Department for
Energy Security
& Net Zero

Title:	Research on Data quality of Life Cycle Assessments of steel, cement and concrete products
Tender Reference Number:	Prj_2656
Deadline for Responses:	19th February 2024

Department for
Energy Security
& Net Zero

Date: 28th December 2023

The Department for Science, Innovation & Technology & Department for Energy Security & Net Zero (referred throughout these documents as “DSIT/DESNZ” or the “Department” collectively) wishes to commission the project Research on Data quality of Whole Life Carbon Assessments of steel, cement and concrete products.

Enclosed are the following sections:

- Section 1 (page 6) Instructions on tendering procedures
- Section 2 (page 12) Specification of Requirements
- Section 3 (page 42) Further information on tender procedure
- Section 4 (page 46) Declarations to be submitted by the tenderer;
  - Statement of non-collusion
  - Form of tender
  - Conflict of interest
  - Standard Selection Questionnaire
  - The General Data Protection Regulation Assurance Questionnaire for Contractors
  - Code of Practice for Research
- Annex A: Pricing schedule (page 47)

Please register your interest in submitting a tender through the Jaggaer platform. This will ensure you receive immediate notification of updates to the ITT process or answers to questions raised by potential bidders.

Please read the instructions on the tendering procedures carefully since failure to comply with them may invalidate your tender. Your tender must be returned by the closing date clearly displayed in the Jaggaer portal.

I look forward to receiving your response.

Yours sincerely,

Melanie Jans-Singh

Department for
Energy Security
& Net Zero

Privacy Notice

This notice sets out how we will use your personal data, and your rights. It is made under Articles 13 and/or 14 of the General Data Protection Regulation (GDPR).

YOUR DATA

We will process the following personal data:

Names and contact details of employees involved in preparing and submitting the bid; names and contact details of employees proposed to be involved in delivery of the contract; names, contact details, age, qualifications and experience of employees whose CVs are submitted as part of the bid.

Purpose

We are processing your personal data for the purposes of the tender exercise described within the remainder of this Invitation to Tender, or in the event of legal challenge to such tender exercise.

If you intend to use the above personal data collected in the procurement exercise to evaluate the procurement exercise and obtain feedback from tenderers, you need to highlight this here and update the section on retention.

Legal basis of processing

The legal basis for processing your personal data is processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the data controller, such as the exercise of a function of the Crown, a Minister of the Crown, or a government department; the exercise of a function conferred on a person by an enactment; the exercise of a function of either House of Parliament; or the administration of justice.

Recipients

Your personal data will be shared by us with other Government Departments or public authorities where necessary as part of the tender exercise. We may share your data if we are required to do so by law, for example by court order or to prevent fraud or other crime.

Retention

All tenders will be retained for a period of 6 years from the date of contract expiry, unless the contract is entered into as a deed in which case it will be kept for a period of 12 years from the date of contract expiry.

YOUR RIGHTS

You have the right to request information about how your personal data are processed, and to request a copy of that personal data.

You have the right to request that any inaccuracies in your personal data are rectified without delay.

You have the right to request that any incomplete personal data are completed, including by means of a supplementary statement.

You have the right to request that your personal data are erased if there is no longer a justification for them to be processed.

You have the right in certain circumstances (for example, where accuracy is contested) to request that the processing of your personal data is restricted.

You have the right to object to the processing of your personal data where it is processed for direct marketing purposes.

You have the right to object to the processing of your personal data.

INTERNATIONAL TRANSFERS

Your personal data will not be processed outside the UK/EEA.

COMPLAINTS

If you consider that your personal data has been misused or mishandled, you may make a complaint to the Information Commissioner, who is an independent regulator. The Information Commissioner can be contacted at:

Information Commissioner's Office
Wycliffe House
Water Lane
Wilmslow
Cheshire
SK9 5AF
0303 123 1113
casework@ico.org.uk

Any complaint to the Information Commissioner is without prejudice to your right to seek redress through the courts.

Department for Energy Security & Net Zero

CONTACT DETAILS

The data controller for your personal data is the Department for Energy Security & Net Zero (DESNZ).

You can contact the DESNZ Data Protection Officer at: DESNZ Data Protection Officer, Department for Energy Security & Net Zero, 3-8 Whitehall Place, London, SW1A 2EG. Email: dataprotection@DESNZ.gov.uk.

Department for
Energy Security
& Net Zero

Section 1

Instructions and Information on Tendering Procedures

Invitation to tender for: Research on Data quality of Life Cycle Assessments of steel, cement and concrete products
Tender reference number: prj_2656
Deadline for tender responses: 19th February 2024 at 2pm

Department for
Energy Security
& Net Zero

Contents

A. Indicative Timetable

The anticipated timetable for this tender exercise is as follows. The Department reserves the right to vary this timetable. Any variations will be published on contracts finder or circulated to all organisations who have registered an interest in notifications.

Tender Timeline	Date
Advert and full invitation to tender issued	28th December 2023
Deadline for questions relating to the tender	15th January 2024 at 2pm
Responses to questions published	20th January 2024
Deadline for receipt of tender	19th February 2024 at 2pm
All suppliers alerted of outcome	1st March 2024
Standstill Period	4th – 13th March 2024
Contract award on signature by both parties	18th March 2024
Contract start date	1st April 2024

The contract is to be for a period of 12 months unless terminated or extended by the Department in accordance with the terms of the contract.

B. Procedure for Submitting Tenders

The maximum page limit for tenders is 25 (excluding declarations, pricing schedule and CVs). To apply for this tender please register on the following website, https://beisgroup.ukp.app.jaggaer.com/. For any registration queries, please contact the Jaggaer Helpdesk on 08000 698 632 or email customersupport@jaggaer.com for any registration queries.

Please upload your proposal before the deadline via https://beisgroup.ukp.app.jaggaer.com/. For questions regarding the procurement process please contact us via the “Messages” tab of the ITT on Jaggaer.

Tenders will be received up to the time and date stated. Please ensure that your tender is delivered not later than the appointed time on the appointed date. The Department does not undertake to consider tenders received after that time. The Department requires tenders to remain valid for a period indicated in the specification of requirements.

The Department shall have the right to disqualify you from the procurement if you fail to fully complete your response, or do not return all of the fully completed documentation and declarations requested in this ITT. The Department shall also have the right to disqualify you if it later becomes aware of any omission or

misrepresentation in your response to any question within this invitation to tender. If you require further information concerning the tender process, or the nature of the proposed contract, use the "Messages" tab of the ITT on the Jaggaer portal. All questions should be submitted by 2pm on 15th January 2024; questions submitted after this date may not be answered. Should questions arise during the tendering period, which in our judgement are of material significance, we will publish these questions with our formal reply by the end of 20th January 2024 and circulate – unnamed - to all organisations that have expressed an interest in bidding. All contractors should then take that reply into consideration when preparing their own bids, and we will evaluate bids on the assumption that they have done so.

You will not be entitled to claim from the Department any costs or expenses that you may incur in preparing your tender whether or not your tender is successful.

C. Conflict of Interest

The Department's standard terms and conditions of contract include reference to conflict of interest and require contractors to declare any potential conflict of interest to the Secretary of State.

For research and analysis, conflict of interest is defined the presence of an interest or involvement of the contractor, subcontractor (or consortium member) which could affect the actual or perceived impartiality of the research or analysis.

Where there may be a potential conflict of interest, it is suggested that the consortia or organisation designs a working arrangements such that the findings cannot be influenced (or perceived to be influenced) by the organisation which is the owner of a potential conflict of interest. For example, consideration should be given to the different roles which organisations play in the research or analysis, and how these can be structured to ensue maintain an impartial approach to the project is maintained.

The process by which this is managed in the procurement process is as follows:

1. **During the bidding process, organisations may contact DESNZ to discuss whether or not their proposed arrangement is likely to yield a conflict of interest.** Any responses given to individual organisations or consortia will be published on contract finder (in a form which does not reveal the questioner's identity). Any organisation thinking of submitting a bid, should share their contact details with the staff member responsible for this procurement, to ensure they receive an update when any responses to questions are published.

2. **Contractors are asked to sign and return 'Declaration 3' to indicate whether or not any conflict of interest may be, or be perceived to be, an issue.** If this is the case, the contractor or consortium should give a full account

of the actions or processes that it will use to ensure that conflict of interest is avoided. In any statement of mitigating actions, contractors are expected to outline how they propose to achieve a robust, impartial and credible approach to the research.

3. **When tenders are scored, this declaration will be subject to a pass/fail score**, according to whether, on the basis of the information in the proposal and declaration, there remains a conflict of interest which may affect the impartiality of the research.

Failure to declare or avoid conflict of interest at this or a later stage may result in exclusion from the procurement competition, or in the Department exercising its right to terminate any contract awarded.

D. Evaluation of Responses

The tender process will be conducted to ensure that bids are evaluated fairly and transparently, in accordance with agreed assessment criteria. Further details are provided in the specification.

E. Terms and conditions applying to this Invitation to Tender

The Department's Standard Terms and Conditions of Contract will apply to this contract. These are available to download on https://beisgroup.ukp.app.jaggaer.com/.

Please read the Procurement Guidance on GDPR and Cyber-Security. If the Contractor will be a Joint Data Controller, the data protection provisions contained in the Standard Terms and Conditions will be replaced by a Data Sharing Agreement drafted by Government Legal Department. If this applies to your procurement, the change from the standard data protection provisions should be described in this section of the Invitation to Tender.

If the Contractor will transfer personal data outside of the European Economic Area or the countries highlighted in Procurement Guidance on GDPR and Cyber-Security, please inform your Procurement Business Partner, who will highlight the changes which will need to be made to the standard data protection provisions.

F. Further Instructions to Contractors

The Department reserves the right to amend the enclosed tender documents at any time prior to the deadline for receipt of tenders. Any such amendment will be numbered, dated and issued by 16th January 2024. Where amendments are

significant, the Department may at its discretion extend the deadline for receipt of tenders.

The Department reserves the right to withdraw this contract opportunity without notice and will not be liable for any costs incurred by contractors during any stage of the process. Contractors should also note that, in the event a tender is considered to be fundamentally unacceptable on a key issue, regardless of its other merits, that tender may be rejected. By issuing this invitation the Department is not bound in any way and does not have to accept the lowest or any tender and reserves the right to accept a portion of any tender unless the tenderer expressly stipulates otherwise in their tender.

G. Checklist of Documents to be Returned

- Proposal (maximum 22 pages)
- Annex A: Pricing schedule (spreadsheet can be downloaded along with the specification documents)
  The following are available in the digital Qualification Envelope of the ITT in Jaggaer, section references below:
- Declaration 1: Statement of non-collusion (Section 1.2.1)
- Declaration 2: Form of Tender (Section 1.2.2)
- Declaration 3: Conflict of Interest (Section 1.2.3 to 1.2.5)
- Declaration 4: Standard Selection Questionnaire (Section 1.2.6, 1.2.7 and 1.3 to 1.15)
- Declaration 5: The General Data Protection Regulation Assurance Questionnaire for Contractors (Section 1.14.3)
- Declaration 6: Code of Practice (Section 1.19.1 to 1.19.3)

Department for
Energy Security
& Net Zero

Section 2

Specification of Requirements

Invitation to tender for: Research on Data quality of Life Cycle Assessments of steel, cement and concrete products
Tender reference number: prj_2656
Deadline for tender responses: 19th February 2024 at 2pm

Department for
Energy Security
& Net Zero

Contents

1. Introduction and summary of requirements

Embodied emissions represent 6% of UK consumption emissions, and 10% of UK territorial emissions. Over half of embodied emissions in construction relate to materials use, which is predominantly due to steel, concrete and cement consumption. To reduce these emissions, it is essential to track embodied carbon and make sure the reported emissions are correct.

The Industrial Decarbonisation Strategy published in 2021 signalled the potential use of Life Cycle Assessments (LCAs) to enable the inclusion of embodied emissions in product labelling and points towards data for embodied carbon in products' and materials' LCAs as an area that requires more evidence. A recent consultation on product standards and CBAM (Carbon Border Adjustment Methodology) highlighted the need for policy makers to better understand the data quality, methodology, prevalence and applicability of different product standards for steel, cement and concrete.

This project will compare the prevalence, methodology, outputs and data quality of different Life Cycle Assessment methodologies and standards widely used for construction products, particularly steel, cement and concrete. The methodologies compared will include widely used international standards for Environmental Product Declarations (EPDs), the newly developed EU CBAM[1], EU Product Environmental Footprint (PEF), EU/UK ETS, carbon footprinting standard ISO 14067, the GHG Protocol, and industry specific standards such as GCCA CO_2 Protocol and the Responsible Steel Standard. The successful bidders will determine a list of products to investigate upon project start based on available data, and an analysis of quantities produced and imported in the UK.

A tool will be developed to enable DESNZ to understand the sensitivity of input data and methodological choices on the outcomes of emissions assessments. A technical annex is included in the specification in Section 17, with a suggested list of standards and products to investigate, but at minimum the project should compare EPDs aligned with EN 15804 with EU CBAM, the GHG Protocol and ISO 20915. Analysis will help develop average benchmarks for different steel, cement and concrete products produced in the UK today and imported, and for innovative concrete products. Infographics, benchmark data, presentations and a public report will enable dissemination of findings widely and maximise impact. The outcomes of this work will also feed into international alignment efforts on harmonising standards for life cycle assessments of steel, cement and concrete products with the IEA Working Party on Industrial Decarbonisation (WPID) and the Industrial Deep Decarbonisation Initiative (IDDI).

This project is expected to take approximately one year (April 2024-March 2025) and cost up to £175k exc VAT. We expect consultants, researchers, and/or industry experts with expertise in construction products' LCAs, manufacturing process of steel/cement/concrete, and of building/infrastructure projects to undertake the work.

The methods are expected to include secondary data collection (e.g. gathering data from several LCA databases), primary data collection from manufacturing sites, and modelling.

[1] Recent guidance can be found here https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en#guidance

The project steering group will enable the project to collaborate with several government projects aimed at measuring, investigating and reducing emissions of steel, cement, and concrete run by DLUCH, DESNZ, Defra and Innovate UK.

2. Background

Decarbonisation of the construction sector is essential for meeting climate change targets cost-effectively; however, this is a big challenge. The built environment (buildings and infrastructure) accounts for 25% of UK consumption-based emissions, of which approximately 25% is from new construction materials (also known as embodied carbon)[2]. As the grid decarbonises, embodied carbon will represent an increasing fraction of built environment emissions.

Life Cycle Assessments (LCAs) are calculations to determine all associated emissions (and further environmental impact factors) over the lifetime of producing, operating, maintaining and decommissioning a product or construction works, and are necessary to decarbonise the built environment sector. First emissions need to be accounted for, to then develop future emissions targets and cost-effective carbon reduction policies. LCAs of iron, steel, cement and concrete products are governed through several different international standards and their interpretation can be very open and lead to inconsistencies (e.g. different reference periods, assumptions, data sources, life cycle stages reported). This research aims to determine the extent and impact of these inconsistencies and uncertainties by analysing data from various repositories of LCAs.

The Industrial Decarbonisation Strategy recognises more work is needed to build the evidence base of embodied carbon in products, materials and full LCA data. Construction materials, notably steel, cement, concrete, aluminium, glass and timber, are key sectors targeted by industrial decarbonisation policy. To overcome the risk of carbon leakage (buying cheaper higher carbon products compared with more expensive domestic low carbon products), policy teams are looking at mandating product standards on a range of products, likely starting with steel, cement and concrete, aimed at growing the market for low carbon products. For example, Environmental Product Declarations (EPDs) could be required to track embodied carbon, and thresholds could be set for the procurement of products based on EPD data. This study also aims to investigate the cost along the supply chain of making LCAs, and any particular challenges for different types of products, e.g. novel concretes. The UK has recently committed to implement a UK Carbon Border Adjustment Mechanism (CBAM) by 2027[3]. The UK CBAM will place a carbon price on some of the most emissions intensive industrial goods imported to the UK from the aluminium, cement, ceramics, fertiliser, glass, hydrogen, iron and steel sectors. The UK CBAM will be applied to Scope 1, Scope 2 and select precursor product emissions embodied in imported products to ensure comparable coverage with the UK Emissions Trading Scheme. At the same time, the EU started its transitional phase of the EU CBAM on 1st October 2023.

At COP28, the UK pledged along with three other countries to implement pledges level 1 to

[2] UK Green Building Council (UKGBC) Net Zero Whole Life Carbon Roadmap Technical Report (2021) https://www.ukgbc.org/ukgbc-work/net-zero-whole-life-roadmap-for-the-built-environment/
[3] https://www.gov.uk/government/news/new-uk-levy-to-level-carbon-pricing

3 of the Industrial Deep Decarbonisation Initiative4, which committed to report embodied carbon of steel and cement for publicly procured projects from 2025, and to look into procuring low emission steel and cement by 2030. There is a need to better understand the emissions of UK products on the emission threshold benchmarking systems, the challenges for assessing emissions of innovative products, and whether existing measurement methodologies align with benchmarking systems.

3. Aims and Objectives

The objectives of this research are to:

1. Understand the issues and impact of using generic (e.g. industry average, default values) or specific data (specifically related to the process), variability in methodological choices and choice of standards on the Life Cycle Assessments for steel, cement and concrete products
2. Develop policy understanding of using different emissions accounting standards, their costs, and prevalence for different types of products, both imported and produced in the UK. In particular, focus on the methodological differences of EU CBAM and EPDs, and develop understanding of the practicalities of implementing either methodology (e.g. on use of direct measurement, type of outputs and inputs).
3. Develop an analysis tool for DESNZ to compare EU CBAM methodology and other standards for measuring the life cycle emissions (focus on GWP) of steel, iron, cement and concrete products.
4. Produce quantified evidence to evaluate challenges in LCA methodology to feed into international consensus-building exercises such as the IEA Working Party for Industrial Decarbonisation (WPID), and the Industrial Deep Decarbonisation Initiative. As a minimum, examine the 7 methodological points raised by the IDDI Secretariat White paper on driving consistency in the greenhouse gas accounting system.
5. Understand how UK steel, iron, cement and concrete products sit on different benchmarking thresholds, in particular the IEA near and low emission benchmarking system.
6. Produce an initial assessment of the proportion of emissions across each life cycle stage, and how embodied emissions of steel, iron, cement and concrete products could be reduced based on the breakdown by life cycle stage.

4. Methodology

The methodological specifics are to be determined by the tenderers. This section outlines expected methodological steps, including minimum scope. The tenderers' proposed approach to be deliver these requirements are to be described in questions 2a (data collection methodology) and 2b (analysis and reporting methodology). See the technical annex in

[4] https://beisgov.sharepoint.com/sites/corporateserviceshub/SitePages/Digital-Delivery-Policy.aspx

Section 17 tender for extra details. The methodology is to include at the minimum the following steps, but do not need to be undertaken in the proposed order. The metric of focus is Global Warming Potential (GWP in $kgCO_{2eq}$), however further environmental impact factors are to be considered in the discussion when they are included in the standards (e.g. EN 15804). The scope of the life cycle assessments/inventory should cover Scope 1, 2 and 3 emissions as defined in the GHG Protocol, or the life cycle modules referred to as A1, A2, A3, A4, A5, C1, C2, C3, C4, D as defined in EN 15804.

Data collection

- Data collection of iron/steel/cement/concrete emissions: four types of data collection are expected as a minimum, including recording the data source and sensitivity level of the data.
    - (a) data collection from manufacturer specific data, broken down by process, with a specific effort to identify and distinguish the data quality and source of all inputs. The data collected should ideally enable EU CBAM reports and EPDs to be produced based on the same data collection input sheet[5]. This project is likely to benefit from the EU CBAM transitional phase from 1st October 2023, and this project should investigate the data requirements and identify any implementation challenges. The EU CBAM guidance suggests that less than 20% default values to be used, and direct measurements are encouraged.
    - (b) data collection of assumptions, background data from databases used for LCAs (e.g. emission factors, default efficiency values, allocation factors). Assumptions are to be gathered based on literature and stakeholder feedback to derive full LCAs where no data was made available directly from manufacturers. This data is to be used in the tool to produce LCAs of products using different methodologies.
    - (c) produce a reporting template for assessing emissions of iron, steel, cement and concrete, including novel products, which at a minimum includes A1, A2, A3, A4, A5, C1, C2, C3, C4, D as defined in EN 15804. The reporting template should correspond to the input data required for EU CBAM and EPDs, but should also take into account other widely used standards potentially not used in the construction industry (especially for steel). This data input form should also be used to collect data from an Innovate UK competition on lower carbon concretes[6], and preliminary data should be available to the project around October 2024. This data input form is also likely to be used for collecting data for (a) from manufacturers.
    - (d) gather data on LCAs already produced by the market, including market average data, EPDs from public registers, academic papers and various databases. This data is to complement the new product life

[5] EU CBAM input sheet and EU CBAM default values can be found on the guidance document page: https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en#guidance
[6] https://iuk.ktn-uk.org/opportunities/sbri-decarbonising-concrete/

cycle assessments developed in (a) and (b), and produce industry-wide benchmarks. Where possible, this is to include A1, A2, A3, A4, A5, C1, C2, C3, C4, D as defined in EN 15804).

- Data collection and analysis of the types of steel, cement and concrete products procured in the UK, and where they are typically sourced from, and tonnes used in the UK. This could be through case studies, market data analysis (e.g. Construction Product statistics), contacting suppliers. Market studies could be purchased, and should be costed in the project fee in either project overheads or as a project cost if organisation does not typically access the data source. This evaluation is to include the prevalence of standards for emissions accounting for the relevant products (e.g. EPDs aligned with EN 15804 likely widely used in UK and EU; World Steel protocol likely more widely used for international products).
- Market analysis for cost of doing LCAs using different standards (e.g. if using the GCCA CO_2 protocol, procuring an EPD, doing it in-house vs outsourcing, EU CBAM, ETS) including estimates of direct costs and resource needs, and qualitative estimate of how these costs may change.

Analysis and reporting

- Selection of a list of products to compare standards and emissions. The methodology for developing the list of products should present a clear rationale, which links to the HS codes, CN Codes, World Steel LCI data[7], Carbon Leadership Forum 2023 Material Baselines, and other product standards (e.g. Cement BS8500, EN 197-1). Suggestions of product lists are given in section 17a. The product list should be agreed with DESNZ and the project steering board, and is a project deliverable.
- Literature review of standards and their differences, to include at a minimum the EU CBAM, EU/UK ETS, IEA boundary conditions, GCCA CO_2 Protocol, Responsible Steel Standard, ISO 20915, GHG Protocol, EPDs and cPCRs described in Section 17b.
- Development of a tool to compare the assumptions, system boundaries and variation between standards. The methodologies to be analysed should ultimately be related to stages including A1, A2, A3, A4, A5, C1, C2, C3, C4, D as defined in EN 15804. A4 and A5 are included so that precast concretes in EN 16757 are considered. The tool is to be for internal DENSZ use for now, with potential to be altered in a separate project so it can be made public. The tool could be shared with relevant project partners to avoid duplication of effort (e.g. the IEA Working Party for Industrial Decarbonisation) so the input data should be clearly marked as either sensitive or public, with a clear record of source and year collected. The reports and tool should clearly demonstrate where actual consumption data is used as opposed to standard product

[7] https://worldsteel.org/steel-topics/life-cycle-thinking/lca-lciform/

proportions (i.e. specific data vs generic assumptions), and highlight where a choice for specific data may matter. For example, a value might be highly uncertain but ultimately has a low impact on the total Global Warming Potential of a product. However, another value may be much more influential. We anticipate the project to highlight such data and indicate where future more robust primary data collection is needed.

- Sensitivity analysis to inputs and methodological choices. Different methodological choices should be informed through engagement with industry experts (e.g. GGBS input value, reinforcement), and follow at a minimum the methodological choices discussed in the IDDI Secretariat white paper[8] published at COP28. A list of suggested methodological choices is included in Section 17b.
- Comparison of collecting data from innovative products compared with established products, particularly from Innovate UK's competition for Lower Carbon Concretes, to launch in January 2024. The comparison should enable the understanding of any specific data challenges or methodological gaps in current assessment methodologies to account for the differences with new products (for example use of polymers, carbon capture and storage).
- Production of recommended representative input values to calculate steel, cement and concrete emissions (e.g. for Supplementary Cementitious Materials, raw material inputs, energy consumption, Carbon capture, etc), with a hierarchy of specificity, aligned with prEN 15941[9]. The input values should provide default values to use in the tool if no specific data can be found, to limit the uncertainty associated with the multiple data sources. They should aim to represent UK average data for 2023, where possible. These input values are to be clearly marked if commercially sensitive, and whether they can be shared with a non-disclosure agreement, or publicly. The recommended values can for example be: a recommended range with an average, industry averages, based on assumptions, market studies, or sourced from existing databases and tools. An example methodology can be found in Anderson & Moncaster (2020)[10] and CAR (2021)[11]. Bidders can propose a methodology or approach to developing these values in question 2b. The level of effort to determine representative input values should be proportional to the sensitivity of total GWP to the input values, and to the range of inputs currently being used in assessments. For example, data on energy consumption can currently be from several sources: National Grid projections, Green Book, or annual DESNZ conversion factors. Likewise,

[8] https://www.industrialenergyaccelerator.org/wp-content/uploads/IDDI_White-Paper_5-December-2023.pdf
[9] prEN 15941 (2022) Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data
[10] Anderson, J. and Moncaster, A. (2020) 'Embodied carbon of concrete in buildings, Part 1: analysis of published EPD', *Buildings and Cities*, 1(1), pp. 198–217. doi: 10.5334/bc.59.
[11] CAR (2021) Supporting the Development of Quality Data - Availability, quality and use of construction product LCA data Ireland, Italy and Croatia. *LIFE Level(s): Supporting the Development of Quality Data*

the GWP of methane and hydrogen varies depending on the version of the chosen IPCC report or TRACI.

- Mapping of UK steel and cement GWP on IEA definitions/threshold for low and near zero emission steel and cement[12]. This must include an analysis of how finished products (for which the data is collected) can be compared on the crude steel and cement axes. Novel, lower carbon concretes, steels and cements to be included and clearly marked. Breakdown on the figure of emissions from energy consumption, consumption, and process emissions. The mapping of finished products and crude steel is to be differentiated, in order to understand the technology requirements to achieve lower bands for UK products. Likewise for cements, the mapping should enable a qualitative assessment of the potential for production of low and near zero emission cement by 2030.
- Development of benchmark environmental impact (with a focus on GWP) for product list, including novel products data (if available). Qualitative analysis of how emissions may develop in the future. The benchmarks should be 25th, 50th and 75th percentile in the UK, indicate current best performing, and if possible with the available data, an estimate of what could be achievable by 2030.
- Analysis of further research and evidence needs, to overcome some of the limitations and challenges highlighted over the course of the research. For example, as this research focuses on Global Warming Potential (GWP or CO_{2eq}), an analysis of how other environmental impacts not considered by GWP may alter the choice of "lowest impact material".

5. Outputs Required

DESNZ will receive the following outputs. Several reports may be produced, or they can be published as separate chapters to a larger report. The reports must align with the output timetable described in Section 8. These outputs are to be costed to a firm price in the Pricing Schedule to be submitted (Annex A). The page numbers are indicative. Where commercially sensitive data is included, two report versions will be required, a version for DESNZ with all data, and a public version with sensitive data redacted.

- Output 0: Governance, set-up costs, kick off meeting, project management.
- Output 1: Literature review of methodologies, and selection of standards and methodological choices to take for further analysis. (around 10 pages)
- Output 2: Data collection template for Life Cycle Assessments (in particular aligned with EU CBAM and EPDs) of concrete, cement and steel products, including novel

[12] https://www.iea.org/reports/achieving-net-zero-heavy-industry-sectors-in-g7-members

concretes for the Innovate UK “Decarbonising concrete” innovation project. Data collection template should enable information to fed into the tool.

- Output 3: Product list
    - Comprehensive product list to be analysed representing the sector, based on Section 17a.
    - Product list to include an estimate of quantity of product produced in UK compared with imported.
    - Assessment of prevalence of different LCA standards for iron/steel/cement/concrete products (both produced in UK and imported, product vs supply chain specific), availability of data, the difference between the assessments for different material product categories (in % and $kgCO_{2e}$), how comparable they are, and how useable they are for developing product emission thresholds.
- Output 4: Quality assessed (in line with DESNZ standards) tool with guidance to compare different LCA methodologies. Tool should contain an assumptions log with benchmark (or “secondary” or “default”) data with sources. The tool should highlight where benchmarks are used, where specific inputs can improve the measurement, and what data might be sensitive. The tool should differentiate, at a minimum, the emissions accounted for in the EU CBAM methodology and EPDs aligned with EN 15804, and allow to “toggle” different elements of the system boundary. Tool does not need to be publicly available, but should be transferred fully to DESNZ upon project completion and will be used for further analysis and projects. Therefore, all source code and/or formulas need to be made available to DESNZ. This tool might be shared with DESNZ partners or contractors for further research. The Quality Assurance (QA) is described in further detail in Section 7 of the specification.
- Output 5: Report on data quality, recommended input values and benchmarks for the product list (around 20 pages)
    - Assessment of the different data sources used for LCA input data (e.g. DESNZ conversion factors, EcoInvent, ICE database), and LCA repositories (E.g. BECD, BRE Register).
    - Recommended input and the range of input values to produce iron, steel, cement and concrete Whole Life Carbon assessments. To provide a hierarchy and data quality “tiers” where relevant aligned with prEN 15941.
    - Benchmarks of “baseline” (Average UK emissions 2023), “typical” (75^{th} percentile of emissions), and “achievable” (25^{th} percentile of emissions), lowest emission production today, based on the large sample of emissions data collected for the list of iron, steel, cement and concrete products studied. If possible, from available data, an assessment of potential benchmarks for 2030.
    - Evaluation of the data quality and certainty for different products and life cycle modules, including a recommendation on where significant data gathering

should be directed (e.g. modules A1 raw material supply, B5 & B6 repair and maintenance, C end-of-life, types of products with good/poor available data).

- Feedback to suppliers of primary (or site specific) data

- Output 6: Report on analysis of Whole Life Carbon measurement methodologies and standards (around 20 pages)
  - Sensitivity analysis of LCA to input values and methodological choices and standards (using the IDDI Secretariat White paper as a starting point[13], impact of localisation), see suggestions in Section 17b.
  - Evaluation of the data quality and certainty for different products and life cycle modules, including a recommendation on where significant data gathering should be directed (e.g. modules A1 raw material supply, B5 & B6 repair and maintenance, C end-of-life). Clear indicators of data quality to be associated with different types of data, such as percentage differences from using different "tiers" of data quality, and the quality associated with Scope 1, 2 and 3 emissions distinctively, as well as A1, A2, A3, C1, C2, C3, C4 and D modules. There should also be a measure of the uncertainty associated with the different measurement methods, related to the specific input and "default" input values (e.g. using default values for EU CBAM reports overestimates emissions of cement by x%).
  - Evaluation of good and poor LCA practice. List of aspects of LCA which can currently be inconsistent and recommendations for rules e.g. net vs gross biomass accounting, onsite power generation, permissible approaches to include carbon offsets, carbonation, CCUS, reporting period, use of hydrogen or biomass as fuel source, on-site specific data from measurement (as requested for ETS/ EU CBAM) vs benchmarks.
  - Evaluation of cost of delivering different types and methodologies of LCA based on input data requirements (estimated cost of CBAM reporting, EPD aligned with EN 15804, aligned with complementary Product Category Rules, GHG Protocol, etc). Differentiation of cost of data gathering and performing the analysis, verification, and administrative costs.
  - Assessment of the differences between implementing EPDs and EU CBAM methodology on the UK industry, particularly if any specific methodological points in the Draft EU CBAM Implementation methodology are not applicable to UK products. Evaluation of alignment and interoperability of the different measurement standards, and their associated uncertainties. This is to include clear percentage differences of using different types of measurement standards on GWP (e.g. EU CBAM emissions are 20% lower than EPDs including modules A, C and D).
- Output 7: Report looking to the future: (around 10 pages)

[13] https://www.industrialenergyaccelerator.org/general/driving-consistency-in-the-greenhouse-gas-accounting-system/

  - Mapping of UK steel, concrete and cement products on IEA low and near zero emission thresholds. To account for different system boundaries, a separation of crude steel and cement emissions from finished product is requested. This could for example be through uncertainty estimates, or using proportions identified for life cycle stages. Mapping to include estimates of novel product emissions at low TRL provided by Innovate UK competition[14], and lowest emission production possible today and in 2030.
  - Report on future research and evidence gathering needs, and suggestions of ways in which more consistency could be achieved through alignment of standards, potential impact of only focusing on GWP.
  - Feedback to suppliers of primary or site specific data (not in a public report).
- Output 8: infographics explaining[15]:
  - The relative contribution of different life cycle stages to the overall assessment for different categories (products and buildings) when considering all life cycle stages. (For example, stage A3 is 10% of emissions for product X). How commonly different life cycle stages are included in assessments (e.g. majority module A1).
  - The uncertainty and variation of data quality for different products and measurement standards, highlighting the most sensitive input values.
  - The difference between the methodologies, and measures of the most sensitive methodological choices.
  - Benchmarks for different steel, cement and concrete products.
- Output 9: Tables containing:
  - Benchmark values for products (average, 25th and 75th percentile for the current market, lowest emitting products available today, and if possible with available data, estimate of best possible in 2030)
  - Raw data used for the study (not to be shared publicly), including the different types of data collected, clearly marked where data is sensitive and cannot be shared.
  - Range and recommended input values, and their sources for use in the LCA tool. A redacted version to also be shared if commercially sensitive information is included so that it can be published.
- Output 10: Presentation:

[14] https://iuk.ktn-uk.org/opportunities/sbri-decarbonising-concrete/
[15] See examples of infographics from reports by Carbon Leadership Forum (CLF) for a similar study. Note the CLF studies were for a North American market and mostly focused on product stage (module A) and we want the study to include modules B (if relevant), C and D, and be specific to the UK market. https://carbonleadershipforum.org/epd-requirements-in-procurement-policies/

- Wrap-up presentation and chance for discussion of conclusions to stakeholders in DESNZ. (around 2 hours)
- Webinar for use of the tool (around 1 hour)
- Presentation slides for DESNZ use to disseminate work internationally

6. Ownership and Publication

All the outputs produced will be owned by DESNZ, and fully transferred to DESNZ upon completion at times agreed with DESNZ and cannot therefore be used by contractors for purposes other than this project unless agreed. The outputs should be accessible, with two versions: one complete for DESNZ, and one non-disclosive and suitable for publication (where required) and further use. This is to include the raw data collected (where commercially allowable), the tool, the reports, non-disclosive infographics and publications.

A publication is to be produced summarising the outputs with the DESNZ template upon completion.

Tool development should be in line with the Quality Assurance templates.

DESNZ standard terms and conditions require that DESNZ retain the Intellectual Property (IP) from all models and software paid for by DESNZ

- Where the contractor is using or building on top of existing IP, such as modules that interface with this model, or proprietary datasets, this must be explicitly stated in the tender response, and a mechanism identified for the proprietary components not to impact utilisation, further development, publication and use of the evidence produced for this project.
- Where open source code or models are to be used within this model, please make clear under which licence this open source software is released.
- The Open Government Licence should be used wherever possible: http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/

7. Quality Assurance

All deliverables are to be quality assured prior to being delivered to DESNZ. The tool will also need to undergo DESNZ Modelling Integrity Quality Assurance. The appropriate templates will be provided at project start. These include:

- Template for model quality assurance log. This is the assurance log used by the QA analyst, and checks for the model guidance, structure, verification, validation, data and assumptions.

- Template for Excel models: provides sheets for assumptions, version logs, calculation and outputs. The tool does not need to be in Excel, but no non-Excel template is provided.
- A model report template: provides guidance on the necessary information to explain how the model works.
- A model assumptions template: this can be used with any software. For each assumption, the following is required: description of assumption, location in model, methodology behind assumption (if relevant), link to evidence, date of update, protective marking (level of sensitivity).

The “spirit” of the template needs to be followed, but tenderers can use their own templates if they satisfy the same parameters (separation of input values, calculations, outputs). The process for quality assurance requires the models to be submitted with at least 1 month before the associated payment milestone is due so it can assured by a qualified analyst. A minimum score is required to pass the assurance, where the score tests the robustness of the model (e.g. checks there are no hard coded values, all the assumptions are appropriately documented, the model works as intended).

Unless differently specified (e.g. internal use only reports), all reports must be written to a sufficiently high standard for publication, and need to be signed-off by DESNZ. Publication will only occur with DESNZ approval, and all material should be considered confidential until publication is agreed.

All analytical outputs must provide clear explanation of derivation process, assumptions and reasoning for choice of given assumption, units of measurement and any information necessary for a third party analyst to be able to interpret outputs without the need to further contact those involved in the production of said outputs.

8. Timetable

The timetable for deliverables must meet the following dates at the latest, but there is some flexibility around exact dates, which bidders can explain in the Project Management section. Project kick off is subject to both parties, DESNZ and supplier, signing the contract and the supplier having satisfactorily passed due diligence.

The proposed dates are the latest possible dates the deliverable is expected to be received, with respect to the start date.

The delivery of the outputs to sufficient quality and on time is a contractual obligation to receive payment upon the related project payment milestones. A further contractual Key Performance Indicator is Social Value, outlined in the Terms and Conditions, Schedule 26 (Sustainability), Part C.

Deliverable	**Date**
Output 0: Project kick off, to include a presentation of project programme and discussion of governance.	Kick off meeting to take place by 15th April 2024

Output 1: Literature review of methodologies, and selection of standards and methodological choices to take for further analysis.	15th May 2024
Output 2: Data collection template for emissions of steel/cement/concrete products, to be useable for tool and innovation competitions.	15th May 2024
Output 3: List of products that will be developed for benchmarks and taken for analysis	1st July 2024
Output 4: Tool with guidance to compare different LCA methodologies	December 2024. Tool to be submitted in December so that it can be quality assessed, and any items not suitable revised to ensure sufficient quality.
Output 5: Report on data quality, recommended input values and benchmarks for the product list	28th January 2025, with draft report in latest mid-December for review, update and sign off
Output 6: Report on analysis of Whole Life Carbon methodologies and standards	28th February 2025, with draft report in latest mid-January for review, update and sign off
Output 7: Report looking to the future	30th March 2025, with draft report in latest mid-February for review, update and sign off
Output 8: Infographics	Along with the relevant reports, or latest by 30th March 2025
Output 9: Tables and raw data, clearly indexed	March 2025
Output 10: Webinars and Presentations	March 2025

9. Challenges

We recognise that data access and a clearly scoped list of products and methodologies are key dependencies for the delivery of the project. A suggested list of standards and products is included in Section 17a. In the question “Understanding the requirement” or “Data collection”, bidders are required to explain how the choice of standards and products will be determined and refined over the first few months of the project and once data collection starts.

We anticipate the following challenges:

- Access to LCA data on enough products with different standards: we expect several data sources to be accessed, via free international databases such as EC3tool, BECD, and EcoPlatform, public EPD registers, ICE database, INIES, Okobaudat, and paid databases such as EcoInvent, OpenNexusLCA, GaBi. Access to software licences and

databases, if used, are expected to form part of the project costs and where they are part of the business as usual licenses used by the organisation bidding, part of project overhead costs for the portion attributable to the project.

- Gathering primary (or site specific) data: we encourage participation of manufacturers in supplying data to the project using the data collection template, so that benchmarks can be created. Data collection templates should be issued to suppliers of data to aid data collection, and subsequent comparative reports should be issued back. The data collection should also inform potential challenges of collecting data, for example for novel concretes, and inform where further data gathering work is needed. We anticipate that given this project will take place during the implementation phase of EU CBAM, manufacturers are likely collecting relevant data, and may be incentivised to collaborate with the project to improve data collection and inform on implementation challenges.
- Inflation affecting costs: The relatively short project duration (1 year) should limit this, and the contract is of a firm price.
- Cost of scraping data from multiple sources too high as all data has different formats. The mitigation can be to focus on most prevalent type of data (e.g. EPDs and aggregate data), and the most widely procured products in the UK (by tonnes).
- Methodologies are too different to be combined in a single tool. We anticipate bidders to make the case to focus on the most widely used methodologies and variants, including EN 15804, EU CBAM, GHG Protocol, and ISO 20915.
- Dissemination and stakeholder buy-in in a fast moving landscape: DESNZ will collaborate with the successful bidders to establish an advisory board for the project, to make sure that all relevant stakeholders can collaborate with the project and disseminate outcomes.

Dependencies:

- Access to data is essential for all data analysis.
- Data analysis is required prior to writing summary reports.
- Whole life carbon estimates to be returned by Innovate UK Decarbonising Concrete applicants by latest December 2024 to be included in analysis

10. Ethics

When undertaking stakeholder engagement, we expect contractors to adhere to the following Government Social Research Principals:

1. Clear and defined public benefit
2. Sound application, conduct and interpretation

3. Data protection regulations
4. Specific and informed consent
5. Enabling participation
6. Minimising personal and social harm

11. Working Arrangements

The successful contractor will be expected to identify one named point of contract through whom all enquiries can be filtered. A DESNZ Project Manager will be assigned to the project and will be the central point of contact.

It is anticipated that there will be weekly check-in meetings and quarterly reviews with the steering group and/or external advisory board, to be determined at the project kick-off. We expect at least two in person meetings at a location in London.

12. Data Protection

The Contractor will be compliant with the Data Protection Legislation, as defined in the terms and conditions applying to this Invitation to Tender. A guide to The General Data Protection Regulation published by the Information Commissioner's Office can be found here.

The only processing that the Contractor is authorised to do is listed in Annex 1 by DESNZ, ("the Authority") and may not be determined by the Contractor.

Please refer to the Terms and Conditions Schedule 20 (Processing Data), Annex 1 - Processing Personal Data.

DESNZ will be relying on consent as the relevant legal basis of processing. The Contractor will ensure that all communications requesting the provision on personal data allow for the data subject to provide clear, affirmative, informed, freely given and unambiguous consent, which requires a positive 'opt-in.' The Contractor will have mechanisms in place to ensure that consent is recorded and shown through an audit trail.

13. Skills and experience

DESNZ would like you to demonstrate that you have the experience and capabilities to undertake the project. Your tender response should include a summary of each proposed team members experience and capabilities.

Contractors should propose named members of the project team, and include the tasks and responsibilities of each team member. This should be clearly linked to the work programme, indicating the grade/ seniority of staff and number of days allocated to specific tasks.

Contractors should identify the individual(s) who will be responsible for managing the project.

14. Consortium Bids

In the case of a consortium tender, only one submission covering all of the partners is required but consortia are advised to make clear the proposed role that each partner will play in performing the contract as per the requirements of the technical specification. We expect the bidder to indicate who in the consortium will be the lead contact for this project, and the organisation and governance associated with the consortia.

Contractors must provide details as to how they will manage any sub-contractors and what percentage of the tendered activity (in terms of monetary value) will be sub-contracted.

If a consortium is not proposing to form a corporate entity, full details of alternative proposed arrangements should be provided in the Annex. However, please note the Department reserves the right to require a successful consortium to form a single legal entity in accordance with Regulation 19 of the Public Contracts Regulations 2015

The Department recognises that arrangements in relation to consortia may (within limits) be subject to future change. Potential Providers should therefore respond in the light of the arrangements as currently envisaged. Potential Providers are reminded that any future proposed change in relation to consortia must be notified to the Department so that it can make a further assessment by applying the selection criteria to the new information provided.

15. Budget

The budget for this project is up to £175,000 excluding VAT.

Contractors should provide a full and detailed breakdown of costs. This should include staff (and day rate) allocated to specific tasks.

Cost will be a criterion against which bids which will be assessed.

Payments will be linked to successful delivery of key milestones as according to quality standards laid out in the tender specifications. The indicative milestones and phasing of payments is quarterly, to be associated with the delivery of deliverables according to the timeline laid out in Section 8. This can be adjusted and agreed with the contractor based on the tender response/details of Criterion 3 (Project Management). Please advise in your tender response how this breakdown reflects your usual payment processes.

In submitting full tenders, contractors confirm in writing that the price offered will be held for a minimum of 60 calendar days from the date of submission. Any payment conditions applicable to the prime contractor must also be replicated with sub-contractors.

The Department aims to pay all correctly submitted invoices as soon as possible with a target of 10 days from the date of receipt and within 30 days at the latest in line with standard terms and conditions of contract.

16. Evaluation of Tenders

Contractors are invited to submit full tenders of no more than 22 pages, excluding declarations, annexes and CVs. Tenders will be evaluated by at least three DESNZ staff. The quality score accounts for 80% of the overall score, and price accounts for 20%.

DESNZ will select the bidder that scores highest against the criteria and weighting listed below:

- **Conflict of interest:** pass/fail. See pages 10-11 of the ITT for further information
- Evaluation criteria minimum score of 3 for Questions 01, 02a and 02b.
- All questions must be answered, and no information beyond the page limit will be taken into account.

EVALUATION CRITERIA AND SCORING METHODOLOGY

Criterion	***Description***	***Weighting***
01	**Understanding of the requirement** Please demonstrate your understanding of the project requirement and aims. We are looking for an understanding of the **difference between standards** that will be compared, an understanding of the procurement and manufacturing of steel, iron, cement and concrete (not limited to construction) in the UK and countries where the UK imports a lot from. An understanding of Life Cycle Assessment and Life Cycle Inventory methodologies, data availability and quality should also be demonstrated. In particular, an initial assessment of the potential methodological differences between EU CBAM and EPDs are to be provided. We also seek an understanding of the **existing data quality** of life cycle assessments for steel, cement and concrete products, and how this might affect carbon pricing, definitions of "low emission" products. On a more general level, we are also seeking an understanding of the project **challenges** and how they can be overcome, an understanding of the project's outcomes, and an interpretation of aims and objectives	15% Minimum score: 3

	and how they fit into DESNZ's wider policies. This section also provides an opportunity to discuss the role of the project in improving data quality, the use of emissions assessments, and how this work should be disseminated. 4 pages maximum. No annexes.	
	Methodology This question is separated into two criteria, to ensure both parts of the question are addressed. The minimum score for the methodology questions is 3. Please describe in sufficient detail the proposed methodology, using figures, diagrams, and providing references where relevant. Annexes can be included but are not required. The question will be assessed based on robustness of the methodology, evidence of past experience, and provision of a clear plan for how the work can be undertaken within given timeframes. The product and methodology list defined in question 2b can be referred in the answer to 2a. Likewise, the data collection process and available data in question 2a can be referred to in question 2b.	
02a	**Data collection methodology** With reference to the Section 4 (Methodology) in the specification document, please describe the methodology for collecting data, addressing each point specifically. • (a) data collection from manufacturer specific data • (b) data collection of assumptions • (c) produce a reporting template • (d) gather data on LCAs already produced by the market • (e) data collection of the types and origins of steel, cement and concrete products procured in the UK (both imported and manufactured in the UK) • (f) estimates of cost and prevalence of EU CBAM reports, EPDs, and LCAs aligned with	10% Minimum score: 3

	other standards (e.g. ISO 20915, GCCA CO_2 protocol). Please explain why the chosen method is robust and satisfies the need. Please outline the data sources you plan on using, what research methods might be used (e.g. stakeholder engagement, modelling, literature review), how data sources will be referenced, the order in which the different tasks will be undertaken. Please explain the expected data quality and quantity for the different types of data collection (e.g. whether they will be estimates, measured directly, expected size of the dataset). Please explain your approach to ensure the data collected will be sufficiently representative, to label the sensitivity of the data, and to quality assess. 3 A4 pages maximum. One referenced annex can be provided but is not required, and can be maximum one A4 page. It will not be assessed if not referenced in the body of the answer.	
02b	**Analysis and reporting methodology** With reference to the Section 4 (Methodology) in the specification document, please describe the methodology for the production of the analysis tool, analytical reports, and dissemination outputs. A summary of the methodological steps is: • Selection of product list • Literature review of standards, and selection of standards, assumptions, and variety of methodological choices • Development of LCA methodology comparison tool • Sensitivity analysis of methodological choices, input values and methodologies • Analysis of methodology for novel products, in particular for concrete innovations • Development of recommended input values • Development of benchmarks, mapping against IEA low and near zero emission thresholds • Limitations Please include your methodology for delivering the	20% Minimum score: 3

	outputs in required formats: • Reports • Tools • Tables • Infographics • Dissemination and engagement Please specifically address each methodological point separately, and propose metrics to compare the data quality and sensitivity of different methodological choices and different standards. Please explain whether the work will be sub-contracted or done in-house, the types of tools you plan on using (E.g. Microsoft Excel, Python, PowerBI). Explain why the methodological choices have been made, and how they respond to the project's needs. 5 A4 pages maximum. One referenced annex can be provided but is not required, and can be maximum 2 A4 pages. It will not be assessed if not referenced in the body of the answer.	
03	**Project management and risks** Please breakdown in this section the proposed work plan to deliver the deliverables to the proposed times described in Section 8 of the specification. Please describe the proposed payment milestones associated with the deliverables (quarterly is recommended). Please include a Gantt Chart and Risk register (including mitigation and contingency options) as annexes which do not count towards the page limit. Please explain the top 5 risks and top 2 opportunities from the risk register in the body of the response. For each risk, explain the proposed mitigation and contingency options. Please include the proposal for working together, project management structure, and how sub-contracts or partnering arrangements will be managed. Please inform on your proposed management and governance structure. Please also include your approach to quality assurance	10%

	of each deliverable. Please include a proposed methodology to track progress against milestones and any upcoming risks, issues or dependencies, and budget control measures. 3 A4 pages maximum. Two annexes are encouraged: one for a risk register, one for a Gantt Chart.	
04	**Project team and expertise** Please include evidence of the relevant skills, knowledge and/or experience required to undertake this project. The proposed list is non-exhaustive: • Undertaking of Life Cycle assessments, including data collection • Manufacturing process of iron, steel, cement, concrete • Methodologies for life cycle assessments (please demonstrate the use of specific methodologies) • Accessing life cycle inventories • Developing benchmarks • Market analyses • Tool development If delivering the work as a consortium, please also demonstrate your ability to deliver a project across multiple partners. Please include an organogram of the project team. The assessment of experience of individuals will take into account the duration, and specific contributions to projects. Only CVs for those that will work on this project are requested. Please only include experience or project references which can be clearly attributed to a member of the project team. The page limit is 4 A4 pages, with CVs included in appendix.	15%
05	**Social value** **How will you support DESNZ mission to achieve**	10%

	Net Zero in the UK by 2050? Model Award Criteria: MAC 4.1: Deliver additional environmental benefits in the performance of the contract including working towards net zero greenhouse gas emissions. Sub-Award Criteria: Activities that demonstrate and describe the tenderer's existing or planned: • Understanding of additional environmental benefits in the performance of the contract, including working towards net zero greenhouse gas emissions. Illustrative example: conducting pre-contract engagement activities with a diverse range of organisations in the market to support the delivery of additional environmental benefits in the performance of the contract. • Collaborative way of working with the supply chain to deliver additional environmental benefits in the performance of the contract, including working towards net zero greenhouse gas emissions. • Delivery of additional environmental benefits through the performance of the contract, including working towards net zero greenhouse gas emissions. Planned Metrics: • Percentage of carbon reduction (measured in metric tonnes carbon dioxide equivalents (MTCDE) across Scope 1, Scope 2 and Scope 3 by the supplier committed within the contract at a corporate level • Supplier committed to carbon Net Zero at a corporate level by which date. • Percentage of decarbonisation roadmap reliant upon carbon offsetting to achieve Net Zero commitments	

	• The establishment, implementation and tracking of an environmental scorecard which measures, inter alia: o Creation of new carbon sinks o Protection of carbon sinks o Biodiversity (in relation to flora & fauna) o Air quality o Water quality o Waste Management As part of this answer, please suggest **one relevant social value Key Performance Indicator** against which to track the successful social value impact of this project. For example, this could be related to dissemination to the wider public. The page limit is 3 A4 pages maximum. No annexes will be considered for this question.	
Total quality score		80%
06	**Price** Please provide a breakdown of the total budget you plan to use for this project to deliver the outputs described using Annex A. Further detail on the pricing evaluation is described on page 37. Access to software licenses and/or databases, if used, are expected to form part of the project costs, and where they are part of the business-as-usual licenses used by the organisation bidding, part of project overhead costs for the portion attributable to the project.	20%
Total Score		100%

Scoring Method

Tenders will be scored against each of the criteria above, according to the extent to which they meet the requirements of the tender. The meaning of each score is outlined in the table below.

The total quality score will be calculated by applying the weighting set against each criterion, outlined above; the maximum number of marks possible will be 80. Further to the minimum scores set out in selected criteria above, should any contractor score 1 in any of the criteria, they will be excluded from the tender competition.

Score	Description
1	Not Satisfactory: Proposal contains significant shortcomings and does not meet the required standard
2	Partially Satisfactory: Proposal partially meets the required standard, with one or more moderate weaknesses or gaps
3	Satisfactory: Proposal mostly meets the required standard, with one or more minor weaknesses or gaps.
4	Good: Proposal meets the required standard, with moderate levels of assurance
5	Excellent: Proposal fully meets the required standard with high levels of assurance

Scoring for Pricing Evaluation

Please provide the answer to this question through the relevant pricing schedule Excel spreadsheet shared on Jaggaer as part of this ITT. Prices (as total of budget across all project elements) will be marked proportional to the lowest price and then the 20% weighting noted above will be applied. While not evaluated, a high level of detail is welcome and will aid in early project discussions to ensure efforts are adequately distributed.

All fields must be filled in, unless no cost is expected in that given field (in which case please state so within the assumptions table). The total across all fields must be within the £175,000 maximum budget.

Payments will be linked to delivery of milestones / Deliverables as detailed in Part 5 of the Specification of Requirements. A Milestone and Deliverable Schedule will be finalised by the Supplier and agreed with the Authority at the Kick-off Meeting.

Proportionate Pricing scoring example

If 20% = 20 marks

Supplier	Price	Marks
1 (lowest bid)	£120,000	20
2	£130,000	130/120 * 20 = 18.46
3	£150,000	150/120 * 20 = 17.33

Applicants will be ranked in order of merit based on overall weighted score achieved.

In the event that two or more eligible applications receive the same overall weighted score, then the Contract will be awarded to the Applicant with the highest score for the highest weighted criteria.

Structure of Tenders

Contractors are strongly advised to structure their tender submissions to cover each of the criteria above and it should be clear to the Department as to which question is being addressed in which part of the bid. Complete the price schedule attached at Annex A, specifying the daily rates (ex-VAT) you will charge for each level of your staff. The labour cost is inclusive of overheads.

Bid Clarification

After reviewing and evaluating the written proposals, DESNZ may decide to hold bid clarifications with suppliers.

Feedback

Feedback will be given in the unsuccessful letters or emails.

17. Technical annex

17a. Suggested list of products

Selection of a list of products to compare standards and emissions must be mapped to the following categories.

The list of products could be developed according to the EU CBAM product list, as shown in the following two tables.

List for iron and steel products

CN code
72 – Iron and steel Except: 7202 – Ferro-alloys 7204 – Ferrous waste and scrap; remelting scrap ingots and steel
7301- Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements; welded angles, shapes and sections, of iron or steel
7302 – Railway or tramway track construction material of iron or steel, the following: rails, check-rails and rack rails, switch blades, crossing frogs, point rods and other crossing pieces, sleepers (cross-ties), fish- plates, chairs, chair wedges, sole plates (base plates), rail clips, bedplates, ties and other material specialised for jointing or fixing rails
7303 00 – Tubes, pipes and hollow profiles, of cast iron
7304 – Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel
7305 – Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406,4 mm, of iron or steel
7306 – Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel
7307 – Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel
7308 – Structures (excluding prefabricated buildings of heading 9406) and parts of structures (for example, bridges and bridge-sections, lock- gates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel; plates, rods, angles, shapes, sections, tubes and the like, prepared for use in structures, of iron or steel
7309 – Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment
7310 – Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment
7311 – Containers for compressed or liquefied gas, of iron or steel

List for iron and steel products

CN code
2523 10 00 – Cement clinkers
2523 21 00 – White Portland cement, whether or not artificially coloured
2523 29 00 – Other Portland cement

2523	00 – Other hydraulic cements

Alternatively, list of products could be developed according to the lists in the following sources (non-exhaustive list):

- Carbon Leadership Forum 2023 Material Baseline report: https://carbonleadershipforum.org/clf-material-baselines-2023/
- World Steel Life Cycle Inventory: https://worldsteel.org/wp-content/uploads/Life-cycle-inventory-LCI-study-2020-data-release.pdf
- Cement standards: BS8500 or EN197-1
- HS Codes https://www.trade-tariff.service.gov.uk/chapters/68
- Concrete strength classifications in LCCG Benchmarking system: https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2022/04/Low-Carbon-Concrete-Routemap_27-April-2022.pdf
- ONS input/output tables https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/datasets/ukinputoutputanalyticaltablesdetailed
- BEIS Steel product report from 2017

The product list could also be developed in consultation with stakeholders, and be related to the quantities of imports and exports.

The list could also be developed based on prevalence of existing emissions data, but if that is the case, an assessment of the "missing data" must be made, answering the following questions: How much emissions does the "missing data" represent for the sector? What emission measurement and reporting standards would be recommended for the sector?

The product list to investigate in detail is a deliverable of the project, as described in Section 8 of the specification. A suggested methodology to determine the list is a requirement in Section 2b of the Award Criteria.

17b. Suggested list of standards and methodological choices

In this annex, we propose a list of standards to investigate the prevalence and methodological differences. The most prevalent standards, including at a minimum EPDs, EU CBAM, GHG Protocol, and ISO 20915 are to be developed into a tool to understand their sensitivity to input values, methodological choices, and overall differences in outputs.

- Product category rules for construction products: BS EN 15804 and ISO 21930
- Complementary PCRs: EN 16757:2022 PCR for concrete and concrete elements, prEN 17662:2021 PCR steel, iron and aluminium), EN 16908:2022 PCR for cement and building limes
- PAS 2050
- ISO 14067 (Carbon Footprinting of Products)

- Responsible Steel Standard
- GHG Protocol (used by UK ETS)
- Current EU ETS
- EU CBAM
- EU PEF (Product Environmental Footprint)
- ISO 14404-1:2013: Calculation method of carbon dioxide emission intensity from iron and steel production
- BS EN 19694-1:2021 Stationary source emissions (GHG in energy intensive industries (part 2 iron and steel industry, part 3 cement)
- ISO 20915:2018 LCI calculation methodology for steel products (allows for system expansion)
- GCCA CO2 Protocol (Based on the GHG Protocol)

The methodological choices to investigate must include at a minimum the seven key challenges identified in the IDDI's secretariat white paper. The white paper can be downloaded from the Industrial Accelerator website here: https://www.industrialenergyaccelerator.org/general/driving-consistency-in-the-greenhouse-gas-accounting-system/.

1. Data use in emissions reporting
2. Reporting emissions at a common production step
3. Allocation of emissions to co-products
4. Accounting for utilisation of scrap materials
5. Accounting for use of alternative fuels
6. Accounting for carbon capture utilisation and sequestration (CCUS)
7. Alternative chain of custody accounting.

A further Wishlist of methodological choices are:

Net vs gross biomass accounting, onsite power generation, use of polymers in novel concretes, permissible approaches to include carbon offsets, carbonation, reporting period, on-site specific data from measurement (as requested for ETS/ EU CBAM) vs benchmarks.

Department for
Energy Security
& Net Zero

Section 3

Further Information on Tender Procedure

Invitation to tender for: Research on Data quality of Life Cycle Assessments of steel, cement and concrete products
Tender reference number: prj_2656
Deadline for tender responses: 19th February 2024 at 2pm

Department for
Energy Security
& Net Zero

Contents:

A. Definitions

Please note that references to the "Department" throughout these documents mean The Secretary of State for Energy Security & Net Zero acting through his/her representatives in the Department for Business Energy & Industrial Strategy.

The Freedom of Information Act 2000 ("FOIA") and the Environmental Information Regulations 2004 ("EIR") apply to the Department. You should be aware of the Department's obligations and responsibilities under FOIA or EIR to disclose, on written request, recorded information held by the Department. Information provided in connection with this procurement exercise, or with any contract that may be awarded as a result of this exercise, may therefore have to be disclosed by the Department in response to such a request, unless the Department decides that one of the statutory exemptions under the FOIA or the exceptions in the EIR applies. If you wish to designate information supplied as part of this response as confidential, or if you believe that its disclosure would be prejudicial to any person's commercial interests, you must provide clear and specific detail as to the precise information involved and explain (in broad terms) what harm may result from disclosure if a request is received, and the time period applicable to that sensitivity. Such designation alone may not prevent disclosure if in the Department's reasonable opinion publication is required by applicable legislation or Government policy or where disclosure is required by the Information Commissioner or the First-tier Tribunal (Information Rights).

Additionally, the Government's transparency agenda requires that tender documents (including ITTs such as this) are published on a designated, publicly searchable web site. The same applies to other tender documents issued by the Department (including the original advertisement and the pre-qualification questionnaire (if used)), and any contract entered into by the Department with its preferred supplier once the procurement is complete. By submitting a tender you agree that your participation in this procurement may be made public. The answers you give in this response will not be published on the transparency web site (but may fall to be disclosed under FOIA or EIR (see above)). Where tender documents issued by the Department or contracts with its suppliers fall to be disclosed the Department will redact them as it thinks necessary, having regard (inter alia) to the exemptions/exceptions in the FOIA or EIR.

B. Data security

The successful tenderer must comply with all relevant Data Protection Legislation, as defined in the terms and conditions applying to this Invitation to Tender.

Section 4 contains a "The General Data Protection Regulation Assurance Questionnaire for Contractors" (Declaration 5) to evidence the extent of readiness. The Authority may ask the Contractor to provide evidence to support the position stated in the questionnaire. The Authority may require the successful Contractor to

increase their preparedness where the Authority is not satisfied that the Contractor will be in a position to meet its obligations under the terms and conditions. If the Contractor fails to satisfy the Authority that it will be in a position to meet its obligations under the terms and conditions in the event that the Contractor is successful, the Authority reserves the right to exclude the bidder from this procurement.

C. Non-Collusion

No tender will be considered for acceptance if the contractor has indulged or attempted to indulge in any corrupt practice or canvassed the tender with an officer of the Department. Section 4 contains a "Statement of non-collusion" (declaration 1); any breach of the undertakings covered under items 1 - 3 inclusive will invalidate your tender. If a contractor has indulged or attempted to indulge in such practices and the tender is accepted, then grounds shall exist for the termination of the contract and the claiming damages from the successful contractors. You must not:

- Tell anyone else what your tender price is or will be, before the time limit for delivery of tenders.
- Try to obtain any information about anyone else's tender or proposed tender before the time limit for delivery of tenders.
- Make any arrangements with another organisation about whether or not they should tender, or about their or your tender price.

Offering an inducement of any kind in relation to obtaining this or any other contract with the Department will disqualify your tender from being considered and may constitute a criminal offence.

Department for
Energy Security
& Net Zero

Section 4

Declarations to be submitted by the Tenderer

Invitation to tender for: Research on Data quality of Life Cycle Assessments of steel, cement and concrete products
Tender reference number: prj_2656
Deadline for tender responses: 19th February 2024 at 2pm

The following are available in the digital Qualification Envelope of the ITT in Jaggaer, section references below:

- Declaration 1: Statement of non-collusion (Section 1.2.1)
- Declaration 2: Form of Tender (Section 1.2.2)
- Declaration 3: Conflict of Interest (Section 1.2.3 to 1.2.5)
- Declaration 4: Standard Selection Questionnaire (Section 1.2.6, 1.2.7 and 1.3 to 1.15)
- Declaration 5: The General Data Protection Regulation Assurance Questionnaire for Contractors (Section 1.14.3)
- Declaration 6: Code of Practice (Section 1.19.1 to 1.19.3)

Annex A: Pricing Schedule

Please refer to separate attachment, Annex A – Pricing Schedule.