IPCC Emission Factor Database (EFDB)

IPCC TFI Side-event at COP-24

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What is EFDB?

- Emission Factor Database (EFDB) is an electronic library of greenhouse gas emission factors/parameters (EFs):
  - *default values from IPCC Guidelines*
  - *data from peer-reviewed papers*
  - *data from non-peer reviewed publications (governmental reports, industry studies, etc.)*

- Available for free:
  - *on-line:* https://www.ipcc-nggip.iges.or.jp/EFDB/main.php
  - *off-line: DVD/USB*
    - *Version 3.0 (November, 2018) can be downloaded from the web-site*

The Web application is the core of this system. New data will be made available in the Web application first

On-line version of EFDB (web-site)

EFDB
emission factor database

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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

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

16 May 2018 - New version of the EFDB web application is released

17 April 2018 - Lists of EFDB Editorial Board Members for 2018 and 2019 are available here.

9 November 2017 - Updated offline application of the EFDB (version 2.7) is available here

https://www.ipcc-nggip.iges.or.jp/EFDB/

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Why is EFDB needed?

- Quality of GHG inventories depends on reliable EFs and activity data

- EFs that reflect national circumstances should be used in inventory compilation

- Development of national EFs is costly, time consuming, and requires much expertise

- By sharing data/information EFs can be obtained cost-effectively

- An easily accessible public EFDB would help to improve the quality of national GHG inventories and facilitate data sharing by inventory compilers, experts, scientists worldwide

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Populating EFDB
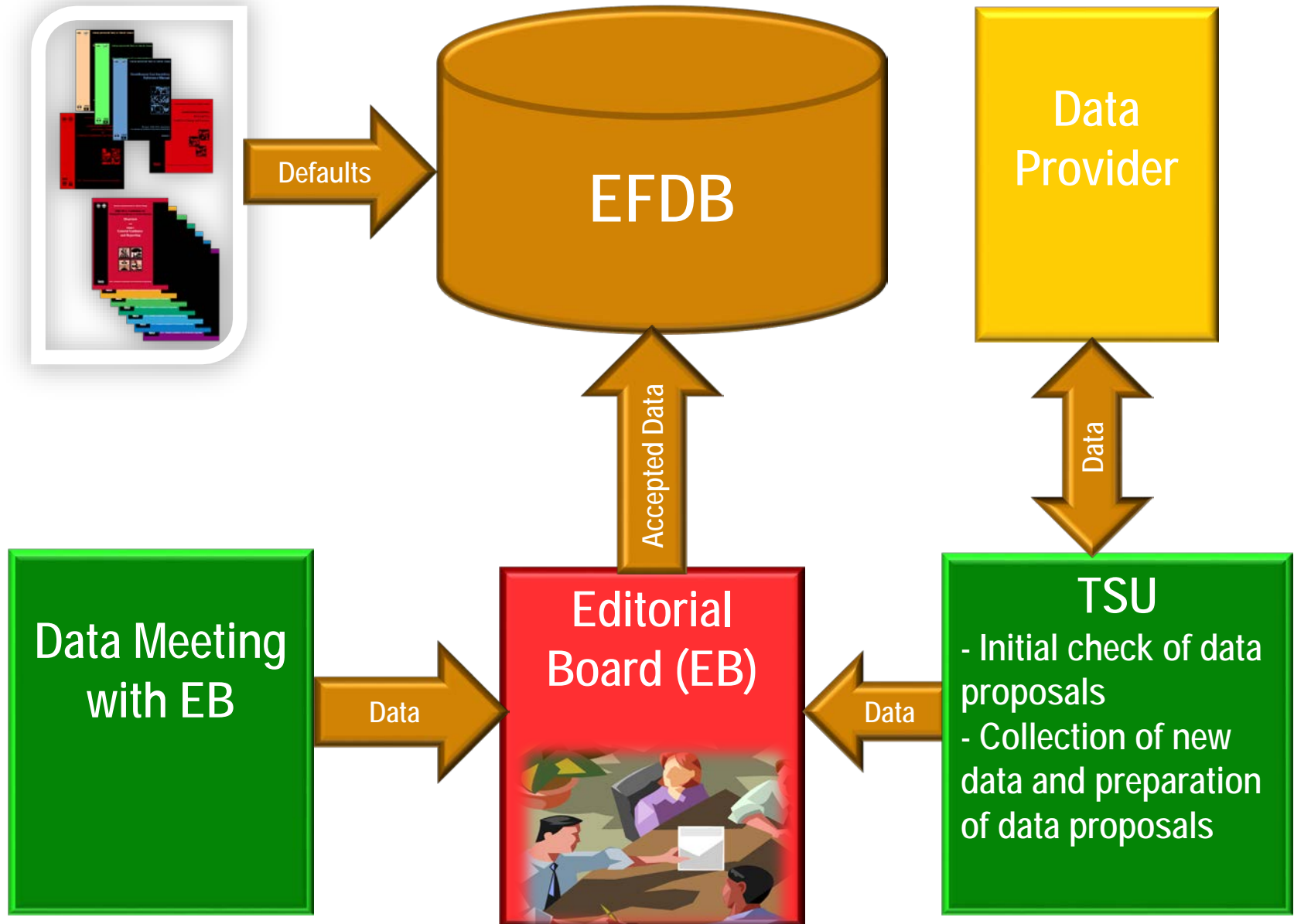
EFDB Editorial Board

o The members of the Editorial Board are selected by the Task Force Bureau on National GHG Inventories from the experts officially nominated by governments and observer organizations. In this selection, geographical balance as well as balance of expertise should be ensured

o The Editorial Board consists of the following members:

   a. Two Co-chairs of the Editorial Board

   b. Sector experts for each of the sectors*:

   i. Energy

   ii. Industrial Processes, and Solvent and Other Product Use (IPPU)

   iii. Agriculture

   iv. Land Use, Land Use Change and Forestry (LULUCF)

   v. Waste

* Sector experts for Agriculture and LULUCF may work together as Agriculture, Forestry and Other Land Use (AFOLU) sector in accordance with the 2006 IPCC Guidelines.

Criteria for Inclusion of New Data

Robust

o Within the accepted uncertainty, the value is unlikely to change if there was repetition of the original measurement programme or modelling activity

Applicable

o An emission factor can only be applicable if the source and its mix of technology, operating and environmental conditions and abatement and control technologies under which the emission factor was measured or modelled are clear and allow the user to see how it can be applied

Documented

o Access information to the original technical reference must be provided to evaluate the robustness and applicability as described above

EFDB data search

IPCC EFDB and UNFCCC process

o In the context of the UNFCCC reporting guidelines for 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, para 12 Annex I)

o In the context of National communications of non-Annex I Parties (NAI-NC)

Consultative Group of Experts (CGE) agreed on the usefulness of the Emission Factor Database and recommended improvement of data quality by enhancement of the sharing of country-specific emission factors through the Emission Factor Database among NAI Parties, as an element to be considered in a future revision of the NAI-NC Guidelines (FCCC/SBI/2011/5/Rev.1)

EFDB: Current and Future Work

TSU has been constantly working on improving EFDB:

o In May 2018 a new version of EFDB was released which allows better navigation (categorization for search) and better functionality for populating the content

o Also it has been upgraded to the latest IT-environment LAMP/ MySQL/ PHP

o Other features were improved as well (type of parameters, list of gases, sources of data for non-defaults, etc.)

o Next year it is planned to update the off-line version of EFDB

Responsibility and Contribution

o The responsibility of appropriate use of the EFDB information will always remain with the users themselves

o Success of the EFDB depends on your contribution!

If you work on development of GHG emission factors and would like to submit your data or give a feedback on the content/functionality of EFDB, please share it with the Technical Support Unit (TSU) via e-mail: *ipcc-efdb@iges.or.jp*

Thank you

https://www.ipcc-nggip.iges.or.jp/index.html