

Sustainability at the heart of design

Sustainability has always been at the heart of the design of Euston Tower. We have a vision to create a greener all-electric building fit for the future with cutting edge sustainability goals and full transparency of our assessment and approaches. Reducing carbon emissions and waste with ambitious circular economy targets, innovative reuse/recycling processes, and carbon offsetting only where necessary.

The feasibility work

We have commissioned rigorous third-party investigations – the most detailed feasibility study so far carried out in London – to review the existing condition of Euston Tower, upgrades required to meet Building Regulations, constraints, and different options to bring the building back into use. We began this process back in February 2022 and since the last community event in October 2023 this has undergone an independent third-party review.

Our results concluded the best approach was to retain a significant proportion (31%) of the original building structure because it delivered the optimum balance of retention, flexibility, and the quality of space necessary for the redevelopment of Euston Tower to be successful. The material removed from the existing building will be reused and/or recycled where possible, and new materials will be specified to be low carbon to mitigate their environmental impact. As a last resort, certified carbon offsets will be used to reach net zero in construction at completion.

Our approach to sustainability

We are going to enact the following sustainability measures within the design and operation of the building to ensure the new Euston Tower is fit for the future:

- 01 | Retaining 31% of the original structure as means of reducing carbon and waste
- 02 | An ambitious strategy for recovering the deconstruction materials with focus on the hard-to-handle materials that are either large in quantity or in carbon
- 03 | Trialling and early engagement with manufacturers to enable closed loop all of the building's glass where it is technically possible and practical to do so
- 04 | Continued innovation on reuse of concrete slabs through physical trials with the University of Surrey
- 05 | A greener, all-electric building (no on-site fossil fuels) fit for the future with a substantially minimised operational carbon footprint and design to accommodate future climate change
- 06 | Embodied carbon performance of ca. 17,000 tonnes CO₂ below the GLA benchmark for offices, equivalent to the yearly CO₂ emissions of ca. 3,700 people in the UK
- 07 | A reimagined tower designed for the next century, with flexibility and adaptability at the heart of the design, and a focus on how elements and materials can be easily reused or recycled in future
- 08 | Increases in greenery and biodiversity that exceed London Plan and national requirements

Concrete recycling progress update

Concrete waste is a significant challenge in the building industry. Indeed, concrete and concrete-like products make up more than a quarter of all the UK's waste. While little lands up in landfill, it is most often crushed and used as fill product or secondary aggregate. This is a lower value application than its use in a building structure.

But it doesn't have to be this way.

We are working with research partners, including the University of Surrey, to prototype how the existing concrete in Euston Tower could be cut out and reused in a structural application. To assist in this research, a concrete slab was removed from site earlier this year to test the process of extraction, and the condition and strength of the concrete.

The tests have been carried out on the slab specimen at the Structures and Materials Testing Lab at the University of Surrey. The results from these tests have found the concrete is in good condition for its age and is suitable for continued use. The concrete is much stronger than needed for use as typical office floor slabs. We intend to publish our findings and lessons learnt to play our role in supporting the industry's transition to net zero.

