TASK FORCE ON EMISSION INVENTORIES AND PROJECTIONS

The Task Force on Emission Inventories (TFEI) was initiated in 1991 following agreement by the Executive Body for the Convention on Long-Range Transboundary Air Pollution. In 1995 the Executive Body agreed that the TFEI should continue beyond June 1995 and combine with the Task Force on Emission Projections to become the Task Force on Emissions Inventories and Projections (TFEIP). The TFEIP Secretariat is currently provided by the United Kingdom and is supported by the other signatories to the Convention including the European Community, through the European Commission and the European Environment Agency (EEA).

The TFEIP is designed to assist in:

- the evaluation of the emission inventory requirements of the Co-operative Programme for Monitoring and Evaluation of Air Pollutants in Europe (EMEP);
- ensuring an adequate flow of reliable information to support the work under the Convention;
- accounting for the emission data needs of other relevant bodies under the Executive Body.

The objectives of the TFEIP are therefore:

- to provide a technical forum to discuss, exchange information and harmonise emission inventories including emission factors, methodologies and guidelines;
- conduct in-depth evaluation of emission factors and methodologies in current operation and
- co-operate with other international organisations working on emission inventories with the aim of harmonising methodologies and avoiding duplication of work.

The TFEIP meets these objectives through the holding of an annual meeting, the publication of a guidebook and through the operation of a number of expert panels. The first annual meeting of the TFEI was held in London in May 1992. Subsequent annual meetings have been held in Delft, Regensberg, Oslo, Oxford, Apeldoorn, Wismar, Roskilde, Rome and Geneva. The meetings are usually sponsored by the host country.

In 1993 the TFEI agreed a specification for the EMEP/CORINAIR Emission Inventory Guidebook (the ‘Guidebook’). The first edition of the Guidebook was subsequently completed in 1996 and published and distributed by the EEA (on paper, CDROM and the EEA Internet site). The second edition of the Guidebook was officially launched in 1999 and will be updated to the third edition towards the end of 2001.

The TFEIP currently operates four expert panels each with its own secretariat and sponsored by signatories to the Convention. Individual members of the panels are drawn from across the whole of the UNECE area. Three technical panels cover the 11 main source categories of SNAP. In addition, a panel on emission projections and verification develops guidance on projections within the Guidebook and improves contacts on projections with the Task Force on Integrated Assessment Modelling. The following table lists the current expert panels, the sponsors of their secretariats and the relevant SNAP categories:

TFEI Panel	Sponsors	SNAP Categories
Combustion and Industry	UK, Nl, No, J.R.C.	1, 2, 3, 4, 5, 6, 9
Transport	It, EEA	7, 8
Agriculture and Nature	Nl, Dk	10, 11
Projections and Verification	EEA, Nl	All categories

1 Guidebook Specification

1.1 The Purpose of the Guidebook

The aim of the Guidebook is to provide an up-date comprehensive summary of emission inventory methodology for each of the pollutants and sources to be quantified.

The Guidebook is systematically organised and will be maintained as the reference document for emission inventory methodology. It provides guidance on methodology that could be adopted/followed without making or suggesting that such adoption is mandatory. The methodology can be used for national, regional and local emission inventories.

1.2 The Structure of the Guidebook

The Guidebook is structured in Chapters with each chapter presenting information to a common format. The common format for each chapter will be a key feature of the Guidebook, designed to ensure that users (familiar or unfamiliar with the technical details of the area covered by each section) can readily locate and understand the essential aspects of the area covered.

Emission inventory nomenclature and hence the Guidebook will develop over time. The Third edition of the Guidebook addresses the source sector split and activity list given by SNAP97 (see CONTENTS) and the new Nomenclature For Reporting (NFR). The relationship between SNAP97, NFR and the IPCC96 formats is included in the CONTENTS list.

The EEA is also supporting development of a general environmental thesaurus, including surveys of nomenclatures used (or to be used) in different media and sectors, in order to obtain sets of common standard terms. Development of the Guidebook will need to be co-ordinated with this activity to help ensure harmonisation.

Each chapter of the Guidebook covers a homogeneous Source Sector, Sub-sector, Activity or Group of Activities as listed in SNAP97. For example, a Section might cover Sector 2 (Commercial, institutional and residential combustion) or Sub-sector 4.4 (Processes in inorganic chemical industries) or Activity 9.2.1 (Incineration of domestic or municipal wastes) or 3.3.1 (Combustion Plant >=300MW).

Each chapter should be as self-contained as possible. It should provide, in most cases, the main reference point for information and guidance on the essential requirements for compiling the emission estimates for the emission source covered. In some cases, the text will direct the user to supplementary documents and other relevant data sources that will help completion of this compilation.

An example of a supplementary document would be the 'COPERT 3' User Manual and computer program, which would need to be used in conjunction with the Guidebook to work up the required inventory for mobile emissions. Examples of other relevant data sources could be reports or on-line databases with information on Best Available Technology and/or emission factors used elsewhere (for example the IPCC 1996 Revised Guidelines for National Greenhouse Gas Inventories and subsequent IPCC documents on good practice and the US EPA's Air CHIEF system).

1.3 The Development of the Guidebook

The Guidebook will be developed via a procedure to track additions and updates, their source and dates of occurrence. A document to track these changes will be produced and kept up-to-date on the Secretariat web site (http://www.tfeip-secretariat.org).
Updated versions of the Guidebook are only available through the Internet. The most recent draft chapters, prepared by expert panels between meetings of the TFEIP, will be available on the Internet (web) site of the TFEIP Secretariat. The final official version, which has to be approved by the TFEIP at its annual meeting and the subsequent Steering Body meeting of CLRTAP/EMEP, will be made available on the EEA Internet (web) site annually.

2 Guidebook Format

Subject to further development by the TFEIP, the common format for each Chapter is as follows (small changes have been introduced since the structure was agreed at the meeting of the Task Force held in Delft in May 1993):

SNAP SECTOR, SUB-SECTOR OR ACTIVITY CODE(S)	
SOURCE SECTOR, SUB-SECTOR OR ACTIVITY TITLE(S)	
NOSE CODE(S)	
NFR CODE(S)	
1. Activities included	Provides for chapters covering a source sector, sub-sector or parts thereof, codes and names for each of the activities covered within this chapter. Notes any related emission sources not included in the chapter.
2. Contribution to total emission	Provides tables summarising current state of knowledge on (a selection of) national and multi-national (CORINAIR, EMEP, OECD, UNFCCC) data on weight and percent contributions to total emissions for each relevant pollutant. Sectors and sub-sectors producing more than one percent of total emissions of any pollutant should be disaggregated as far as practicable within these tables to show contributions from the main sub-sectors and/or activities producing at least one percent of the most significant pollutant.

3. General	
3.1 Description	Provides a general introduction to explain what the section covers. Use ISIC, NACE, PRODCOM (or other) codes and definitions where these can help in the definition of the activities covered.
3.2 Definitions	Provides definitions of important terms.
3.3 Techniques	Describes the relevant techniques/technologies (reference may be given to additional sources of information).
3.4 Emissions	Presents the relevant pollutants and describes where and how they are emitted.
3.5 Controls	Describes the controls/abatement techniques available, how these have been introduced over time and their effects on emissions.
	Each of the above should include reference to the source of the definitions of terms and classification.
4. Simpler methodology	The purpose of the simpler methodology is to enable users to determine whether emissions from this activity are significant.
	Describes the minimum acceptable approach for quantifying emission from this source. The rationale for the approach should be presented and should have been confirmed as acceptable by several experts (some of whom will use this approach and some a more advanced approach). Appropriate base statistics and emission factors to be used should be clearly specified and explained.
5. Detailed methodology	The detailed methodology should be used for those sources that have been identified as significant. It describes the methodology, the benefits in terms of detail, improved accuracy and precision etc. and how it relates to the simpler approach. (In some case the simpler and detailed methodology may be the same).
6. Relevant activity statistics	Provides lists and possible sources of statistics/data on activities relevant to the estimation of emissions. Example activities are fuel consumption, traffic, industrial consumption/output and example data sources are national statistics offices, Eurostat, UNECE, OECD, IEA.
7. Point source criteria	Lists the current criteria to be used to split sources into point and area/line sources.
8. Emission factors, quality codes and references	Provides tables of emission factors for each pollutant, medium, technique, activity and fuel covered with associated quality codes and references (to the literature sources of the emission factors). Where appropriate and available, uncontrolled techniques should be given first and the temporal development of emissions/abatement should be included.
9. Species profiles	Provides available information on species profiles, for example NOx and VOCs, with associated quality codes 8A-E) and references, as for emission factors above.

10. Uncertainty estimates	Provides current estimates in the uncertainties of base statistics, emission factors, disaggregation factors and emission estimates as percentages and/or quality codes (A-E).
11. Weakest aspects/priority areas for improvement in current methodology	Provides a summary of these aspects with suggestions/proposals on how they can be addressed or on how they are being addressed.
12. Spatial disaggregation criteria for area sources	Provides recommendations for activity or surrogate statistics to be used for spatial disaggregation.
13. Temporal disaggregation criteria	Provides a summary of what is known or what needs to be considered to disaggregate annual totals to shorter time periods.
14. Additional comments	Any comments not mentioned elsewhere, which may assist the estimation of emissions from this activity.
15. Supplementary documents	Provides a summary of documents which are to be used in conjunction with the Guidebook and which provide supplementary information necessary for completion of this part of the inventory, for example COPERT manuals.
16. Verification procedures	Describes verification procedures relevant to this section and who should apply them (national expert, central team, statistical office etc.). The Verification Export Panel will provide advice/examples to the other Panel Leaders to help develop this section.
17. References	Provides list of references quoted within this section.
18. Bibliography	Provides a list of other relevant literature which is not referred to but which might be useful for extra background reading should further information be required.
Release version, date and source	Includes the chapter release version number, date of preparation or revision, list of author(s) plus people/organisations responsible for further updates.
Point of Enquiry	A current contact point for questions on the chapter.

3 Tasks for the Expert Panels

The current Expert Panels set up by the TFEIP are:

- Combustion and Industry Panel
- Transport
- Agriculture and Nature
- Projections and Verification

The first three 'technical' panel leaders, with support from other members of the panel and from the verification panel, will:

a) Collect/review available information on activities and inventory methodology (emission estimates, emission factors, activity statistics etc.) allocated to the panel; this should include national and international methodologies for emission inventories using both emission factor and plant specific.

b) consider the significance of each of these activities in terms of their contribution to emissions, the scope to sub-divide activities and the case for adding related activities (not included specifically in the latest nomenclature;

c) prioritise the order in which activities will be addressed for inclusion in the Guidebook;

d) consider the scope for simplifying the methodologies to be recommended so that they can be adopted by the widest range of countries yet maintain a reasonable level of accuracy. There is no point in recommending a methodology which requires detail beyond the available information or is beyond the financial resources of most countries or the time-scales of the inventory programme;

e) prepare text, tables, figures etc. to the required format in priority order;

f) circulate draft text etc. for review, correction, amendment by the rest of the panel;

g) submit agreed text etc. to publisher or to lead panel;

h) continue to collect data on activities already submitted in item 6 for later updates;

i) liaise with lead/supporting panel leader as necessary;

j) liaise with/participate in the Verification expert panel;

k) attend Co-ordination Group Meetings are required;

l) make proposals for further research/study to improve the methodology.