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# National Buildings Database

## Supplier Engagement Day

25th April 2023



# Welcome

## Agenda

- Introductions
- Overview of the project
- Details of method and deliverables
- Procurement approach
- Q&A

Slides and a copy of the combined questions and answers will be provided after the event.

We will also share the details of any organisations that want to share their contact details with other potential bidders. If you have not already done so, please complete the form to provide your consent and details. The deadline for completing the form is 28/04/23.

<https://forms.office.com/e/6A8K99xYTf>



# Background to the Requirement

To meet our legally binding climate targets we will need to decarbonise energy from use from all buildings. The challenge of decarbonising energy use in non-domestic buildings is considered one of the most complex policy areas for the department due to the broad range of building types and energy end-uses in the non-domestic building stock. This heterogeneity in typologies and end-uses requires consideration and analysis on a sector-by-sector basis.

At present **detailed data is not available for the non-domestic building stock** and this limits our ability to design and assess policy options to decarbonise this segment of the building stock.

The project will update the existing underpinning evidence base on energy use and abatement potential in non-domestic buildings specifically, while providing building level data covering the whole building stock. The results will be used to inform policy development for non-domestic buildings, and provide underpinning data for the development of the new version of the in-house National Buildings Model.



# Previous Pilot Study

This project follows from the **first phase of the Non-Domestic Building Survey** which **piloted a novel approach** combining matching of existing data with targeted sector specific survey data to produce a record of building characteristics, geometry, energy end uses, and consumption for every building in that sector.

The pilot study in phase 1 carried out by UCL Consultants focused on the hospitality sector, chosen for its highly varied activities and energy uses, and successfully created a national database of every hospitality building identified by the Valuation Office Agency who collect data on virtually all buildings for assessing council tax and business rates.

The successful bidder for this project (phase 2) would receive all outputs, data, and code produced in the pilot study and would be able to use this to roll out the method to other sectors of the non-domestic stock.



# Project Overview

**Aim** - This project will aim to strengthen our evidence base on the building stock both domestic and non-domestic, with particular emphasis on addressing gaps in the non-domestic building stock across the UK.

**Scope** – Great Britain (England, Wales & Scotland)\*

**Timeline** - Aug 2023 – March 2025 (18 months total duration)

**Budget** ~ £2.8 million exc.VAT

\*due to limited existing data available for Northern Ireland.



# Objectives & Scope

To deliver on the overarching aim, the project will have the following objectives:

1. **Create a record of every building in the country.**
2. **Characterise key features** (e.g. construction, geometry, and categorisation) and energy consumption and end uses for every building in the database.
3. **Validate** energy performance data and characteristics **by carrying out sector-specific surveys** and data collection.
4. **Develop method for ongoing updates** to database.
5. **Make outputs that are accessible** to other government departments and external researchers.



# Objectives & Scope

The scope for this work will extend to:

- Use **piloted data modelling** to cover remaining **14 non-domestic sectors**:

- Shop
- Office
- Factory
- Warehouse
- Arts and Leisure
- Health

- Education
- Sport
- Community
- Transport
- Agriculture
- Emergency
- MOD
- Utilities

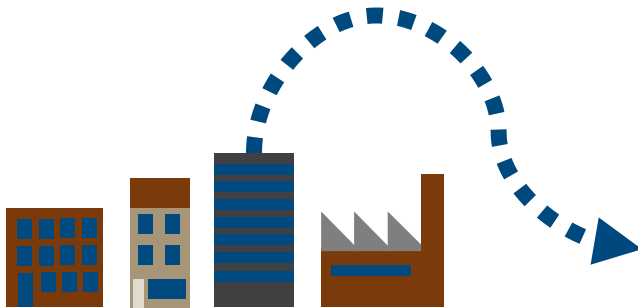
- Adding a **simplified representation of all domestic buildings** (based on matching existing data).
- Buildings in **England, Wales, and Scotland** (data availability issues likely limit feasibility in Northern Ireland).



# Method Overview

**1.** Using the approach previously piloted on the hospitality sector to match and join existing datasets to form database 'spine'.

## Existing Datasets on Buildings



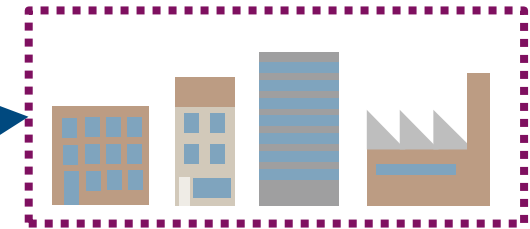
**2.** Sector-specific surveys of buildings will need to be carried out to fill gaps in the matched existing data and validate the database.

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## National Buildings Database

**3.** Using the previously developed data modelling approach to use the survey data to fill gaps in the existing matched data and complete and quality assure the database.

**4.** The Database will form the new evidence base for policy making and analysis in the department, and will need to enable the building stock to be simulated and analysed at a building-by-building scale.



## UK Building Stock Digital Twin

**5.** To leverage the underpinning existing dataset a method will need to be developed to enable regular updating of the database.



# Method Overview

In order to deliver this project within the time and budget available we have proposed the following high level method. However, bidders will be open to propose their own approaches to collecting survey data and will be given the code and data from the preceding pilot study to use for data matching.

1. Refine, plan, and recruit for surveys, as required for each non-domestic sector based on the refined methodology;
2. Conduct sector specific buildings surveys across the 14 non-domestic sectors in scope;
3. Cooperate with the department to setup access to required datasets;
4. Apply previously piloted data modelling method to combine existing data with surveys to build the fully populated database and carry out validation and QA of the output;
5. Coordinate design of handover, with relevant training and documentation for DESNZ analysts;
6. Design a method to keep the database up to date using existing data and work with owners of key datasets to enable this through new governance arrangements;
7. Develop a method for producing synthetic anonymous samples from the database which can be shareable outside of DESNZ without disclosing sensitive data, for example using synthetic population methods.



# Key Deliverables

Successfully addressing the requirement and delivering the benefits of this research to the Department will require delivery of the following outputs as part of a coordinated handover process:

1. Fully-populated and validated **National Buildings Database**.
2. **User guidance and documentation** for the National Buildings Database.
  - This will include all documentation to use and maintain the database without further assistance from the successful bidder.
  - The contractor will be required to run a dedicated training session for DESNZ analysts.
3. A **technical summary report** including:
  - An overview of the stock and energy trends in the database;
  - Examples of analysis this database could be used for;
  - Overview of the survey sample;
  - A summary of the approach taken.
4. **Method for continuously updating the database**.
5. **Method for making database accessible** beyond department.



# Procurement Approach

**Timing** – The Invitation to tender is estimated to go live in mid to late May 2023 and will be open for at least 6 weeks. Detailed timings will be included in the tender pack

**Slides and Q&A** - In the interests of fairness, slides and Q&A from this session will be anonymised and shared with all bidders, including those unable to attend today.

**Route to Market** – The opportunity will be published via a Contract notice which will be issued on Find a Tender Service (FTS) and Contracts Finder (CF)

**Jaggaer eSourcing** – The procurement will be managed through our Jaggaer e-sourcing portal. Suppliers can register for access at any time, and it's free of charge to use (<https://beisgroup.ukp.app.jaggaer.com>)

**IMPORTANT** - All enquiries during the procurement process must be channelled through the procurement e-sourcing system via the “Messages” tab of the ITT on Jaggaer. <https://beisgroup.ukp.app.jaggaer.com/>



# Procurement Approach

## Terms and Conditions

- Cabinet Office Mid-tier contract T&Cs are expected to form the basis of the contract, we will publish the final version of the T&Cs at the time of the ITT. The Mid-tier terms can be viewed here:  
<https://www.gov.uk/government/collections/the-mid-tier-contract>
- They will be final and any bids submitted on condition that T&Cs are amended will be effectively submitting a non-compliant bid.
- If you have questions about the T&Cs you can ask them today or during the ITT Q&A window.
- All Q&A raised during the ITT publication period will be anonymised and shared with all bidders.



# Q&A

Please put your questions in the Q&A box on Teams.

We will take away all questions and provide a combined Q&A document that will be made available to all bidders.



# Feedback for us

We are keen to receive your feedback on what you have heard today.

Please provide specific feedback on the following points:

- Do you think the budget is about right/too high/too low for the requirement?
- Do you think the requirements are deliverable within the proposed timeline?

Please provide feedback by email to:

Builtenvironmentresearch@beis.gov.uk

