70% of the UK's largest shopping centres* are included in this initiative

BBP BETTER BUILDINGS PARTNERSHIP

Revo Retail. Property. Community.

THE CHALLENGE

Revo and the BBP have been approached by major shopping centre owners to facilitate the development of an industry-specific energy benchmark for large shopping centres.

This pioneering project brings together data from some of the UK's most popular landmarks, allowing us, in conjunction with the owners of the largest shopping centres to take on the following objectives:

*shopping centres over 50,000 sqm

OBJECTIVES

- Better understand and **drive the improvement of energy performance** in large shopping centre assets
- Support shopping centre owners in **complying with regulatory reporting requirements**, particularly in relation to the EU Taxonomy by determining how the top 15% of shopping centre building stock can be defined
- Encourage greater **consistency and transferability of methodologies across owners' portfolios** to ensure fair comparison and to enable investors to navigate performance benchmarks more easily
- **Refine existing UK shopping centre energy benchmarks**, moving away from broad retail benchmarks that are not fully relevant for large shopping centres
- Expand the coverage from 'landlord common parts-only' benchmarks to those providing a comprehensive picture of centre performance to **support owner-occupier engagement and address scope 3 emissions**
- Enabling **collaboration and information sharing between the owners and operators** of the largest shopping centres

PROPOSED SOLUTION

The BBP and REVO have collaborated to help solve this industry challenge:

- The BBP already collect environmental data from across their membership and are well placed to gather, process and analyse the data (via their Real Estate Environmental Benchmark (REEB) Project)
- REVO are well placed to convene large shopping centre owners to engage with this collective industry challenge
- We set out to develop a 'whole building' energy benchmark for large UK Shopping Centres. 'Large' has been defined for this purpose as shopping centres that are >50,000m^2. We estimate there are ~60 shopping centres of this size in the UK

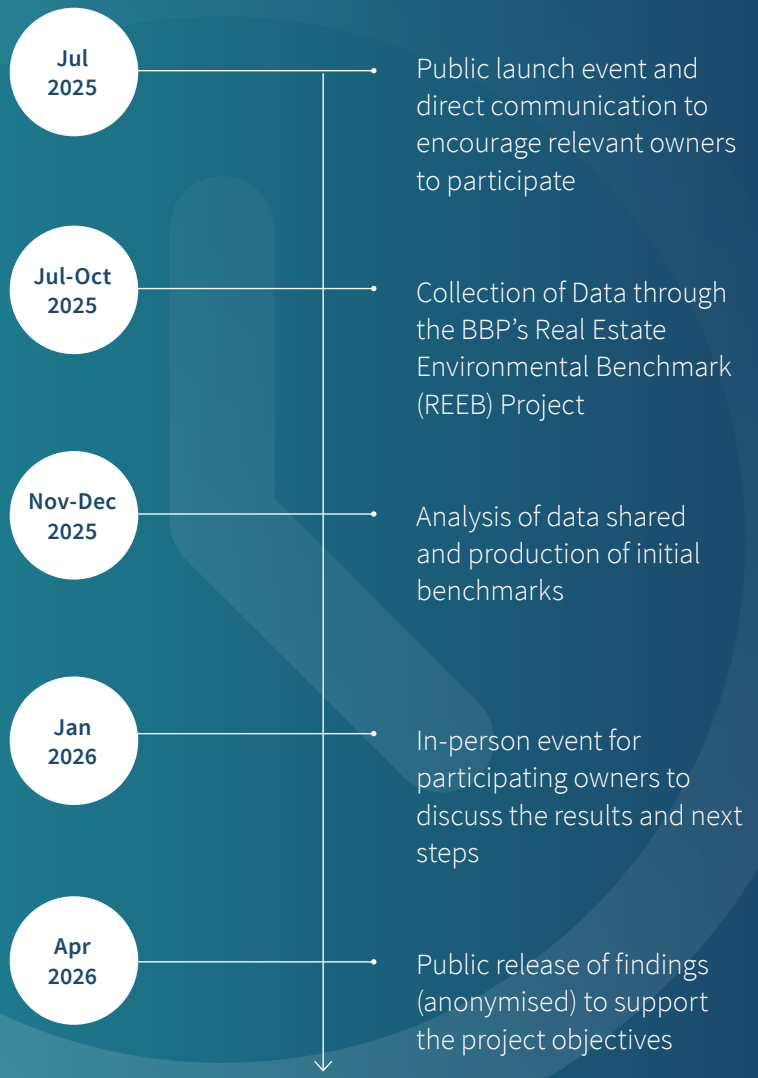
The BBP REEB Project was one of the first initiatives of its kind in the UK, and has been **gathering data and producing benchmarks since 2010**

The data and outputs from the BBP REEB project have been **used to inform CRREM, the UK NZCBS** and the **UK Government's National Buildings Database**

In 2024 the BBP collected environmental data from **52 members on >1,800 properties** covering **18 million m^2** of UK real estate

55% of the 60 large UK shopping centres were already involved in the REEB project but were only reporting energy associated with landlord common parts

PROJECT TIMELINE



RESULTS

PARTICIPATION

42 of the target shopping centres participated in the project.

Of these, **34 were defined as 'fully enclosed'**, and **8 as 'partially enclosed'**, with various degrees of open-air circulation alongside enclosed areas.

Organising the sample into these two types associated with their built form/ spatial configuration seemed the most appropriate way to analyse their energy behaviour, and **aligns with our historical approach to this asset type in the REEB project**.

However, it should be noted that the centres in the sample – whilst all very large – can differ significantly in age, tenant mix, and their local/regional role.

COMMON PARTS RESULTS

All 42 shopping centres provided energy data for their 'landlord-controlled common parts' and **the median energy intensity was 156 kWh/m²/year – higher than the typical medians that we see for our wider shopping centre sample in the REEB project**.

The 15th centile was 67 kWh/m²/ year, but discussion with participants suggested this value is likely being 'pulled down' by shopping centres with high degrees of vacancy and key energy using equipment switched off. **A more reliable 15th centile value might be 83 kWh/m²/year** which is based on removing the lowest 10% of centres from the sample, and this aligns with recent values published by the UK Net Zero Carbon Building Standard for shopping centre common parts, which targets 80 kWh/m²/year for alignment.

WHOLE BUILDING RESULTS

25 of the shopping centres were able to provide 'whole building' data for analysis (i.e. landlord common parts and tenant-occupied retail units).

10 of these had full data coverage for the centre, with the remaining 15 holding energy data for an estimated proportion of the retail units, which ranged from 14-80%.

We extrapolated the retail unit energy data on a straight-line basis for these 15 centres, which introduces estimation to the result. **The median energy intensity for these 25 centres was 194 kWh/m²/year, and the 15th centile was 133 kWh/m²/year.**

These values are significantly higher than the 'common parts' intensities above, suggesting that the **retail footprint of large shopping centres is generally more energy intensive** than the landlord-controlled common parts.

OTHER INSIGHTS

We analysed the impact of 'opening hours' on the results, and they did have a bunching effect on the distribution (i.e. the more intensive shopping centres became relatively 'less intensive', and vice versa), but very little effect on the overall median and 15th centile results.

In both the 'common parts' and 'whole building' analysis, the **'partially enclosed' shopping centres tended not to appear as the most efficient centres**. Our hypothesis is that these tend to be less energy efficient due to significant loss of heating/cooling to the atmosphere, due to the predominance of 'open door' approaches at UK shopping centres. This is an important finding to keep in mind with more modern centres tending to adopt more open-air and urban-integrated approaches.

The median energy intensity for these 25 centres was 194 kWh/m²/year, and the 15th centile was 133 kWh/m²/year.

CONCLUSIONS & NEXT STEPS

Data availability and quality remain key issues. 42 of the UK's largest shopping centres contributed energy data to this project, and 25 of those were able to provide occupier energy data. However, we were not able to engage all of the 60 centres that we targeted for this exercise, and extrapolation was required to analyse the retail unit data that was available. Supporting best practice for gaining better visibility of occupier energy data, and further investigating the best performers (within the 15th centile) are key next steps.

The largest UK shopping centres do seem to justify having their own sample. Our findings generally show a higher EUI for these 'largest centres' than general retail benchmarks, as shown in the BBP's 'REEB in Context' chart for retail.

The enclosed/partially enclosed distinction in our sample needs further investigation, but given the difference in the 15th centiles for enclosed / partially enclosed centres, and the theoretical differences in how we might expect them to behave from an energy-perspective, it could make sense to have two separate benchmark values to reflect this.

The BBP & Revo intend to continue working with the leading shopping centre owners that have contributed to this pioneering collaboration, in order to meet the objectives of this project and support the UK's shopping centres to optimise their energy performance.

"It has been fantastic to work with REVO on this project, reflecting our commitment to collaboration across the sector. This has enabled us to deepen our understanding of the energy performance of large UK shopping centres with multiple occupiers, where access to 'whole building' data has long been a challenge for the sector. Robust and consistent metrics and data that accurately reflect the diversity of retail assets are critical to driving performance improvements. This project has provided vital insights from property owners to enable the development of reliable benchmarks with the ultimate aim of driving improved performance and value across this important asset class."

Sarah Ratcliffe, CEO, Better Buildings Partnership

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"Working alongside the BBP, Revo has been able to bring together representatives of 70% of the largest centres in the country, creating a network that really sees the benefits of information sharing and collaboration. The data they have provided points to the largest schemes facing particular sets of energy use challenges, something we would not have appreciated or been able to define, without this pioneering study. In the long run, this will pave the way for better outcomes and decision making for some of the UK's best-loved landmark destinations."

Vivienne King, Chair of Revo

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