce the national emission and removal estimates.

Kyoto Protocol requirements

Inventory agencies, when preparing the supplementary information for annual reporting of carbon stock changes and emissions and removals of greenhouse gas emissions resulting from the activities under Article 3.3 and Article 3.4 of the Kyoto Protocol, should additionally:

7. Assess the extent to which the data assembled for the existing national inventory (following steps 1 to 6 above) can meet the supplementary data requirements set out in the supplementary guidance provided in **Chapter 4** of this report, taking into account national choices on definitions and activities elected under Article 3.4, and the requirements in geographical location.
8. Following this assessment collect or collate any additional information necessary to meet the supplementary data requirements, using the advice in **Chapter 4** and the references it contains to other Chapters.
9. Follow the advice in **Chapter 4** on reporting and documentation when providing the supplementary information in the national inventory report.

National circumstances will determine the sequence in which the reporting information is compiled. For example, it is possible to start with the UNFCCC inventory (with the additional spatial information required for Kyoto Protocol reporting) and expand it to the reporting under the Kyoto Protocol, or it is possible to use a system that

¹⁵ SBSTA 18 requested the UNFCCC secretariat to develop common reporting format for its consideration, in consultation with IPCC - see paragraph 2 in FCCC/SBSTA/2003/10.

generates the information for both UNFCCC and Kyoto Protocol reporting. The precise sequence of steps 1 to 6 and 7 to 9 does not matter as long as the substance is covered.

Projects

Project participants, independent entities and operational entities should use the advice in **Chapter 4, Section 4.3**, as needed, in the overall context of relevant decisions of the COP, when designing, validating and verifying methods to measure and monitor changes in carbon stocks and non-CO₂ greenhouse gases associated with projects activities.

1.7 POLICY RELEVANCE

This Overview and Chapters 2, 3 and 5 are relevant to all countries as they prepare estimates of emissions and removals from the LULUCF Sector, whether or not they ratify the Kyoto Protocol. The first two sections of Chapter 4 provide supplementary information to that in Chapters 2, 3 and 5, which is relevant only to Annex I countries that have ratified the Kyoto Protocol. Section 4.3 (LULUCF Projects) is relevant to all countries that will undertake projects under the Articles 6 or 12 of the Kyoto Protocol.

While many categories within the LULUCF sector are well established and relatively straightforward to estimate, LULUCF is a complex area, and it was clear from the outset that some issues remain under consideration for some emission/removal categories. In particular:

- SBSTA has set out a policy process on harvested wood products (HWP) accounting and reporting that may lead to decisions by the COP and/or COP/MOP¹⁶. However, although the default assumption is that HWP pools are not increasing, the *IPCC Guidelines* allow inclusion of HWP in national inventories if a country can document that existing stocks of long-term forest products are increasing. *Good practice guidance* has therefore been elaborated for the HWP pool. The material provided is in an appendix rather than part of the main text, since SBSTA is still considering this issue. The appendix makes no judgement about possible future decisions on reporting or accounting.
- Settlements and wetlands are land-use categories for which limited methodological guidance was provided in the *IPCC Guidelines*, but a great deal of scientific work has been done since these *Guidelines* were completed in 1996. This applies also to non-CO₂ emissions from drainage and rewetting of forests soils. For these categories and sources, the IPCC determined that *good practice guidance* reflecting the newer scientific information should be developed, but that it should be presented in an appendix to indicate its preliminary nature. The main text on these sections provided sufficient advice to estimate the contribution that conversions to these categories make to national inventories.

Countries do not have to prepare estimates for categories contained in appendices, although they can do so if they desire. The IPCC intends this approach to reflect the prevailing scientific and policy contexts, in a manner that provides useful information to countries as they prepare their inventories while recognising that it is the COP's role to establish general guidelines for inventory reporting and accounting in the UNFCCC context.

- The *IPCC Guidelines* do not explicitly include losses from natural disturbances in *managed* forests although omitting the effect of these disturbances would overestimate carbon uptakes as calculated by the methodology in the *Guidelines*. *Good Practice Guidance* therefore provides guidance on how to account for them.

For Kyoto Protocol reporting, Chapter 4 is intended to provide policy-neutral scientific operationalisation of the COP7 agreement in terms of annual reporting¹⁷. In some cases this has required judgement. In particular:

- In the treatment of the geographical identification issue the phrase *The geographical location of the boundaries of the areas that encompass*¹⁸ is interpreted as consistent with either a sampling approach within a geographical boundary, or complete enumeration of units of area subject to the carbon stock changes and emissions or removals of greenhouse gases due to the activities to be reported.

¹⁶ Conclusions related to emissions from forest harvesting and wood products (Report of the fifteenth session of SBSTA, held at Marrakesh from 29 October to 6 November 2001, paragraph 29(m), page 14). The COP/MOP is the Conference of Parties to the UNFCCC serving as the Meeting of Parties to the Kyoto Protocol.

¹⁷ The terms estimation, reporting and accounting have distinct meanings. Estimation is the process of calculating emissions, and reporting the process of providing the estimates to the UNFCCC. Accounting refers to the rules for comparing emissions and removals as reported with commitments. *GPG2000* and this report deal with estimation and reporting issues, but not accounting for which detailed rules have been established under the Marrakesh Accords.

¹⁸ FCCC/CP/2001/13/Add.3, page 22, paragraph 6(a).

- The use of the *key category* concept and the choice of methodology in relationship to Articles 3.3 and 3.4 activities has been developed in a logical fashion as described in Section 1.3 above, but would not pre-empt any decision as to whether all activities under Articles 3.3 or 3.4 should be treated as key.
- Although it is *good practice* for Article 3.4 activities to match the dominant land use, in some cases (e.g., agroforestry systems) land could fall under either forest management (which is limited by capping) or cropland/grazing land management (which is subject to net-net accounting). In such cases *Good Practice Guidance for LULUCF* suggests that countries should establish national criteria to be applied consistently over time.
- Net-net accounting is taken to require comparison between emissions and removals from the elected activities in the base year and the commitment period, which could lead to comparison of areas that differ in size. Alternative approaches, where areas are changing, would be to normalise to constant area, or maintain constant area over time, possibly the base year area – though this third approach would bring in effects of activities not covered by the Marrakesh Accords, and could increase uncertainties by making the estimation more complex.

Elaboration of the Marrakesh Accords decision on these (or indeed any other matter) would be for the COP; however, the IPCC believes that the interpretations should be acceptable because of the review process and because throughout the development of this report, the IPCC has maintained contact with the Convention process via formal reporting of progress at SBSTA, side events, and attendance at workshops. The development of *Good Practice Guidance for LULUCF* is a step in the IPCC's on-going programme of inventory development and will also support future revisions of the *IPCC Guidelines* themselves.