IPCC-TFI-TSU Emission Factor Database Reconstruction Project

Call to Tender

August 2025

Institute for Global Environmental Strategies

IPCC-TFI-TSU Emission Factor Database Reconstruction Project Call for Tenders

1. Purpose

This Call for Tenders (hereafter referred to as “the Call” are issued by the Institute for Global Environmental Strategies (hereafter referred to as "IGES") to invite proposals for the IPCC-TFI-TSU Emission Factor Database Reconstruction Project (hereinafter referred to as "the project") through a comprehensive evaluation bidding process. The selection of the contractor will be determined through a review process, after which the project will be entrusted to the chosen contractor.

2. Scope of Work

The scope of work is specified in the attached IPCC-TFI-TSU Emission Factor Database Reconstruction Project Contract Specification (hereafter referred to as the "Specification"). The scope is limited to Module 1. Information on the requirements for Module 2, and future work, have been included for information purposes.

3. Proposal Submission, Review, and Contractor Selection Process

Entities wishing to undertake this project and meeting the eligibility criteria outlined in section 4 must prepare a Technical Proposal based on the Specification. The proposal should detail the specific content and plan for executing the project and must be submitted to IGES along with the bid documents.

IGES will evaluate the submitted bid documents based on technical, operational, and cost considerations, conducting a comparative review to select the most outstanding bidder. After discussions and adjustments with the relevant IGES department, necessary modifications will be made, and the final scope of work will be confirmed.

4. Eligibility Criteria

Applicants must not fall under any of the following categories:

① Entities undergoing rehabilitation or reorganization proceedings under the Corporate Reorganization Act or Civil Rehabilitation Act.

② Entities subject to provisional seizure, protective seizure, or seizure orders, or those facing foreclosure proceedings due to non-fulfilment of financial obligations.
③ Entities that have overdue tax payments.
④ Entities that have received an exclusion order from participation in national or local government competitive bidding and are still within the exclusion period.
⑤ Entities affiliated with organized crime groups (as defined in Article 2, Paragraph 2 of the Act on Prevention of Unjust Acts by Organized Crime Group Members). This includes: (i) entities under the control of organized crime groups or their members (including members of affiliated organizations) and (ii) corporations with executives who are current or former organized crime members, where less than five years have passed since their dissociation from such groups.

5. Bidding Procedures

5.1. Required Bid Documents

The proposal must include the complete set of documents specified in items ① to ④ below. An electronic submission (PDF format), signed with the official company signature/seal (or a representative's authorized signature/seal with a power of attorney), must be sent by email.

If a representative's authorized signature/seal is used, a power of attorney must be submitted alongside.

The required bid documents are as follows:

① Bid Document (Form 1) and Itemized Cost Breakdown (Free Format)

- When filling out the bid, enter the amount including consumption tax and local consumption tax.
- When filling out the breakdown statement, enter the breakdown of the estimated desired contract amount, and if you are a taxable business entity, include the amount equivalent to consumption tax and local consumption tax separately.

② Technical Proposal (Free Format)

- The technical proposal must describe the implementation plan in as much detail as possible, following the criteria in Appendix 1 (Evaluation Items) and the specifications.

- The requirements in the specifications are not absolute. Bidders should carefully consider the purpose, goals, and challenges outlined in the specifications and propose solutions that are technically feasible and cost-effective. If certain requirements are not met as a result, bidders must explicitly indicate this and provide a detailed explanation.

③ Company Profile (Free Format)

- Company name, address, organizational chart, number of employees, responsible department
- Experience in similar projects
- Qualified invoice issuer number

④ Subcontractor Declaration (If Applicable)

- If subcontracting part of the work, submit one copy of the following documents (free format):
    - Subcontractor Declaration Form signed with the subcontractor's official company signature/seal. The document must state the name of the subcontractor and the scope of work to be subcontracted.
    - Subcontractor's company profile

5.2. Bid Submission Deadline

The deadline is August 31, 2025 (Sunday) at 24:00 (JST). Bids must be received by this deadline.

5.3. Submission Method and Emailing Address

An electronic submission (PDF format) must be sent by email. The documents must arrive before the deadline. The email should be sent to the following address:

ipcctender2025@iges.or.jp

5.5. Questions and Inquiries

Questions related to these bid guidelines and specifications will be accepted only via email.

- Question Submission Period: From the publication date of these guidelines until August 22, 2025 (Friday) at 18:00 (JST).
- Contact: IGES Representative
- Email: ✉ ipcctender2025@iges.or.jp

- Response Method: Answers will be sent individually via email as questions are received.

6. Contractor Selection and Contract Process

6.1. Proposal Review and Selection of Winning Bidder

The Proposal Review Committee within IGES will conduct a fair and objective evaluation of the submitted documents. The selection will be based on a comprehensive assessment of price, technical aspects, and operational feasibility. The most outstanding proposal will be chosen as the winning bidder, and a runner-up will also be selected.

- During the review process, IGES may request clarifications or additional hearings from bidders.
- The results will be communicated to all bidders by September 8, 2025.
- The reasons for selection or rejection will not be disclosed.

6.2. Finalization of Contracting Entity

The winning bidder will negotiate with IGES to finalize the contract agreement, based on the proposed work scope and bid price. If an agreement cannot be reached, IGES will negotiate with the runner-up.

6.3. Contract Signing

IGES will sign the contract with the selected contractor by September 26, 2025 (Friday), based on the finalized agreement.

7. Other Conditions

7.1. Confidentiality Obligation

All participants in the bidding process, as well as the contractor (including subcontractors), must not disclose, use for any purpose other than the project, or leak any information or deliverables obtained through this project. This confidentiality obligation applies even after the contract period ends.

7.2. Intellectual Property Rights

- The contractor shall not exercise any moral rights of authorship against IGES and shall not allow any third party to exercise such rights.

- If any third-party intellectual property is included in the deliverables, the contractor shall handle all necessary permissions and cost burdens, unless IGES has specifically instructed the use of such materials.
- If any copyright dispute arises between the contractor and a third party in connection with this project, the contractor shall resolve the matter at its own responsibility and cost, except in cases where IGES is solely responsible for the issue.
- If IGES becomes aware of any disputes, it will promptly notify the contractor.

7.3. Handling of Proposals

- IGES will not use the submitted proposals for purposes other than the evaluation process without prior consent from the bidder.
- The winning bidder's technical proposal will be attached to the contract and may be disclosed, except for confidential information (e.g., personal data, trade secrets) in accordance with the Act on Access to Information Held by Administrative Organs (Act No. 42 of 1999).

8. Additional Notes

- All costs related to the preparation, submission, and presentation of the proposal (including hearings) will be borne by the bidder. Submitted documents will not be returned.
- Only one proposal per bidder is allowed.
- Modifications or replacements of submitted documents will not be accepted.
- Late submissions, false information, or missing required documents will render the bid invalid.

(Appendix 1) Evaluation Criteria for Bid Documents

Evaluation Criteria:

Item	**Maximum points**	**Evaluation Points**
Bid Price	30	• Is the price within a feasible range? • Is the bid price cost-effective? • Is the allocation of resources to each task suitable?
Specification	35	**Specification** • Does the proposed implementation plan align with the requirements, objectives, and scope stipulated in the specifications? • Timeliness of the proposed implementation plan • Does the proposed system provide all necessary functionalities? • Will the developed system be easy to operate and manage?
	5	**Scalability** • Is the proposed system structured to allow for future expansion and additional work scope?
	5	**Security Measures** • Does the system have strong security measures? • Can it flexibly handle security updates and enhancements?
	5	**Quality control** • Are the proposed quality control measures appropriate?
Company profile (incl. any subcontractors)	20	• Does the company and any subcontractors have suitable experience?
Total	100	

(Form 1)

Tender Documents

Institute for Global Environmental Strategies

To: President of the Institute for Global Environmental Strategies

Project name	IPCC-TFI-TSU Emission Factor Database Reconstruction Project

I have carefully read the specifications for the above tender subject and submit my bid.

Total cost of this scope of work contract	¥

(Amounts should be entered in Arabic numerals and prefixed with ¥)　　(tax-included)

Year　　Month　　Day

Address

Company name

Representative name

Signature

Contact (email address)

IPCC-TFI-TSU Emission Factor Database Reconstruction Project

Specification

JULY 1, 2025

Institute for Global Environmental Strategies

1. Introduction

The aim of the EFDB was to be an always up-to-date companion for the IPCC guidelines for National Greenhouse Gas Inventories, disseminating most recent scientific information on EFs and parameters.

It is meant to be a recognised data repository where users can find EFs and other parameters, along with background documentation and references. It includes default data from the IPCC Guidelines and data from other relevant sources; it covers source/sink categories from the IPCC Guidelines and it may include EFs and other parameters relevant for sources/sinks not included within the current IPCC Guidelines. The EFDB is open to any data proposals.

In addition to being a resource for inventory compilers it is also a source of information for authors in the production of IPCC Guidelines.

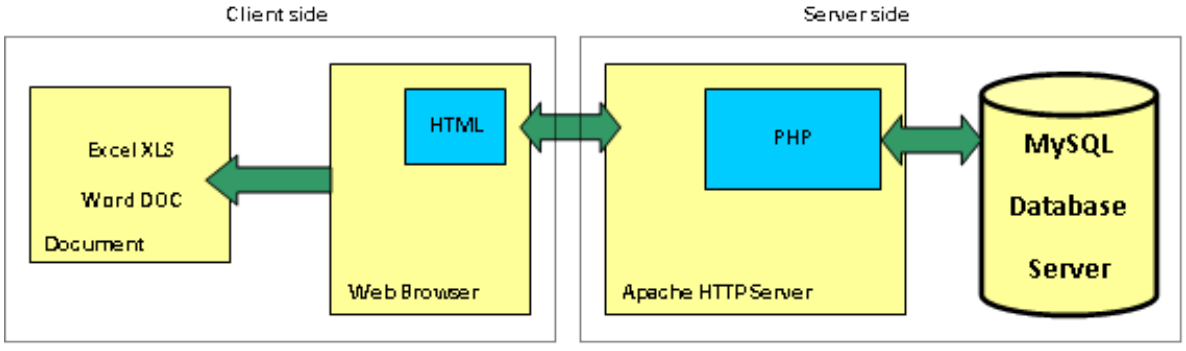
1.1 Current architecture and issues

The current database is a MySQL (Version 14.14, Distribution 5.7.44) database hosted on Google Compute Engine (GCE). This is linked to an Apache HTTP Server with PHP which has MySQL support. This is hosted on the same server as the database. A n1-standard-1 VM is being used, one vCPU with a memory of 3.75 GB and throughput of 2Gbps.

The database is accessible to external users via the EFDB website, which links to the SQL database via PHP. This website consists of text pages and three pages for searching the database. Data can be downloaded as an Excel or MS word file.

Data is uploaded to the database through an excel tool. This tool generates an SQL script for uploading the data, which needs to be done on the server. The upload process includes QA of the data, rejecting the whole dataset if there are any errors. There is additional admin software which was built as an extension to the original which has functionality to export/import data, find duplicates and delete data.

Figure 1 Diagram of the current system architecture



The current database has some key issues:

- Adding data to the database is very time consuming, especially large datasets due to the strict QA procedures
- Access by the TSU team is limited to the administrator or via the publicly facing website
- Searching the database via the publicly facing website is limited both by the fields that are searchable, the fields available and open text fields resulting in variability of values within some fields
- It is only possible to view/download many of the fields for individual points only

2. Requirements

The update of the EFDB has been divided into modules. Module 1 is applicable to this tender process with Module 2 planned for 2026/7. The following sections list the requirements for the two modules as well as some future planned additions.

Migrating the data from the old database to the new is out of the scope of this work and will be completed by the TSU.

2.1 Module 1

Module 1 represents the minimum development that will result in an internal functioning database and is the subject of this tender.

Database

A new internal database would need to be developed. While it is proposed to for the new database to continue to use MySQL we are open to the option of using a noSQL database. The TSU would produce the data schema, with the proposed structure of the database included in the Annex (subject to change). Data modification through a database management tool to select, insert, update, delete is also required.

Access to the data

An internal website will be developed to provide an interface to the database. The design of this website should follow the design of the external website to save time in the later development. Access to this internal site will be limited to the TSU team, with the exception of the single data entry (see section below).

The requirements for TSU's access to the data are:

- Login details with different permissions groups
- Access only possible when connected to the IGES internet or VPN
- Ability to link to the database and interact with the data in external software (e.g. R, python, MS Excel) to view, filter and run queries on data
- Add, delete and edit data directly within the database (adding data directly is likely going to be limited to updating the lookup tables)
- Export query results or data tables as Excel or CSV
- Data entry via the two processes discussed below

Data entry

Data entry would fall under two scenarios:

- A low number of data points submitted individually by external data providers (upload of single data points)
- Larger datasets uploaded by the TSU in one go

Larger datasets

The TSU team needs to be able to upload a number of data points in one go, for example data underlying default emission factors in the SLCF methodology report which is currently being developed. A program/web function would therefore need to be developed to be able to upload data in bulk, which would have insert, update and delete access in the database. The requirements are:

- Data upload process by upload of an excel
- Run QA checks:
    - Ensuring completeness of mandatory fields
    - Only block data upload of the data rows that fail checks, not block in bulk
    - Produce and display a load log which details information on failures of specific records

Single data points

In this case there is a one to a few data points in published scientific literature that an external researcher wishes to have included within the EFDB. The data would likely be within a PDF file, with no consistent structure, so would need to be manually entered into any developed EFDB data entry system. The source and inputter details could be the same for all the data points entered so it would be beneficial for a user to not be required to input these fields multiple times. It is also possible that this data entry type would also be used by the TSU.

The internal site therefore needs to allow for upload of a single value via a webform. The key requirements for the data entry form are:

- Available online through a link that would be on the TFI website
    - Security of any online form will be a high priority, not allowing users to access the data within the database or make the form unusable for others
- Include dropdown fields based on lookup tables in the database
- A subset of the dropdown fields will be limited based on value(s) entered in an initial field (i.e. IPCC sector selection)
- Able to report more than one value for a few fields (e.g. gases and IPCC sector)
- More mandatory fields than the main database, which if incomplete would not allow form submission. Whether a field is mandatory will in some cases would be based on value(s) entered in an initial field (i.e. sector/parameter specific).
- Ability to add more than one data point per source – not having to complete the source and data submitter fields more than once
- Notification to the TSU when data is submitted
- Data initially entered into the database labelled as not for publication

The external users of the form should not be able to access any other part of the internal website.

Permission groups

Two permission groups are expected: admin and editor. Editors would have full access to upload, view, export, edit and delete data across both databases while admin users would also have the additional ability to change users and their access rights. Majority of the TSU is expected to be an editor, around six people, with one TSU member (who is also in charge of wider TSU IT arrangements and security) as admin.

2.2 Module 2

The second module concerns the development of an external system, that would be publicly accessible replacing the current EFDB website[1]. This module is not included in the current tender, however any system developed under Module 1 would have to compatible with the below requirements so that work on Module 2 can be completed the following year (estimated).

[1] EFDB - Main Page

The revised website will be used by external users to search and download the data in the internal database that the TSU team wishes to make publicly available. This would be the main point of interaction of the EFDB for most users.

It would involve the development of an external database which mostly follows the internal database, but excluding unnecessary fields, and external website. The proposed structure of this database included in the Annex (subject to change). An automated process to export the required data from the internal database to the external database would be required.

The key requirements for the external database/website are:

- Only access the publicly available data with a one-way link
- Multiple search options:
    - A main search function page using an initial form query that is completed to filter the data, by selecting from the set lists or text searches (depending on the field in question)
    - Include the function to search for an ID in a revised basic search page
    - A full text search function across all fields
- Display data as a table with one row per data point
- Ability to select fields visible/exportable
- Fields marked as confidential (e.g. submitter details) in the database would be completed with text saying confidential in the publicly available database/site
- Export data in MS Excel and CSV files
- Consistency in design with the main TFI site and access to the main site menu
- An Application Programming Interface to allow for other applications to search the publicly available database

The current EFDB site has text pages which would not be included in the updated version, they are to be moved to the main TFI site.

2.3 Future developments

Further in the future the TSU is considering expanding to gather data such as satellite data, emissions data from point sources, and relevant activity data which would be used in analysis. This data is likely to be confidential and would not be made publicly available. The data will include location information and not fit within the proposed EFDB schema. A separate database would therefore be required.

Data could either be a one-off/irregularly received or received regularly. For one-off data it is anticipated that a process to upload data via an excel template, similar that proposed for larger datasets in Module 1, would be required.

Regularly received data may require individual data upload processes to be developed, with links between the data provider and the EFDB, or other specific upload processes for this data that would not require the TSU translation of the original data into the template used for bulk upload.

These features are not required for the current tender.

3. Annex I

Figure 2: Proposed internal database structure

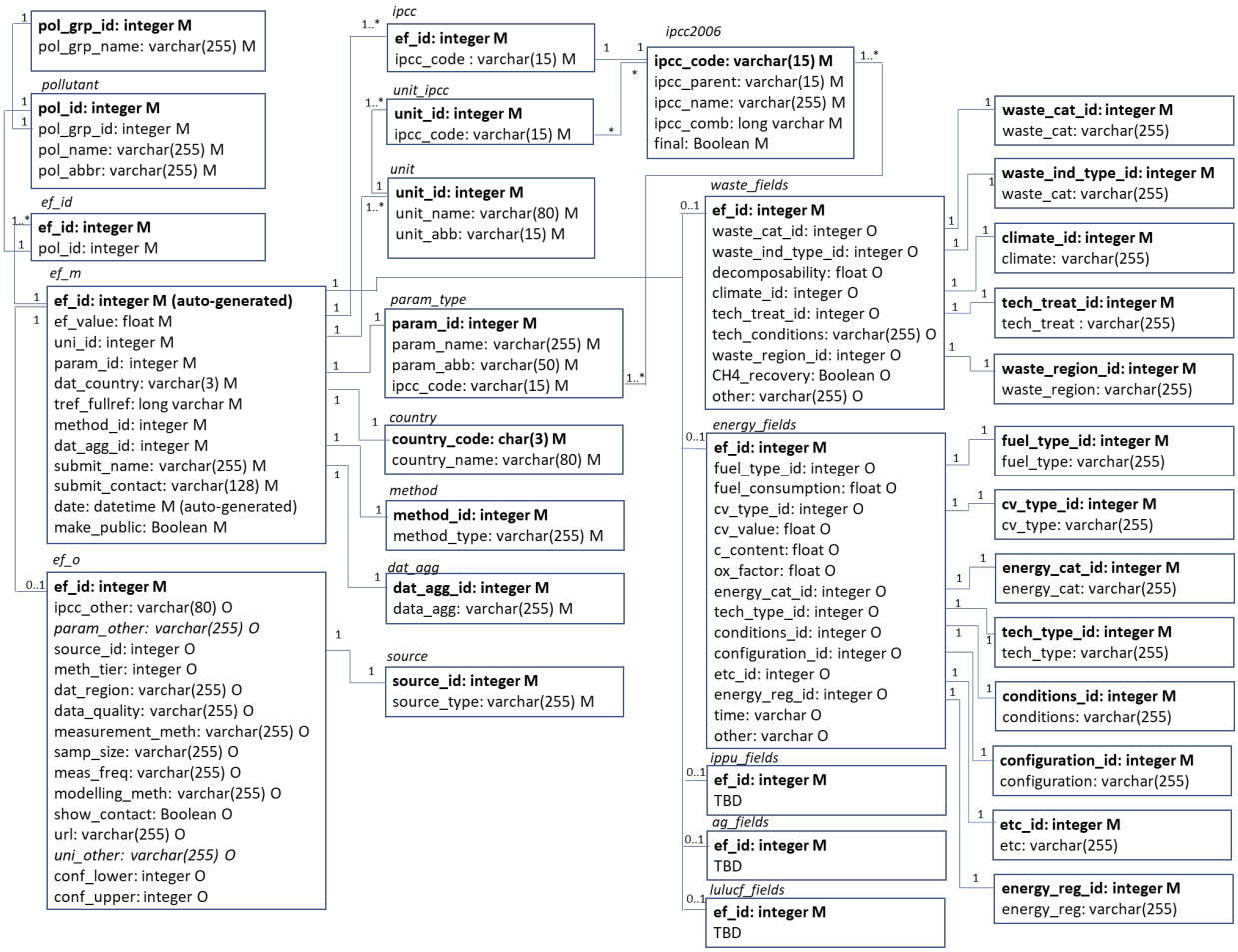


Figure 3: Proposed external database structure