



Preliminary Request for Proposals

Modernization of the EFFC/DFI Carbon Calculator for Geotechnical Construction

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1. Purpose

The purpose of this Request for Proposals is to solicit technical and price proposals for modernization of the existing EFFC/DFI Carbon Calculator for Geotechnical Construction with the current state of practice in life cycle carbon assessment.

2. Background

The European Federation of Foundation Contractors (EFFC) Sustainability Working Group and The Deep Foundations Institute (DFI) Sustainability Committee formed the joint EFFC/DFI Carbon Calculator Task Group (hereinafter the Task Group) to update and improve the [EFFC/DFI Carbon Calculator](#) (hereinafter the Calculator). The Carbon Calculator is an Excel-based tool that calculates the CO₂e emissions of foundation and geotechnical works. It is designed to allow contractors, engineers, and commissioning organizations alike to assess the carbon emissions of their projects. The tool was developed using verifiable, standardized data to enable accurate benchmarking of competing project proposals.

While recognizing the industry-leading initiative that led to the development of the existing tool, the Task Group has identified a need to update and modernize the Calculator. Based on feedback from Task Group members, users, and other industry groups, the Task Group is recommending the redevelopment of the Calculator in a primarily web-based application.

The Task Group recognizes and emphasizes the elevated awareness of and need for carbon emission calculation, reduction, and reporting. This initiative will help member firms satisfy procurement and contracting requirements as well as meet internal, local, regional, national, and international climate goals.



3. Initial Scope of Work

The desired outcomes from the redevelopment effort are categorized into several topics. These are not listed in order of priority, preference, anticipated level of effort, or anticipated development cost.

- **Structure**
 - Convert existing Calculator from Microsoft Excel-based format to web-based application with all existing functionalities.
 - Allow submission of custom emission factors (with or without 3rd party verification; add warnings/notices for unverified data).
 - Develop templates for users to import & export project data in .xlsx, .csv, and/or other common file types; preferable to be compatible with other mainstream LCA tools.
 - Provide capability to interface with existing web applications through an API or other web-based interface. This feature would allow individual firms to integrate the new tool into existing, in-house, web-based cost estimating and design tools and other 3rd party databases.
- **Access**
 - Provide public access at a level commensurate with Consultant's business model and EFFC/DFI contributions. Strong preference to keep the tool open for public access as it has been for the last decade, but the Task Group is open to alternative options.
 - Provide EFFC & DFI staff with administrative privileges for metadata review, user analytics, and updates.
 - Allow users to grant access for EFFC & DFI to view anonymized project data; aggregate project data for benchmarking
- **Database Connectivity**
 - Provide web-based connection and regular, automated updates to existing, public emission factor and EPD database(s) for typical materials, goods, and processes used in geotechnical construction.
 - Examples of potential databases include:
 - Ecoinvent
 - EC3
 - One Click LCA
 - Local/regional considerations (North American vs European)
- **Documentation**
 - Collaborate with EFFC & DFI to produce a new user manual, project examples, and one recorded webinar for education of the EFFC & DFI memberships and broader geotechnical construction industry.
 - Include documentation and user instructions for API connectivity.
 - Ensure this new tool is capable of calculations with outputs that align to the GHG Protocol, EN 15978, ISO 14040, and other recognized standards. This will ensure it is compatible with wider construction calculations from designers / clients.
- **Security**
 - Safeguard user information and data entered into the tool to standards that align with the standard of care in public web applications and GDPR.
 - Ensure user data cannot be viewed or accessed by other entities without permission.
- **Hosting**
 - Provide an acceptable hosting recommendation and associated costs in collaboration with EFFC and DFI.



- **Miscellaneous Calculations**

- Provide uncertainty calculations (conservative & achievable emissions)
- Provide project reporting capability for Scopes 1, 2, & 3 emissions for Contractors.

4. Additional Scope of Work

In addition to the baseline Scope of Work above, the Task Group has outlined other features and improvements that may be made. After substantial completion of the baseline Scope of Work, the Task Group may request a supplemental proposal from the Consultant for some or all of the additional Scope of Work.

If the Task Group and Consultant cannot come to an agreement for the additional Scope of Work, the Task Group may issue a public Request for Proposals.

- **Structure**

- Add user feedback mechanisms.
- Add user project submission feature (for 3rd party verification).
- Provide ability to interface with BIM applications (compatible export formats may be sufficient).
- Compatibility with AGS & AGSi data format / DIGGS data format

- **Geotechnical Construction Techniques**

- Support update and expansion of project database to include a representative number of projects for each geotechnical construction technique included in the current version of the Calculator. Exact number of projects to be confirmed after consultation; preliminary discussions noted ten (10) projects per technique may be adequate.
 - The Task Group will lead the effort to solicit project data from member firms.
- Support inclusion of additional techniques in the project database.
- Update emission source breakdown and identification of primary/secondary emission sources for each technique.

- **Construction Materials**

- As feasible, provide or develop generic, industry-wide, or regional emission factors for materials, goods, and processes not included in public EPD databases.

- **Energy Usage**

- Improve the level of granularity and for regional electricity grids and fuel use emissions.

- **Transportation**

- Improve level of granularity and for transportation emissions, including but not limited to personal transportation, road/rail/water freight (short, medium, and long distance), waste removal.

- **Miscellaneous Calculations**

- Include ability to add monetary values to individual line items for Life Cycle Cost Analysis.
- Include ability to toggle on/off use stage emissions for consideration of geothermal “energy piles” that produce energy and/or eliminate/reduce dependence on fossil fuels for building heating/cooling.

- **Support**

- Provide continued maintenance, development, and technical support to both EFFC/DFI groups and general users.

- **Verification**

- Engage a 3rd party to verify / certify this new tool aligns with the GHG Protocol, EN 15978, ISO 14040, and other recognized standards.



5. Proposal Format and Contents

Consultants submitting their proposal are strongly urged to follow a common format to enable the Task Group to efficiently evaluate their responses. The Task Group will schedule pre-evaluation presentations with selected proposers that elect to give a technical briefing.

Each proposal section is listed below, along with the section contents:

- a) Section 1. Cover Letter: Submit a cover letter on your letterhead signed by the appropriate official in your organization. Certify the accuracy of all information in your proposal. The cover letter shall include the signature of an authorized representative of the Consultant and include names of individuals authorized to negotiate with the Task Group.
- b) Section 2. Executive Summary: Submit an executive summary of your proposal, not to exceed 2 pages in length.
- c) Section 3. Contributors: Include all key Contributors. Include experience and publications of each Contributor directly applicable for this project. Please do not exceed one page per Contributor.
- d) Section 4. Subconsultants and Subcontractors: List the names of consultants and/or subcontractors and describe the activities to be performed.
- e) Section 5. Schedule and Milestones: Please follow the format indicated in Part 6 of this document, Schedule and Milestones. Some milestone schedule dates have been predetermined and should be reflected in the proposal.
- f) Section 6. Budget: All proposals should include a lump-sum fee for all work involved in the delivery of a functional, web-based tool to the Task Group. Provide an approximate fee breakdown by functionality and annual hosting fee, if applicable.

6. Schedule and Milestones

The proposal process will follow a two-phase submission process. Phase 1 is an open, unrestricted request with responses to include a preliminary proposal and budgetary costs. Shortlisted proposers will be invited to present and submit detailed proposals & cost breakdowns in Phase 2.

The Task Group’s goal is to publish the web-based tool in Q3 2026. To accomplish this goal, below is a suggested schedule with intermediate milestones and project tracking. Consultants may propose a modified timeline that should include, at a minimum, the following information and should be structured such that the finalized deliverables are submitted to the Task Group on or before March 1, 2026:

Task	Milestone	Completion Date
1	RFP Release	October 10, 2024
2	Phase 1 Submission: Preliminary Proposal & Budget	December 13, 2024
3	Phase 2 Submission: Detailed Proposal & Cost Breakdown	January 10, 2025
4	Final Review, Presentation to EFFC/DFI Boards, and Approval	Late Q1 2025
5	Commencement of Work	Q2 2025
6	Alpha Version released for internal review	Q3 2025
7	Beta Version released for limited public use	Q1 2026
8	Full public release	Q3 2026