

HELPING TO CREATE THE NATIONAL BUILDINGS DATABASE

The Department of Energy Security and Net Zero has embarked on an ambitious plan to build a National Buildings Database. This will include a digital representation of all domestic buildings (houses and flats) and a detailed inventory of all non-domestic buildings (inc. offices, shops, warehouses, schools, and hospitals etc.). The database will include where possible information such as the size, age, construction and energy performance of each building. The completed database will be used for research into energy use and carbon emissions, which can inform government strategy and policy to help:

- ❖ Improve energy efficiency to reduce energy costs
- ❖ Examine practical approaches to low carbon retrofitting
- ❖ Investigate the potential for integrating low carbon and renewable energy technologies.

The database will be assembled from a collection of existing national data sources including OS addresses and building footprints, Valuation Office Agency property floor space and related data, Environment Agency LiDAR data (to produce 3D representations) and Energy Performance Certificate (EPC) records.

The Building Stock Lab at University College London (UCL) is leading the development of the database in collaboration with Winning Moves and Verco. Winning Moves is conducting telephone surveys amongst owners and occupiers of non-domestic buildings to check the accuracy of data records and gain insights into the activities that take place in these buildings. You may have already spoken with them. Verco is conducting a set of site-based audits of premises and buildings, the aim of which is to further assure and qualify the data available from the above national data sources. The audits will build on the telephone surveys to provide insights into energy use in different building types.

Why agree to host an audit?

Hosting an audit will provide the data needed to ensure the quality and efficacy of the NBD, which will act as a firm foundation for future strategy and policy development. As a host you will benefit from a visit by an experienced auditor, and we will also provide short



report providing some key insights into your use of energy (see next page for details).

What will happen to the data gathered?

Data collected will be stored securely, initially on secured servers and with a secure IES environment before being transferred to a secure AWS platform managed by UCL to the standards of ISO27001. **No personal data or data from the audit will be passed to the Department for Energy Security and Net Zero or any other government department.**

What to do next?

Hopefully the benefits set out on the next page will interest you in hosting an audit. If so, please visit the site audit page on the official National Buildings Database website:

<https://nationalbuildingsdatabase.org/site-audits/>

Here you will find further information on what's involved in an audit and how we are creating the NBD. You'll also find contact details so you can get in touch and ask questions about the audit. If you want to go ahead there a couple of notices on data that you should read and a consent form to be signed when everything is agreed.

Site-based audits are fundamental to ensuring the National Buildings Database is fit for purpose and in agreeing to host an audit you will be making sure that government strategy and policy related to energy use in buildings is based on the best available data.

BENEFITS TO AUDIT HOSTS

Hosting an audit will provide the data needed to ensure the quality and efficacy of the National Buildings Database which will act as the firm foundation for future strategy and policy development. As a host you will benefit from a visit by an experienced auditor which will result in insights that will be shared with you both during and after the audit. The value of the audit is significant.

Informal Insights: The audit will be conducted by an experienced energy auditor and during the audit observations will be made in relation to the need to attend to operational inefficiencies and actions that could be taken to update equipment and controls to improve energy efficiency. These will be communicated directly to the host during the audit.

Support and Guidance: At the outset of this project UCL and Winning Moves engaged with some 50 stakeholder organisations that are active within and across the non-domestic building activity classes. Many of these organisations identified programmes and initiatives providing support to deliver energy efficiency and carbon emission reductions. Hosts will be introduced to these where appropriate in the lead-up to the audit. The host will also be alerted to any funding or other support opportunities that may be available to support energy efficiency and emissions reduction initiatives.

Energy Benchmarks: A report provided to the host after the audit will employ contemporary energy use data from Phase 1 of the NBD to benchmark the audited building and relate it to typical and best practice performance for the use of electricity and gas.

Value at Stake: Using the benchmark data the level of expected improvement can be calculated to provide the 'value at stake' in £/annum which could be saved.

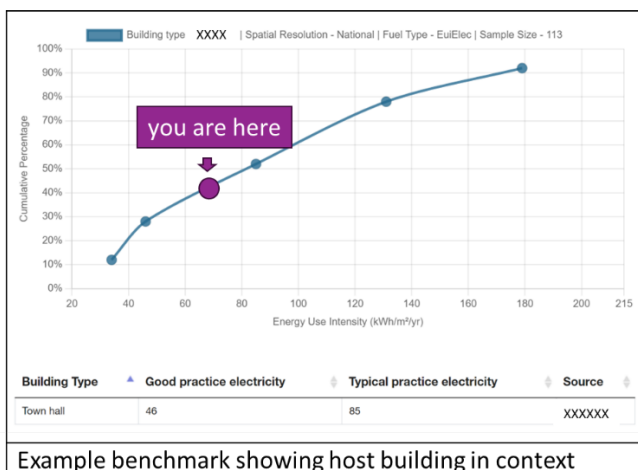
Opportunities Guidance: Insights gained from the audit in conjunction with the benchmark data enable the identification of opportunities that could be exploited to reduce energy demand and carbon emissions. Actions and technologies that enable these opportunities to be exploited will be highlighted.

EPC Rating: The standard method for the production of an Energy Performance Certificate (EPC) often involves the use of 'worse case' default values if the actual value cannot easily be ascertained. This might be uncertainty related to the efficiency of a boiler or the presence of wall insulation. The audit will be able to identify these situations and alert the host to obtain the necessary information to ensure that any future EPC rating is based on actual values as far as possible. This is very important in relation to the application of current and future Minimum Energy Efficiency Standards (MEES).

IES Model: The audit process will result in the production of a detailed IES simulation model similar to that used in assigning an EPC rating. Should the host be interested in obtaining the standard IES model to undertake analysis of retrofit options or for other purposes this can be arranged without cost.



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Example benchmark showing host building in context

Future Updates: Towards the end of the project in early 2025 reports and data outputs will become available which provide more accurate and up-to-date information on the range of energy use in individual non-domestic building activity classes. These reports and data outputs will be provided to all hosts who register an interest in receiving them.