

The average office in our Real Estate Environmental Benchmark (REEB) uses about 2.3 million litres of water each year (equivalent to ~18 homes¹), and the largest offices in REEB can use around 100 million litres per annum. The average enclosed shopping centre (landlord-controlled common parts) use around 10 million litres.

These numbers represent a significant environmental impact, that often receives less attention than other sustainability topics. When publishing our energy benchmarks from REEB last year² we were able to show these alongside comparable values from a range of other industry initiatives. There are far fewer water benchmarks available for this kind of comparison, with only EPRA³, ULI⁴, and NABERS (Australia)⁵ producing benchmark values for commercial real estate.

The charts below for offices and enclosed shopping centres show our latest REEB water benchmarks alongside the other benchmark values that are publicly available.

Offices



	REEB	EPRA	ULI Greenprint	NABERS (Aus)
Sample size	775 assets	38 companies	834 assets	988 assets
Location of assets	UK	Europe (significant contribution of UK assets)	Predominantly US, with some UK & European assets	Australia
Intensity metric detail	Whole building metric. Numerator is total asset water usage less mixed use elements e.g. gyms / ground floor retail. Denominator is net lettable area (NLA)	Whole building metric. Converted from original in m³/m²	Whole building metric. Converted from original in m³/m²	Whole building metric. Converted from original in m³/m²

Enclosed shopping centres



	REEB	ULI Greenprint
Sample size	39 assets	37 assets
Location of assets	UK	Predominantly US, with some UK & European assets
Intensity metric detail	Common parts metric. Numerator is water usage in landlord-controlled common parts. Denominator is common parts area (CPA) in m².	Bas Building metric (comparable to common parts). Converted from original in m³/m²

Please note EPRA and NABERS do publish benchmarks for enclosed shopping centre water intensity, but the metric are not stated in a way that is comparable to REEB

Why we produce this analysis

We have collected water data from BBP members through our REEB project since 2010/11, alongside the energy data that is provided annually.

We produce benchmarks and analysis using the water data, so that BBP members can benefit from collective performance analysis, and the wider sector can benefit from publicly available water benchmarks for offices and shopping centres, in a context where very little public data is available.

Water data, as well as being important in its own right, also provides context for wider environmental impact analysis. For example, at the BBP we have been using the water data as a proxy for occupancy in some of our energy analysis over the last few years, where environmental impact trends have been significantly affected by the covid-19 pandemic.

Limitations of the analysis

The water analysis that we can provide is limited by the sample sizes available (particularly with regard to shopping centres), and we tend to remove around half of the data provided to REEB through our data quality checks. It is also limited by the lack of wider initiatives with which to compare our findings.

Benchmarks are presented in ‘consumption per unit area’ but this may not always be the most appropriate/reliable intensity metric for water usage in commercial buildings. In REEB we collect office data on ‘Full Time Equivalents’ / ‘Numbers of Workstations’, which offers an alternative way to express an office water intensity metric. We also collect visitor numbers for shopping centres, which can be used to express intensity as ‘water consumption per visit’. These alternative metrics have not been published in this Insight as the data tends to be less available/reliable than area data at this stage, and doesn’t align to wider water benchmarking initiatives available to the sector.

How can this analysis go further?

Analysing trends in water intensity over time offers a lot of scope for interest, particularly through the pandemic-affected period. We have understandably seen significant variation in water intensity through REEB, and the wider industry benchmarking initiatives mentioned here report similar changes. We have used water data as a proxy for occupancy in some of our BBP analysis, but the availability of more true occupancy data would provide an opportunity to better analyse water efficiency in its own right. This normalising data would also allow more scope for determining the most appropriate intensity metrics for water.

Water intensity analysis for more building types would be very much welcomed, alongside better knowledge of relevant sub-types within categories. This is particularly relevant for sub-types where the amenities are changing with a corresponding impact on average water intensities (for example, increased shower provision in more recent office developments).

Finally, water benchmarks could benefit from better contextual information so that they can be read with reference to planetary limits and/or improvement pathways, as the sector is used to doing with energy & carbon data. Without this (and due to the relatively low cost of water to businesses), materiality assessments are limited in the extent to which they can prioritise water in organisational strategies.

WHAT IS REEB AND WHAT ARE REEB INSIGHTS?

The BBP’s Real Estate Environmental Benchmark (REEB) project collects asset level data from BBP members to produce public benchmarks for the sector, facilitate working groups and events, and support wider industry initiatives to improve the environmental performance of buildings.

REEB Insights provide additional analytical outputs – focused on a single topic – to improve professional understanding, generate discussion, and support those wishing to build upon the BBP’s analysis.