DATABASE ON GREENHOUSE GAS EMISSION FACTORS

(IPCC-EFDB)

User Manual

for WEB application

http://www.ipcc-nggip.iges.or.jp/EFDB/main.php

Version 2.0

Produced on 19 September 2003

(Revised on 6 April 2005)

(Revised on 25 January 2007)

Acknowledgement

The quality of national inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol (GHG inventories) depends substantially on reliable emission factors and activity data. Although it is preferable to use emission factors that reflect national circumstances, emission factor development is expensive, time consuming and necessitates a wide degree of expertise. The _Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories_ (_IPCC Guidelines_) and the report on _Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories_ (_GPG2000_) provide default emission factors for the majority of source and sink categories. Some of these default emission factors are region or country specific, but in general not all regions or countries are covered.

Sharing of research information would enable countries to use or develop emission factors that are more applicable to the circumstances in question than the IPCC default emission factors without having to bear the associated research costs. For this reason, many countries have indicated (e.g. in the Expert Group Meeting on National Feedback on the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories, Havana, Cuba, September 1998) that an easily accessible public database on GHG emission factors with supporting scientific information would help improve the quality of GHG inventories in a cost-effective way. A database on GHG emission factors with supporting scientific information would also support the future review and update of the _IPCC Guidelines_.

With this background, a project to establish a database on GHG emission factors (EFDB project) was initiated with a scoping meeting in New Delhi, India, on 24-25 July 2000. Subsequently, the functional design was agreed upon at the first expert meeting in Paris, France, on 2-4 July 2001, and a prototype database was constructed in January 2002 based on the agreement at the Paris meeting. It was subject to pilot testing by a number of inventory experts from different countries for 8 weeks, from 11 February to 8 April 2002. At the second expert meeting in Bratislava, Slovakia, on 23-24 April 2002, participants considered the comments obtained through the pilot testing and discussed how to improve the prototype database. The EFDB was improved in accordance with the conclusion of the Bratislava meeting, and finally released to the public at the 8th session of the Conference of the Parties to the UNFCCC (COP8) in October 2002.

The EFDB development was overseen by the EFDB Steering Group established by the Task Force Bureau (TFB) for the IPCC National Greenhouse Gas Inventories Programme (IPCC-NGGIP) at its 6th session. For this, we thank the members of the EFDB Steering Group: Tinus Pulles (Project Co-Chair; The Netherlands), Katarina Mareckova (Project Co-Chair; Slovakia), Taka Hiraishi (TFB Co-Chair), Thelma Krug (TFB Co-Chair since April 2002), Buruhani Nyenzi (TFB Co-Chair until October 2001), Joe Mangino (USA), Branca Americano (Brazil), Tleussen Temertekov (UNFCCC), Riitta Pipatti (NGGIP-TSU) and Kiyoto Tanabe (NGGIP-TSU). We also thank Josef Skakala and Peter Gregus (Spirit Inc.) for programming the applications and editing the User Manual. We acknowledge with thanks the work done by the NGGIP-TSU staff: Sal Emmanuel, Jeroen Meijer, Robert Hoppaus, Leandro Buendia, Todd Ngara, Kyoko Miwa, Fabian Wagner and Akiko Kawase.

We are also grateful to many experts who contributed to this work and attended the expert meetings, and the Institute for Global Environmental Strategies (IGES) who assisted the NGGIP-TSU.
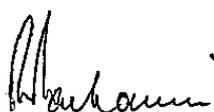
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Acting Secretary of the IPCC

Table of Contents

Annex to the User Manual: Guidance on the "Properties" field

1 Introduction

1.1 *Scope of this document*

This User Manual covers the information on how to use the Emission Factor Database (EFDB) WEB application to search the database for emission factors or other parameters[1] and how to submit new proposals on emission factors or other parameters into the database.

The EFDB has been developed to support the greenhouse gas emission inventory community with a library of well-documented emission factors and other parameters.

The EFDB has the objective to provide a variety of users, in particular the inventory compilers of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), with current and well-documented emission factors and other parameters, as well as to establish a communication platform for distributing and commenting on new research and measurement data. The web application is the core of this system and supports the following user applications.

1) For all users with Internet access:

    a) On-line searching EFDB for specific emission factors or other parameters and exporting the results in commercially available software

2) For users registered as data providers[2]:

    a) Proposing new emission factors or other parameters to be included in the EFDB

3) For the EFDB Editorial Board[3]:

    a) Evaluating proposed new emission factors or other parameters

    b) Proposing revisions to existing emission factors or other parameters

4) For the EFDB management:

    a) Management of users and user privileges

    b) Post accepted emission factors and other parameters in the open database

    c) Import emission factor data in bulk from selected data providers (Mini-Batch Import)

Figure 1-1 presents an overview of the system.

This document provides guidance for the general users to search and retrieve data as well as guidance for the data providers to propose new emission factors or other parameters.

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[1] The EFDB is a database on various parameters to be used in calculation of anthropogenic emissions by sources and removals by sinks of greenhouse gases. It covers not only the so-called "emission factors" but also the other relevant parameters. For convenience sake, however, the term "Emission Factor" or its abbreviation "EF" is sometimes used to represent parameters in this database generally.

[2] Those who wish to get registered as data providers are invited to contact the Technical Support Unit (TSU) of the IPCC National Greenhouse Gas Inventories Programme (IPCC-NGGIP) by e-mail (ipcc-efdb@iges.or.jp).

[3] The EFDB Editorial Board assumes the responsibility to evaluate whether proposed new emission factors or other parameters are acceptable or not according to the criteria that include robustness and applicability of the data (see Appendix A). It consists of seven experts for each of the sectors (as of 10 October 2006). The members were selected by the Task Force Bureau (TFB) of the IPCC-NGGIP from the experts officially nominated by governments/IPCC National Focal Points for this purpose.

Figure 1-1   EFDB data flow diagram
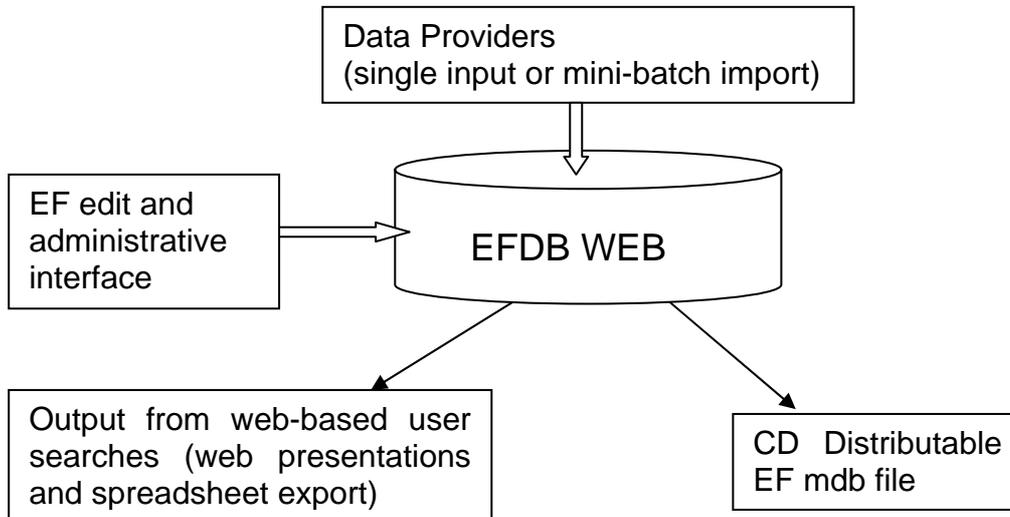
1.2 Objective of the EFDB

The EFDB has the objective to provide a variety of users, in particular the inventory compilers of the Parties to the UNFCCC, with current and well-documented emission factors and other parameters, as well as to establish a communication platform for distributing and commenting on new research and measurement data. Such a platform can provide an efficient means for experts and researchers to disseminate new emission factors or other parameters in a timely manner to a worldwide audience of potential end users. The EFDB is meant to be a recognised data repository where users can find emission factors and other parameters with background documentation or technical references.

While the EFDB Editorial Board has examined each entry, and associated background technical documentation where made available by the data provider, following the evaluation criteria that include robustness and applicability of the data (see Appendix A), the ultimate responsibility of using this information appropriately resides with the users themselves. The members of the EFDB Editorial Board are not responsible for errors in the data as shown in the database, such as those that may be due to transcription errors from the data provider or other errors due to the inaccurate presentation of the data on submission from the data provider. The database users are highly encouraged to consult the background technical reference for the entry to better evaluate the application of the data for their own situation.

The responsibility of using this information appropriately will always remain with the users themselves.

2 Recommended client configuration

2.1 Hardware and software requirements

2.1.1 Hardware

To access the EFDB WEB application, it is necessary to have a PC compatible with Pentium processor and 32 MB of RAM connected to Internet. For optimal performance it is recommended to have at least 64 Kb/s Internet connection speed.

2.1.2 Software

- Microsoft Windows 9x/NT/2000/XP/Vista operating system
- Microsoft Internet Explorer version 5.0 or higher for best performance. Alternatively Netscape Navigator version 6.0 or higher can be used.
- Microsoft Office 97 or higher for generating Word and Excel outputs
- Adobe Acrobat Reader version 4.0 or higher (to read relevant documents)

2.1.3 Browser configuration

The EFDB WEB application requires the browser to have Cookies and JavaScript support enabled. Cookies and JavaScript support in Internet Explorer can be enabled using the *Tools -> Internet Options -> Security* menu. Setting the security level to medium for Internet Zone automatically enables the Cookies and JavaScript support (Figure 2-1).

The critical information such as users' personal data, passwords exchanged between the client browser and the WEB server are encrypted. Encryption is performed using the **OpenSSL** module, which provides strong cryptography for the Apache web server via the **Secure Socket Layer** and **Transport Layer Security** protocols. Browser must have SSL and TLS support enabled. In Internet Explorer this support can be enabled in *Tools -> Internet Options -> Advanced* menu (Figure 2-2).

Figure 2-1   Setting the security level for Internet Zone.
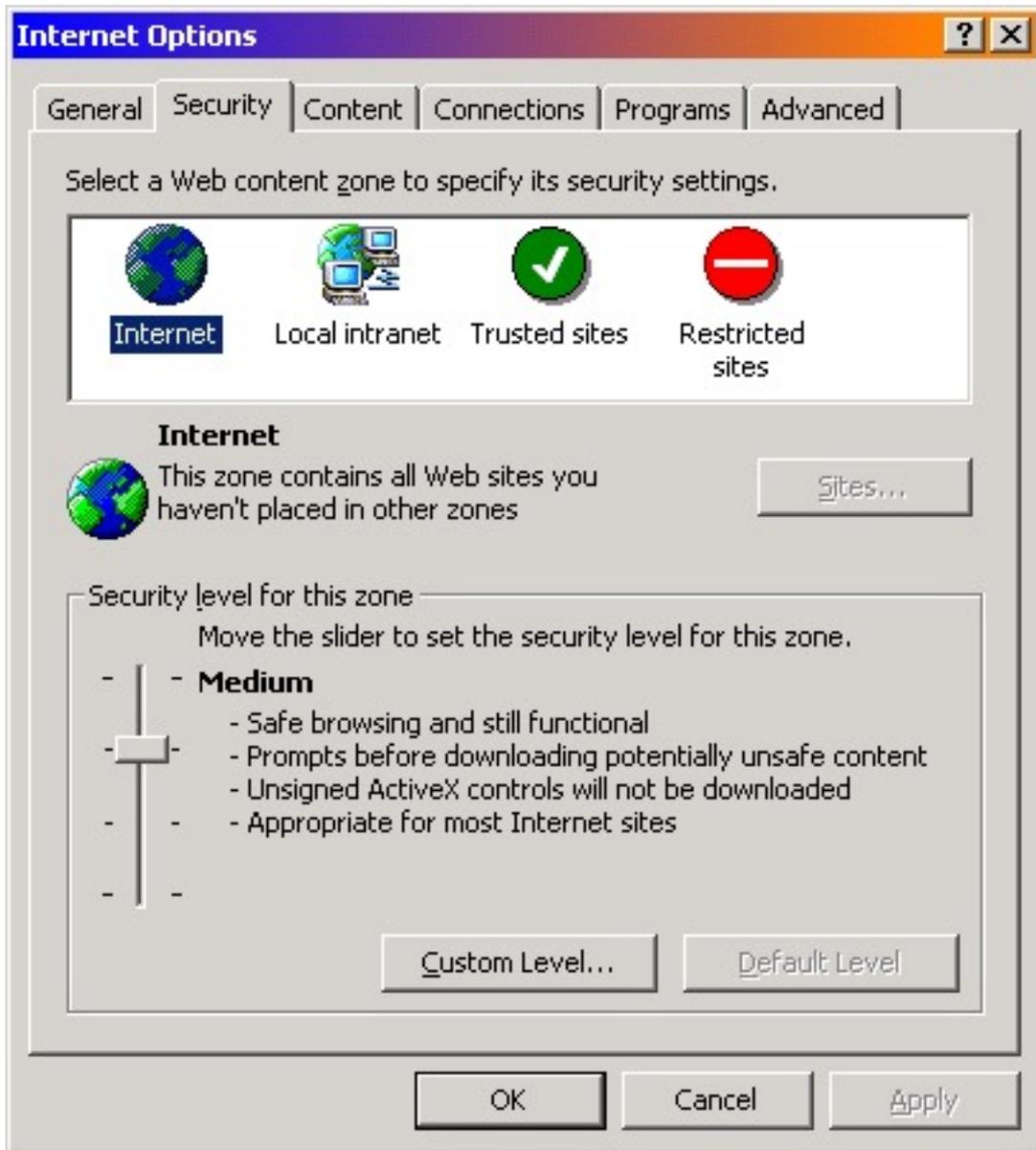
Figure 2-2   Enabling the SSL and TSL support
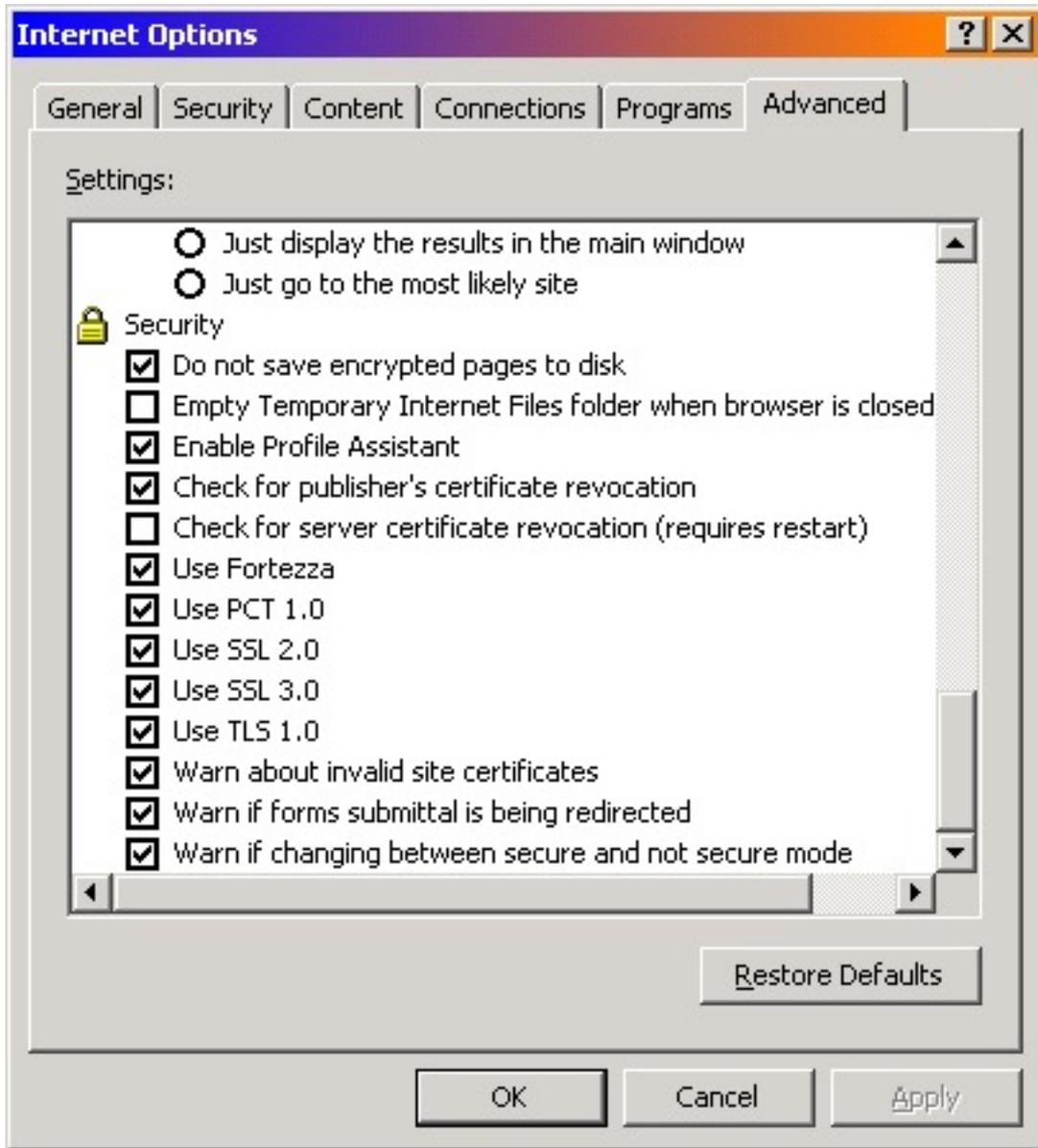
3 Main menu

Each page of the EFDB application contains the top menu that contains the links to the particular sections of the application. (Figure 3-1) and links to IPCC web sites.

Figure 3-1 EFDB Top menu

It also contains the information whether or not the user is logged in as shown in Figure 3-2. (See Chapter 5 for details on login name and password.) The **Logout** link will log the user out and will automatically navigate the browser to the EFDB Main Page.

You need to log in only when you wish to propose new data for inclusion into the EFDB. **You have no need to log in when you implement "Find EF" to search for data.**

Choosing a link from the **IPCC web sites** drop-down box will automatically navigate the browser to the corresponding IPCC web site.

Figure 3-2 Indication of the logged user

Clicking the top menu links will navigate the browser to the corresponding section of EFDB. The following lists the responses to clicking either of the top menu links.

Link	Browser response
• **Home**	Returns to EFDB Main (or Home) Page. (See Chapter 4.)
• **Login**	Opens the User Authentication page where you are prompted to enter your valid Login Name and Password. (See Chapter 5.)
• **Find EF**	Opens the main section for searching the database for emission factors or other parameters. (See Chapter 6.)
• **Single Input**	Opens the main section of the EF single input process. (See Chapter 7.)
• **Mini-Batch Import**	Opens the main section of the EF mini-batch import process. (See Chapter 8.)
• **Documents**	Navigates the browser to the section where all EFDB related documents reside and are available for downloading.
• **Downloads**	Opens the download section where current version of the EFDB CD version and current MDB database can be found.
• **Help**	Opens the EFDB help section.

4 Main Page

Figure 4-1   Main Page

Main Page — Language: English — OK

Welcome to EFDB!

► **Nature of EFDB:** EFDB is meant to be a recognised library, where users can find emission factors and other parameters with background documentation or technical references that can be used for estimating greenhouse gas emissions and removals. **The responsibility of using this information appropriately will always remain with the users themselves.**

► **Request for data input:** Users are encouraged to provide the EFDB with any relevant proposals on emission factors or other related parameters. If you wish to submit your data for the first time, please contact the Technical Support Unit to obtain your login name and password. Acceptance of such proposals will be subject to evaluation by the EFDB Editorial Board using well-defined criteria.

► **Terminology:** EFDB is a database on various parameters to be used in calculation of anthropogenic emissions by sources and removals by sinks of greenhouse gases. It covers not only the so-called "emission factors" but also the other relevant parameters. For convenience sake, however, the term "Emission Factor" or its abbreviation "EF" is sometimes used to represent parameters in this database generally.

► **Software requirements:** It is highly recommended to use Microsoft Internet Explorer version 5.0 or higher for best performance. Alternatively Netscape Navigator version 6.0 or higher can be used. It is also recommended to have Microsoft Office 97 or higher for generating Word and Excel outputs.

► EFDB at present contains only the IPCC default data (default data presented in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and the IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories). It also contains the data from CORINAIR94, but please note that these data records may be renewed in due course in accordance with the latest version of CORINAIR data set (i.e., data in the Joint EMEP/CORINAIR Atmospheric Emission Inventory Guidebook, Third Edition. Copenhagen: European Environment Agency, 2001). It is highly recommended to consult the website at http://reports.eea.eu.int/EMEPCORINAIR4/en for details on CORINAIR data.

Your current privileges
► Manage Users
► Manage User Groups
► Access to Editorial Board
► Commenting EF input/revision/removal requests
► Single Input of new Emission Factors
► Revise existing Emission Factors
► Delete existing Emission Factors
► Manage Languages
► COMMIT/DISCARD EF input/revision/removal requests
If you want to change your password, click here.

Your input requests
The count of your pending input requests is: **0**.

Editorial Board Status
Number of emission factors awaiting QA/QC procedures: **95**
If you want to take a look at the editorial board now, click here.
You can later access the editorial board from the Administrate section.
☑ Notify me of new EF submission/modification requests

What's new

20 June 2005 - The report of 3rd meeting of EFDB Editorial Board has been published. It is available from http://www.ipcc-nggip.iges.or.jp/meeting/meeting.htm

The Main (or Home) Page consists of several sections, separated by a blue line:

1) A welcome message and some introductory text.

2) A section labelled ***Your current privileges***, which is visible only when you are logged in, describing your privileges (i.e., what function(s) you are allowed to utilise). You can change your password by clicking **here** within this section. This will open the **Change Password** page. Use of this page is self-explanatory. A password must have at least 5 characters.

3) A section labelled **Your input requests** gives information on how many Emission Factor candidates submitted by you are still being evaluated by the Editorial Board.

4) A section labelled **Editorial Board Status** is available just in case you are a member of the Editorial Board. It gives information on how many Emission Factor new candidates/revisions/removals are still being evaluated by the Editorial Board. Checking the **Notify me of new EF submission/modification requests** means that you will be informed via email every time someone posts new Emission Factor candidate or changes existing one.

5) The section labelled **What's new** contains the latest news. It mainly contains the information about important changes in application.

5 User Authentication Page

This page contains the form where you are prompted to enter your valid login name and password (Figure 5-1).

You must be authenticated in order to access the following sections of the application.

- Single Input
- Mini-Batch Import

In other words, **you have no need to log in when you wish only to use read-only functions of the application** such as searching the database for emission factors or other parameters, download the public documents, etc.

You are encouraged to provide the EFDB with any relevant proposals on emission factors or other parameters.

Important!! - If you wish to submit data for the first time, you must contact the Technical Support Unit of the IPCC-NGGIP (ipcc-efdb@iges.or.jp) to obtain your login name and password.

Figure 5-1   User Authentication page