



# IPCC Emission Factor Database (EFDB)

IPCC 6<sup>th</sup> Cycle - IPCC Tools for National GHG Inventories

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# Background

- Quality of GHG inventories depends on reliable emission factors and activity data
- Desirably, emission factors that reflect national circumstances should be used in inventory compilation
- Development of such emission factors is costly, time consuming, requires much expertise
- By sharing data/information, emission factors that take into account local conditions (national circumstances) can be obtained cost-effectively
  - Users decide if data is suitable in their specific situation
- An easily accessible public EFDB with supporting scientific information would help improve the quality of GHG inventories in a cost-effective way
- **IPCC EFDB is launched in 2002**

# IPCC EFDB (1)

- Library of emission factors/parameters and other relevant data with background information
  - Default values from IPCC Guidelines
  - Data from peer-reviewed scientific papers
  - Data from other publications (government reports, industry studies etc.)
- Communication platform to share data and information that can be used for estimation of GHG emissions/removals
  - Sharing data/information will avoid duplication of efforts

# IPCC EFDB (2)

- Evolves dynamically: data proposals (e.g. voluntary submissions from inventory compilers, researchers) and data collection efforts (e.g. expert meetings to collect data)
- **Open to any data proposals**
  - Data proposals are considered by EFDB Editorial Board for inclusion into the EFDB
  - Criteria for inclusion of new data: **robustness, applicability and documentation**
  - Contact IPCC TFI Technical Support Unit (TSU) at [ipcc-efdb@iges.or.jp](mailto:ipcc-efdb@iges.or.jp)

# Growing importance

- In the context of National Communications from non-Annex I Parties, the Consultative Group of Experts (CGE) recommended
  - Improvement of data quality by enhancement of the sharing of country-specific emission factors through the IPCC Emission Factor Database and among Parties not included in Annex I to the Convention (*FCCC/SBI/2011/5/Rev.1*)
- New reporting guidelines on annual inventories for Annex I Parties
  - If Annex I Parties lack country-specific information, they could also use EFs or other parameters provided in the IPCC Emission Factor Database, where available, provided that they can demonstrate that those parameters are appropriate in the specific national circumstances and are more accurate than the default data provided in the *2006 IPCC Guidelines (Decision 24/CP.19)*

# How to access EFDB

- Two types of applications:
  - Web application
  - Offline application
- The web application is the core of the system. New data will be made available in the web application first
- The offline application works with MS Access MDB file which contains the copy of the web database
  - Can be used on a stand-alone PC
  - Available for download at the EFDB website

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

# Web application (1)



## Main Page

### 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, please contact the [Technical Support Unit](#).  
The data proposal should include the following documents:
  - 1). Filled in [EFDB data entry form](#).
  - 2). A copy of data sources (e.g., peer-reviewed journal papers).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 the IPCC default data (Revised 1996 IPCC Guidelines, IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry, and 2006 IPCC Guidelines for National Greenhouse Gas Inventories), and data from peer-reviewed journals and other publications including National Inventory Reports (NIRs). The old [CORINAIR](#) data have been removed as it is outdated.
- Possible useful information (activity data, emission factors and parameters) for estimation of GHG emissions/removals can also be found in [other databases](#). The use of the other databases is the responsibility of the users.
- In principle, data that do not fully meet the acceptance criteria cannot be included into EFDB. However, there are other data that do not meet the criteria but considered useful to inventory compilers, such as those derived from best available information using expert judgement, etc. To support inventory compilers in case no other information is available, an [extra page](#) has been prepared to provide EFDB users with access to such data selected by the EFDB Editorial Board. The EFDB users must carefully read the introductory note to each set of data in this page and take it into consideration when using those data.

## What's new

**9 November 2018** - Updated offline application of the EFDB (version 3.0) is available on the [Downloads](#) page.

**6 November 2018** - Upcoming meetings in 2018:

- 16th Meeting of the EFDB Editorial Board (EB16), 13-16 November 2018, Buenos Aires, Argentina
- 16th Expert Meeting on Data (LULUCF and Waste) for the EFDB, 14-15 November 2018, Buenos Aires, Argentina

# Web application (2)

The screenshot shows the EFDB (Emission Factor Database) web application interface. The top navigation bar includes 'Home', 'Basic search', 'Fulltext search', and 'Search by ID'. The 'Basic search' section contains options for 'Select Gases', 'Select Fuels', and 'Select Type of Parameter'. The 'Status' section shows search criteria: 'IPCC 2006 Source/Sink Category: Waste (4)', 'Gases: (All)', 'Fuels: (All + NA)', and 'Type of parameter: (All)'. Below this is a table of 'Displayed records: 1 - 20 / 1718' with an 'Export to XLS' button. The table has columns for 'Filter', 'Active Filters', 'EF ID', 'IPCC 1996', 'IPCC 2006', 'Gas', 'Fuel', 'Type of parameter', 'Description', 'Value', 'Unit', and 'Action'. Two callout boxes point to the 'Apply filter' and 'Detail' buttons in the table.

Search options (e.g. Basic search)

Specify gas, type of parameters etc.

Status of search

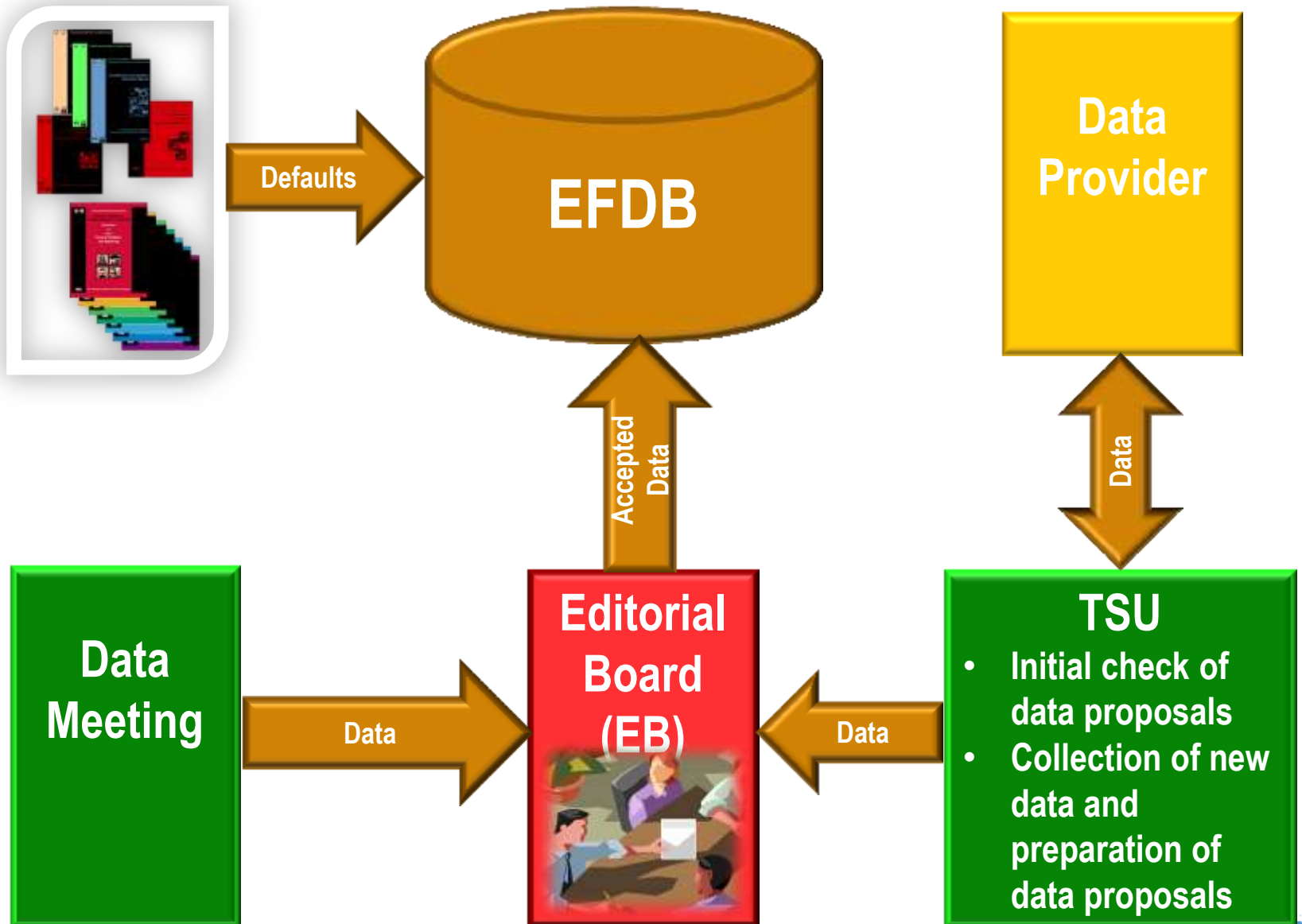
To narrow down search results

Details of data

Results can be exported in Excel



# Populating EFDB (1)



# Populating EFDB (2)

- Expert meetings to collect data (Data Meetings) have been organized since 2008
  - Focus on specific sectors/categories with the aim to identify, select and approve data for inclusion into the EFDB
  - Attended by experts/data providers and Editorial Board members
  - 16<sup>th</sup> Data Meeting (DM16) was held on 14-15 November 2018 in parallel with 16<sup>th</sup> Meeting of Editorial Board in Buenos Aires, Argentina. The DM16 focused on data for Land Use, Land-Use Change & Forestry and Waste sectors
- Literature search (e.g. peer-reviewed journals, National Inventory Reports)

# Enhancement and improvement of EFDB

- **Upgraded new version** of the EFDB was released in May 2018
  - Multi-assignments of IPCC categories and gases
  - Improvement of data entry process/import functions
  - Unicode support
  - Additional gases added to the nomenclature for IPPU sector
- Other improvements (e.g., publication of “Other Databases” page)
- User-interface is being further improved

# Thank you

<http://www.ipcc-nggip.iges.or.jp/index.html>

<https://www.ipcc-nggip.iges.or.jp/EFDB/main.php>