

Frequently asked questions and answers

Q1: What is IPCC EFDB?

A: IPCC Emission Factor Database (EFDB) is a library of emission factors (EFs) and parameters that can be used for estimation of national greenhouse gas (GHG) emissions/removals. The database contains default data from IPCC Guidelines and data from other sources (e.g., peer-reviewed papers) with background information.

For more details, see the User Manual (https://www.ipcc-nggip.iges.or.jp/EFDB/documents/EFDB_User_Manual.pdf).

Q2: Does the IPCC EFDB contain historical GHG emission estimates of countries?

A: The EFDB doesn't contain countries' emission estimates. Users may wish to review other sources such as United Nations Framework Convention on Climate Change (UNFCCC) GHG Data website which provides access to GHG data reported by countries to the UNFCCC and provides links to the websites of various organizations that also collect, estimate and/or disseminate data on GHG emissions/removals at <https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/what-is-greenhouse-gas-data>.

Q3: Does the IPCC EFDB contain EFs for NH₃, CO, NO_x, SO_x and NMVOC?

A: EFDB contains some EFs for precursors. Users may wish to review other sources such as European Monitoring and Evaluation Programme/European Environment Agency (EMEP/EEA) air pollutant emission inventory guidebook which provides guidance for estimation of emissions of air pollutants (e.g., CO, NO_x, SO_x and NMVOC) including default EFs

<https://www.eea.europa.eu/themes/air/air-pollution-sources-1/emep-eea-air-pollutant-emission-inventory-guidebook/emep>.

Q4: How to find EFs for purchased electricity or grid EFs in the EFDB?

A: The EFDB doesn't contain EFs for purchased electricity consumed and grid EFs. According to the IPCC Guidelines for national GHG inventories, CO₂ emissions from electricity generation is estimated based on how much fuels are combusted to produce electricity and the carbon content of the fuels. For more information please refer to Chapters 1 and 2, Volume 2 of the 2006 IPCC Guidelines (<https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html>) and Q2-3 at <https://www.ipcc-nggip.iges.or.jp/faq/faq.html>.

Users may also wish to review other sources such as the guidelines and tools for various GHG accounting schemes (e.g. corporate) provided by World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) <https://ghgprotocol.org/>.

Q5: I am looking for EFs for estimation of GHG emissions of a company. How to find such data in the EFDB?

A: The IPCC EFDB contains EFs and other parameters for estimation of GHG emissions and removals at national level. However, such data may not be directly applicable to levels other than national (e.g., company) where boundaries may be different. Please see Q1-4-1 and Q1-4-2 at <https://www.ipcc-nggip.iges.or.jp/faq/faq.html>.

Users may wish to review other sources such as the guidelines and tools for various GHG accounting schemes (e.g. corporate) provided by World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) <https://ghgprotocol.org/>.

Q6: How to find the data in the EFDB?

A: Users can use one of the search options. In case EFs or other parameters are searched for a particular IPCC Source/Sink Category, “Basic search” option will be useful. For more information please refer to the User Manual available at our website https://www.ipcc-nggip.iges.or.jp/EFDB/documents/EFDB_User_Manual.pdf.

Q7: Is there a way that I can download a table of EFs?

A: Users can export the data and results of their search (e.g., as an Excel file). For more information please refer to the User Manual available at our website https://www.ipcc-nggip.iges.or.jp/EFDB/documents/EFDB_User_Manual.pdf.

Q8: What kind of data can be included in EFDB (e.g., on life-cycle assessment, carbon footprint, implied EFs from national GHG inventories, from specific projects)?

A: EFs and parameters that can be used for national GHG inventories are included in the EFDB. The EFDB doesn't contain implied EFs (IEF) from national inventories, although EFs used in national inventories can be included in the EFDB if acceptance criteria are met. There are inventories other than national (e.g., subnational, cities and life-cycle assessment) and please see Q1-4-2 at <https://www.ipcc-nggip.iges.or.jp/faq/faq.html> for key differences. While the IPCC Guidelines provide methods and data (e.g. default EFs and parameters) for estimation and reporting of GHG emissions/removals at a national level, they are often used also as a basis for estimation of GHG emissions at levels other than national (e.g. project level and corporate level). However, it should be noted that they are not usually directly applicable for GHG accounting at such levels where boundaries may be different and emissions offsite may be taken in account, etc.

Q9: Can we develop EFs from a paper?

A: Published papers are one of the sources for deriving EFs and other parameters. Section 2.2.4, Chapter 2, Volume 1 of the 2019 Refinement provides updated generic guidance on derivation of EFs or other parameters for estimation of national GHG emissions/removals. <https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html>.

Q10: Does the EFDB contain carbon (C) stock change factors? How could those be converted in a CO₂ flux?

A: Yes, the EFDB contains C stock values, either in dry matter unit (e.g., tonnes d.m.), or in C unit (e.g., tonnes C). Dry matter can be converted in C units by applying a conversion

factor provided for each carbon pool in each land use in the 2006 IPCC Guidelines. The IPCC methodologies use changes in C stocks in each C pool as a proxy to estimate CO₂ emissions and removals from land categories. For reporting purposes, a net change in C stock in any land categories is considered to be associated to C transfer to or from the atmosphere and is converted to units of CO₂ emissions/removals by multiplying the C stock by -44/12. The conversion to CO₂ from C, is based on the ratio of molecular weights (44/12). The change of sign (-) is due to the convention that increases in C stocks, i.e. positive (+) stock changes, represent a removal (or “negative” emission) from the atmosphere, while decreases in C stocks, i.e. negative (-) stock changes, represent a positive emission to the atmosphere. For more information please refer to Chapter 2, Volume 4 of the 2019 Refinement. <https://www.ipcc-nggip.iges.or.jp/public/2019rf/index.html>.

Q11: Can we include EF in CO₂ equivalent in EFDB?

A: In general, EFs expressed as mass of a GHG emitted per unit activity but not in CO₂ equivalent (CO₂ eq.) mass are included in the EFDB. Emissions of a GHG expressed in CO₂ eq. is used to aggregate emissions and removals of GHGs. The CO₂ eq. emissions of a GHG is obtained by multiplying the emission of a GHG by, for example, its global warming potential (GWP). For more information on GWP please refer to Q1-2-11 <https://www.ipcc-nggip.iges.or.jp/faq/faq.html>.

Q12: What is Extra page? Which data are there?

A: In principle, data that do not fully meet the acceptance criteria cannot be included into EFDB. However, there are 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 on this page and take it into consideration when using those data. <https://www.ipcc-nggip.iges.or.jp/EFDB/otherdata.php>