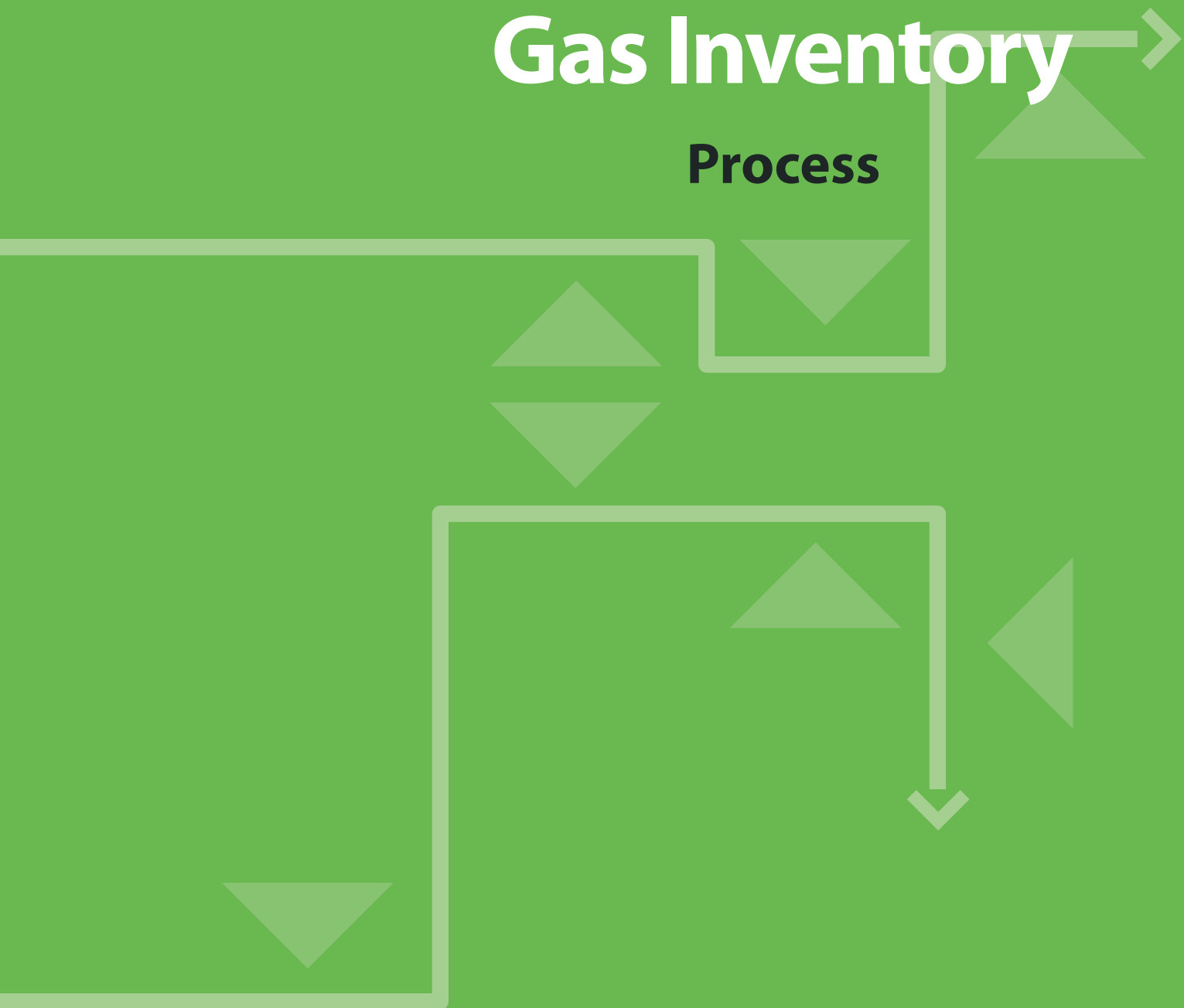


March 2005

# Managing the National Greenhouse Gas Inventory

Process



NATIONAL COMMUNICATIONS SUPPORT UNIT

H A N D B O O K

The user of this handbook is encouraged to read the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and the relevant parts of the IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories and the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry before starting with inventory preparation.

The National Communications Support Unit would like to thank the authors of this handbook for producing such a useful document, which will be of great assistance to non-Annex I Parties as they commence Second National Communications. We also appreciate the time and contributions of the reviewers who have helped make this handbook a much more practical document.

This handbook would not have been possible without the generous funding of the Global Environment Facility and the Government of Switzerland. The National Communications Support Unit would like to thank both donors for their ongoing support of our activities.

The handbook was developed under the leadership of the National Communications Support Unit Programme Associate, Rebecca Carman, who managed a review process in which draft versions were circulated for comments to 130 project co-ordinators of non-Annex I National Communications, interested Annex I Parties, the UNFCCC Consultative Group of Experts on non-Annex I National Communications and the Intergovernmental Panel on Climate Change National Greenhouse Gas Inventories Programme.

Francisco Vasquez designed the cover artwork and Laurie Douglas designed the handbook interior. Rebecca Carman was the production manager.

This handbook does not reflect the views of the United Nations Development Programme nor the Global Environment Facility Secretariat.

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# MANAGING THE NATIONAL GREENHOUSE GAS INVENTORY PROCESS

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# FOREWORD

Compiling a national greenhouse gas (GHG) inventory requires a fairly lengthy and interconnected series of tasks, including collecting emission factors and activity data, selecting appropriate methods, estimating GHG emissions and removals, implementing uncertainty assessment and quality assurance/quality control procedures, reporting the results, and documenting and archiving all relevant data and procedures.

This work requires fundamental decisions about data and methods, the establishment of a network of contacts for accessing data and reviewing results and the design of a system for data management, quality assurance, quality control, documentation and archiving. The inventory process should be planned, operated and managed to ensure optimal quality and efficiency, given available resources. This is especially important as countries produce their second and subsequent national inventories.

The handbook was developed by United Nations Development Programme with input from a wide range of institutions and national experts from Annex I and non-Annex I Parties. The objective of the handbook is to provide non-Annex I Parties with a strategic and logical approach to a sustainable inventory process. This should not only help countries produce more accurate inventories, it may also help enhance efficiency and ensure optimum use of scarce financial and human resources. It is recommended that a significant part of a country's inventory improvement efforts focus on documentation and archiving, because this is critical to the long-term sustainability and institutionalisation of the inventory process.

The target audience for this handbook is non-Annex I Party inventory experts concerned with general aspects of GHG inventory planning, preparation and management. As the majority of non-Annex I Parties have prepared at least one national GHG inventory<sup>1</sup>, this handbook focuses on improving and updating the GHG inventory and on managing these processes, including improved documentation and archiving. Note that this handbook uses the word "management" in its traditional sense of organising, supervising and arranging activities, data or people. This interpretation is different from the more narrowly defined "inventory management" (UNFCCC 2002) that focuses on archiving.

This handbook is meant as a complement to the Intergovernmental Panel on Climate Change (IPCC) inventory guidance, namely:

- the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC 1997),

- the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (IPCC 2000), and
- the *IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry* (IPCC 2003).

The *Revised 1996 IPCC Guidelines* include source specific methods, discussions of the scientific basis of the methods, default emission factors, worksheets for performing inventory calculations and reporting instructions. The GPG manuals are comprehensive technical supplements to the *Revised 1996 IPCC Guidelines*. They are intended to assist countries make more accurate GHG estimates by providing guidance to make inventories that are transparent, documented, consistent over time, complete, comparable, assessed for uncertainties, subject to quality control and quality assurance and efficient in the use of resources. This handbook is not a replacement of the IPCC guidance and should be used in conjunction with it. One significant difference is that this handbook explains how to plan, document and manage the national inventory system, while the IPCC guidance contains inventory methods.

This handbook will be translated into Russian, French and Spanish and disseminated to inventory teams in more than 130 non-Annex I countries. The handbook should be considered a "living" document, i.e., future updates are planned to incorporate feedback from users of the handbook. It is anticipated that much of this feedback will be provided from the countries in the Europe and Commonwealth of Independent States and West and francophone Central Africa regions that are participating in two UNDP-GEF projects on "*Capacity Building for Improving the Quality of National GHG Inventories*". An inventory knowledge base will be developed to supplement the handbook with actual country examples. The knowledge base will be hosted by the National Communications Support Unit ([www.undp.org/cc/](http://www.undp.org/cc/)).

<sup>1</sup> Of the 131 non-Annex I countries that received Global Environment Facility funding to prepare their initial national communication, 117 had submitted their national communications to the United Nations Framework Convention on Climate Change by January 2005.

# 1. INTRODUCTION

## 1.1 International and Non-Annex I Party Context

On 9 May 1992, the world's governments adopted the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC entered into force on 21 March 1994 and as of 24 May 2004, 189 countries (including the European Community) were Parties to the Convention. The objective of the UNFCCC is to stabilise greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous human-induced interference with the climate system. The ability of the international community to achieve this objective is dependent on an accurate knowledge of emissions trends, and on our collective ability to alter these trends. Article 4, paragraph 1(a) and Article 12, paragraph 1(a), of the Convention provide for each Party to report national emissions and removals to the Conference of the Parties (COP). The key mechanism for reporting is the national communication.

In 1996, guidelines for initial national communications for non-Annex I Parties were adopted by the Second COP under Decision 10/CP.2.<sup>2</sup> In 2002, the Eighth COP adopted new guidelines for the preparation of national communications from non-Annex I Parties, which are contained in the annex to Decision 17/CP.8. Under this decision, "non-Annex I Parties shall estimate national GHG inventories for the year 1994 for the initial national communication or alternatively may provide data for the year 1990. For the second national communication, non-Annex I Parties shall estimate national GHG inventories for the year 2000. The least developed country Parties could estimate their national GHG inventories for years at their discretion".

According to Decision 17/CP.8, non-Annex I Parties should use the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (IPCC 1997, hereafter referred to *Revised 1996 IPCC Guidelines*) for estimating and reporting their national GHG inventories. In addition, non-Annex I Parties are encouraged to apply the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (IPCC 2000, hereafter referred to as the *IPCC GPG 2000*) to improve transparency, consistency, comparability, completeness and accuracy in their GHG inventories. Non-Annex I Parties are also encouraged, to the extent possible, to undertake any key source analysis as indicated in the *IPCC GPG 2000* to assist in developing inventories that better reflect their national circumstances and to improve inventories in the most cost-effective manner.

In 2003, the Ninth COP adopted decisions regarding use of the *IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry* (IPCC 2003, hereafter referred to as the *IPCC GPG 2003*). According to Decision 13/CP.9, non-

Annex I Parties are encouraged to apply the *IPCC GPG 2003* as appropriate and to the extent possible, in the preparation of GHG inventories.

Non-Annex I Parties typically develop the national GHG inventory as part of their climate change enabling activity to prepare a national communication funded by the Global Environment Facility (GEF), or as part of other related projects (financed by the GEF or other agencies).

## 1.2 The Benefits of Developing Inventories

In addition to meeting national UNFCCC reporting obligations, the preparation and reporting of national GHG inventories can provide a number of other benefits to a country. These include:

- Providing information useful to economic development assessment and planning, such as: information on the supply and utilisation of natural resources (e.g., croplands, forests, energy resources) and information on industrial demand and production;
- Providing information useful for addressing other environmental issues (e.g., air quality, land use, waste management, etc.);
- Clarifying national data gaps that, if filled, may be beneficial for other reasons, e.g., vehicle fleet data;
- Evaluating GHG mitigation options; and
- Providing the foundation for emissions trading schemes.

Improving the quality of the national GHG inventory can also be beneficial. More accurate inventories enable non-Annex I Parties to identify major sources and sinks of GHGs with greater confidence, and thus to make more informed policy decisions with respect to appropriate response measures. For example, a technically defensible GHG inventory can serve as the foundation for public policy as it relates to air quality issues. Formulation of appropriate control strategies requires a reliable base of accurate emissions estimates. If the data used to derive control strategies are flawed, the public policy resulting from the strategy may also be in error. These errors can be costly to the public being exposed, the industries or economic sectors that are being controlled and to the environment.

## 1.3 Purpose and Structure of this Handbook

When the national GHG inventory is being prepared for the first time, the inventory will possibly need to go through several short-term iterations that involve activity data improvements, emission factor and methodology reassessment and/or recalculation of emission estimates. When the

<sup>2</sup> Decision 10/CP.2 and other key COP decisions on non-Annex I National Communications can be found at: <http://unfccc.int/documentation/decisions/items/2646.php>.

inventory is compiled for the second time, these iterations are likely to be less extensive for the simpler, straightforward source categories. Any freed resources could be used to: i) improve more complex and/or data-poor source categories; ii) to add new source categories; or iii) to add new years for assessment. Therefore, inventory work can be viewed as cyclical, both within one inventory cycle and across multiple cycles.

Each new inventory builds on the information gathered during the previous inventory effort, as well as on the planning, management, co-ordination and execution systems that were established to carry out the inventory assessment. It is for this reason that rigorous systems should be established and maintained for reporting, documentation and archiving of data, data sources, methods, assumptions, uncertainties and results. Without such systems, inventory teams and the national inventory itself, will not be able to benefit from the work that has been done before. Each new inventory is an opportunity to not only improve the accuracy and comprehensiveness of emission estimates, but also to improve the management systems designed to carry out all phases of the inventory.

The purpose of this handbook is to provide overall guidance on inventory planning and preparation so that each round in the cyclical process of inventory assessment builds on the previous round. The handbook focuses on inventory management rather than the “nuts and bolts” procedures of inventory accounting, which are covered in detail in the IPCC guidance. As such, this handbook is intended to assist countries in planning, designing and implementing the most effective and efficient inventory assessment systems possible, given human and financial resources available. It is written to be accessible to all levels of inventory expertise.

The remainder of this handbook is composed of three sections, a reference section, a list of additional resources and a set of annexes:

The *References* section contains complete references for the citations in the main body of the handbook. The *Resource Locations* section contains a list of websites and addresses from which various inventory materials can be obtained. The *Annexes* contain supplementary information that is referred to in the sections of the handbook.

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/云报告?reportId=5\\_13294](https://www.yunbaogao.cn/report/index/云报告?reportId=5_13294)

