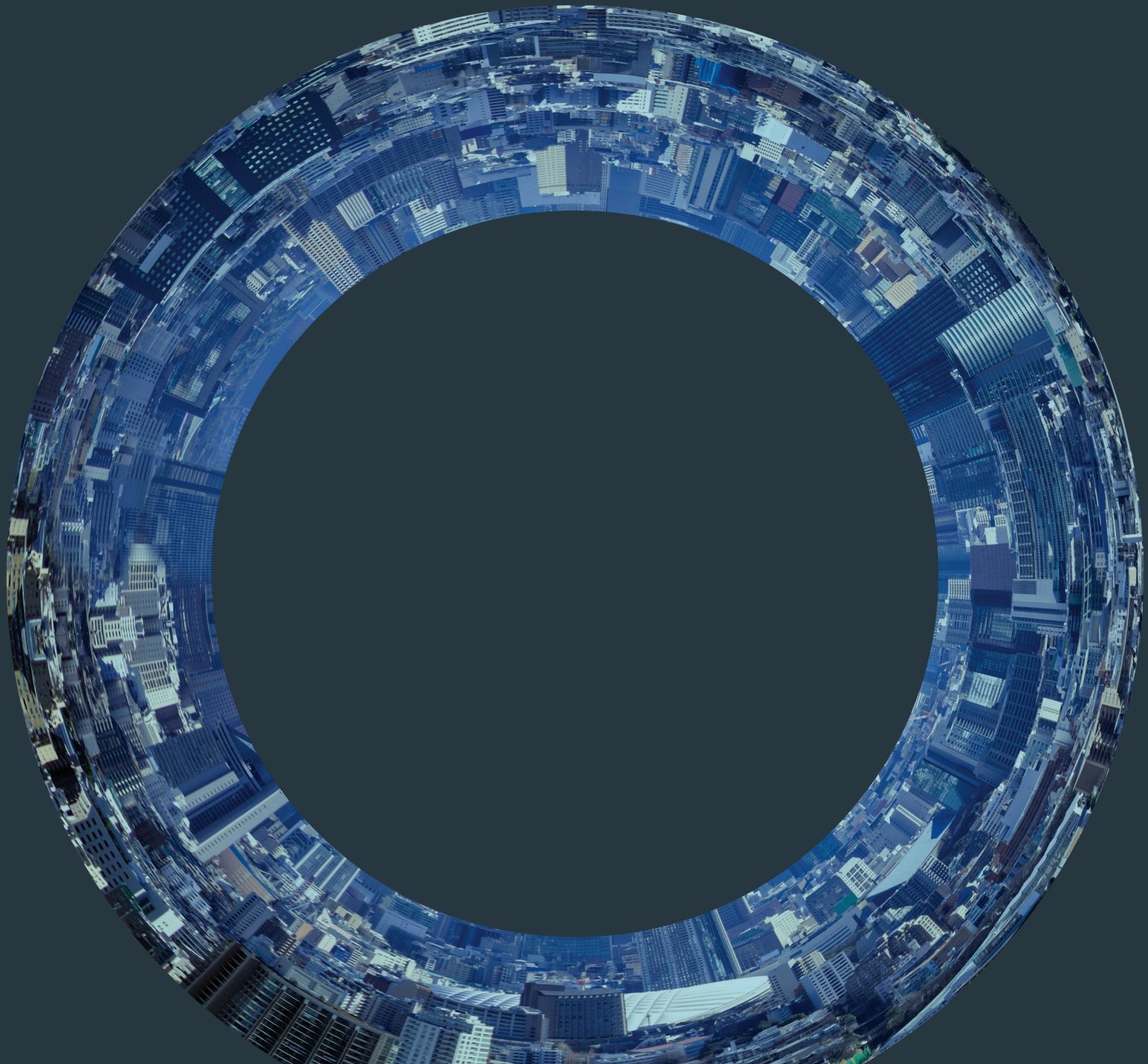


HOARE LEA (H.)

Net Zero Carbon. Your journey.

A CLIMATE-CONSCIOUS SERVICE
FROM HOARE LEA





Why net zero?

Limiting the impact of climate change is the greatest challenge of our time.

The UK is the first major economy in the world to pass laws to end its contribution to global warming, setting a target to achieve net zero carbon emissions by 2050.

With the operation and construction of buildings responsible for nearly half of our greenhouse gas emissions, there is much that can be done in the property sector.

Many local authorities and businesses, including our firm, have declared climate emergencies. We all understand the importance of achieving net zero targets within the next 10 years, in line with scientific opinion and ahead of the government's target.

For those serious about being part of a positive climate-conscious revolution, 2030 is the target for all new developments to be net zero carbon, and the benefits for those that take on this challenge are abundant.



We are a sponsoring partner of the pioneering UKGBC Advancing Net Zero framework, as part of the global WorldGBC project.

What should we measure?

Responsibility for greenhouse gas reporting spans three emission types. Many organisations have already begun to assess their scope 1 and 2 emissions as part of a zero carbon commitment, but some larger businesses are also assessing scope 3 emissions as part of a full reporting strategy.

Direct:

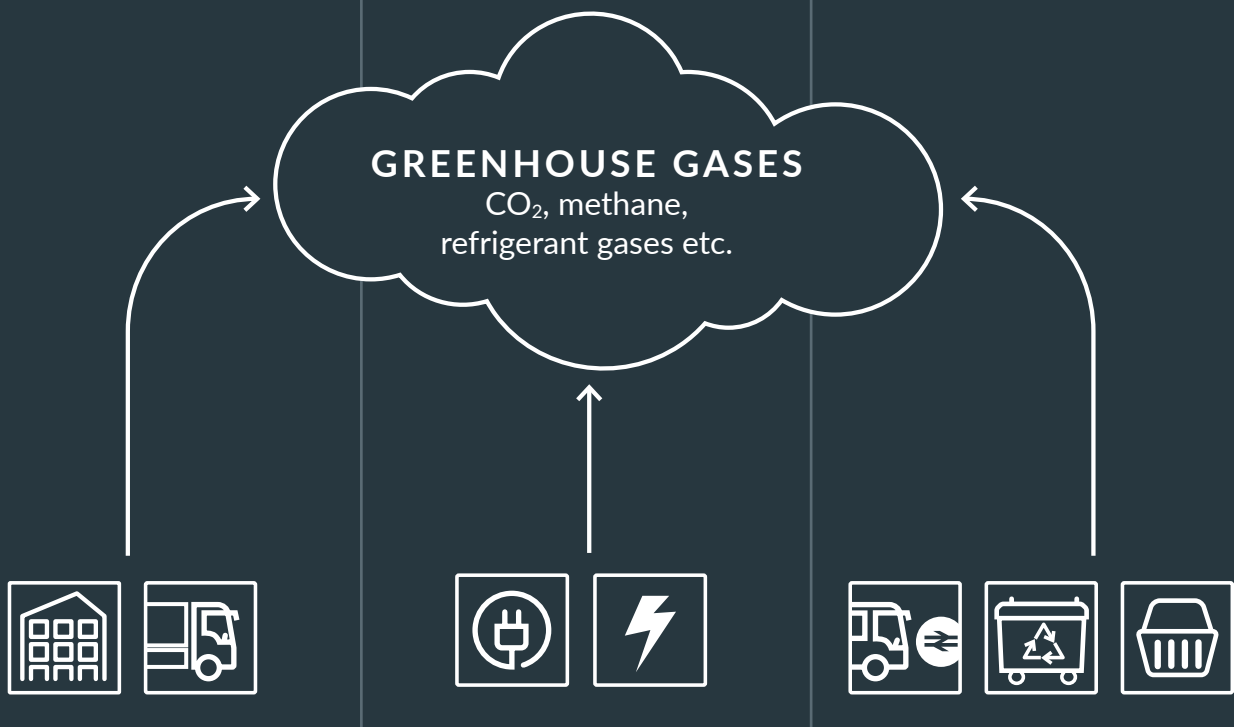
Scope 1: Emissions resulting from activities under the direct control of your organisation, such as gas boiler emissions, fleet vehicle emissions and on-site refrigerant leakage.

Indirect:

Scope 2: Emissions arising from energy purchased by your organisation for its operations, such as power or district heating.

Secondary indirect:

Scope 3: Emissions arising from associated activities not directly controlled by your organisation, such as leased assets, procurement of equipment, employee commuting, water use, and waste management.



How do we begin?

Whether you're looking to create a net zero new build or ensure an existing building, estate, or vast portfolio of real estate operates at zero carbon, the scope needs to be established to inform your strategy.

A comprehensive understanding of your carbon footprint is critical to defining a pathway to net zero carbon. This can also respond to any mandatory regulations (such as Streamlined Energy and Carbon Reporting) or voluntary frameworks (such as Carbon Disclosure Project, Global Real Estate Sustainability Benchmark, Global Reporting Initiative, and the Task Force on Climate-related Financial Disclosures).



Assessing & reporting. Whole life carbon.

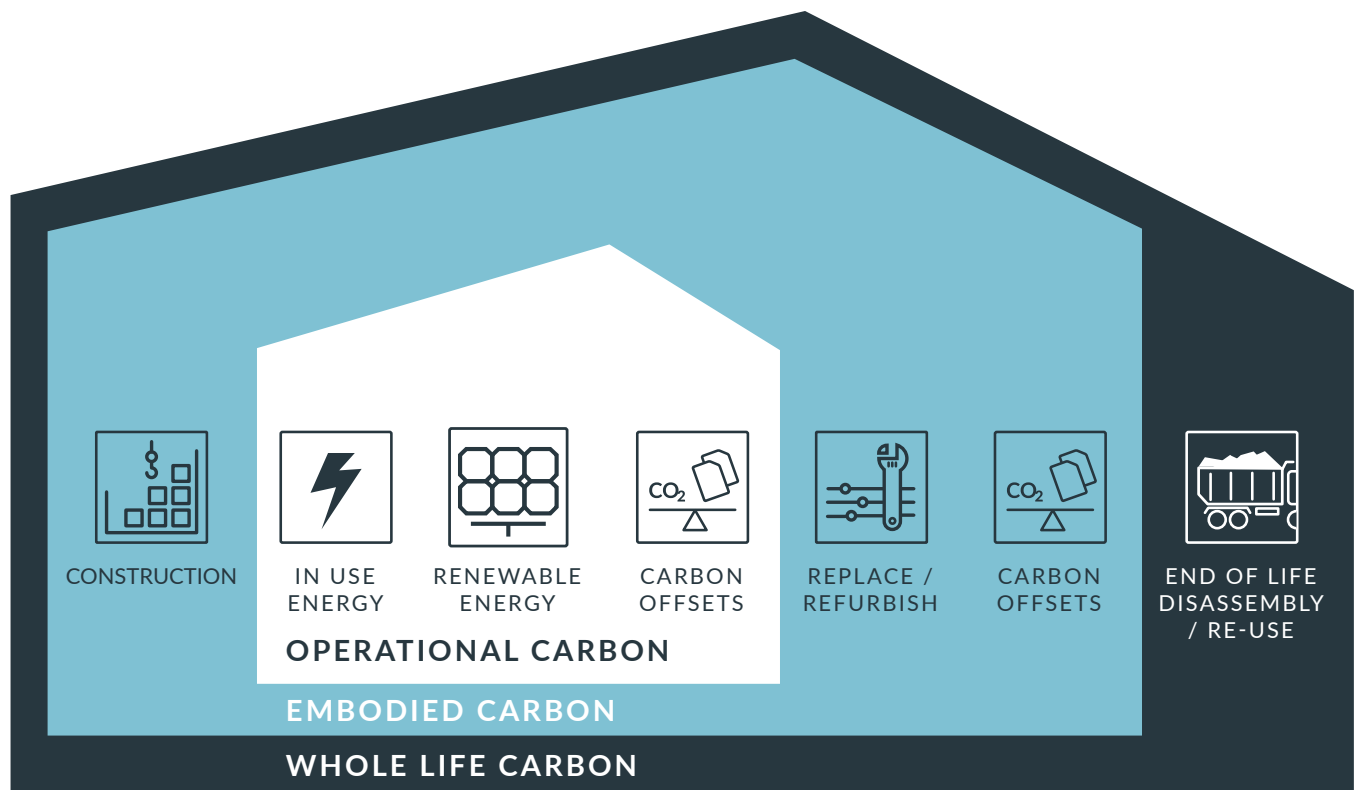
We worked alongside other industry leaders to help the UK Green Building Council (UKGBC) to develop a framework for bringing all buildings to net zero carbon, whether looking at embodied or purely operational carbon emissions.

EMBODIED CARBON

During the lifetime of a building, embodied carbon emissions arise from the initial construction and in-use refurbishments and material replacements. The structure is normally the dominant element of embodied carbon, due to the volume and nature of the materials, with the building envelope, services, and interior fit-out making up the remainder.

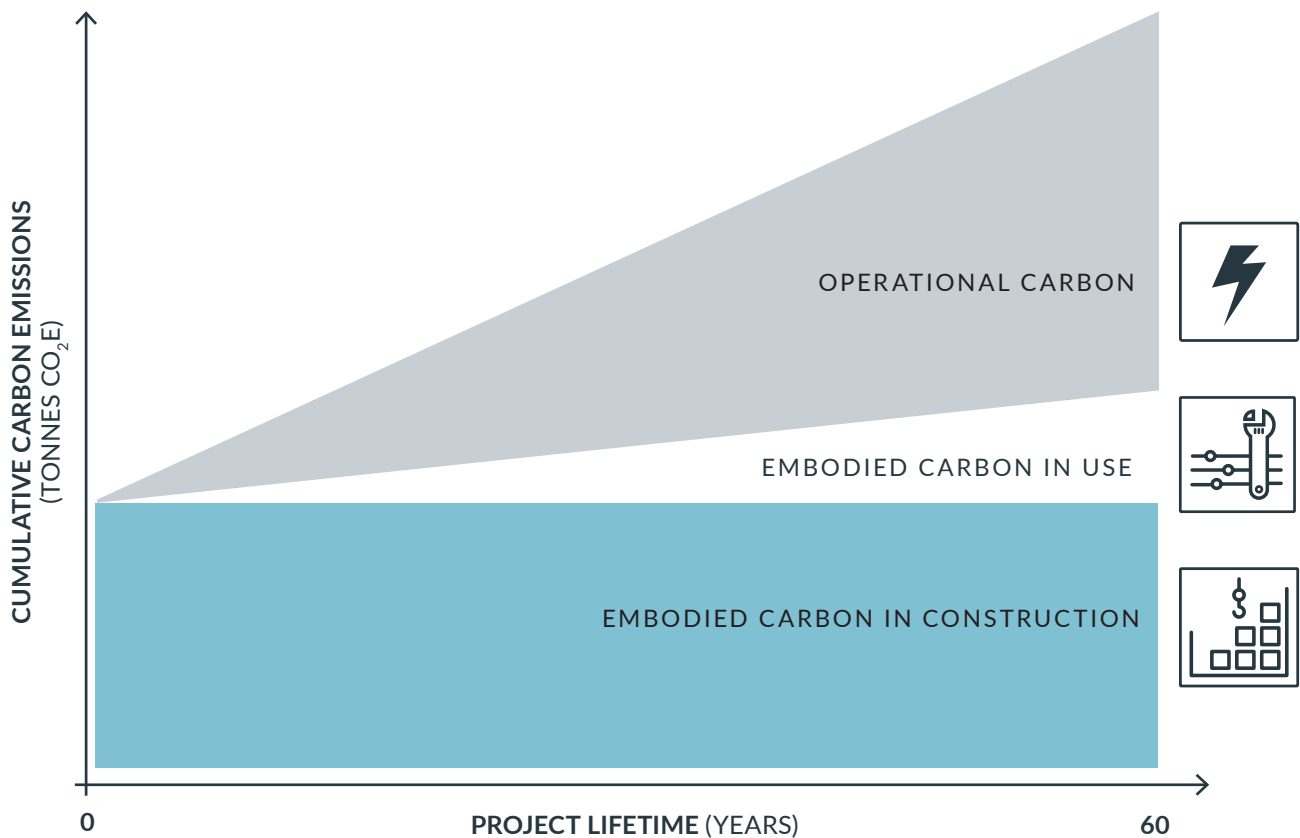
OPERATIONAL CARBON

Operational carbon emissions are those associated with the in-use operation of a building or estate. This usually includes carbon emissions associated with heating, hot water, cooling, ventilation, and lighting systems, as well as those associated with cooking, equipment, and lifts.



WHOLE LIFE CARBON

Embodied carbon can account for around half of the whole-life emissions of a new development. Looking at whole life carbon requires consideration of the energy used in the extraction of materials, manufacturing processes, transportation and building work on site. Considering end-of-life carbon emissions is an option within the whole life assessment scope if the disassembly and re-use strategy is known.

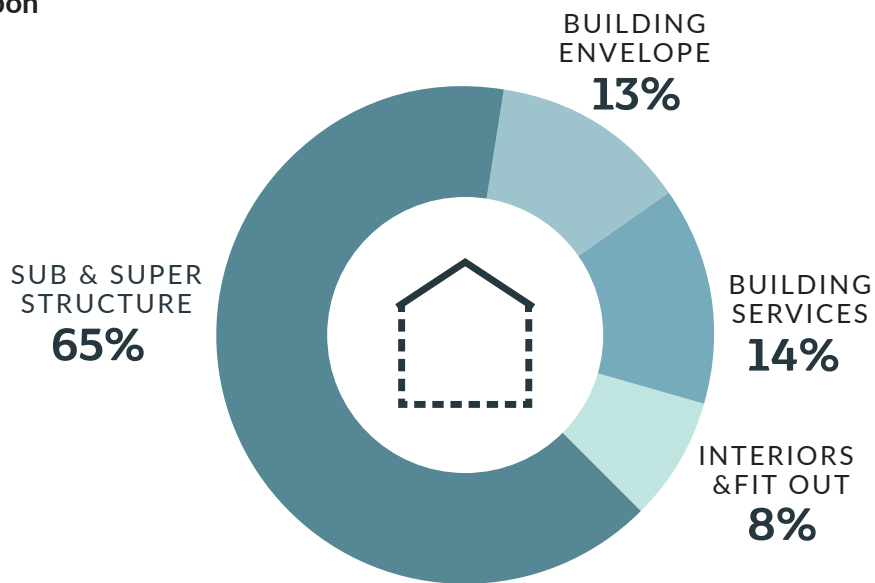


Achieving zero carbon operations.

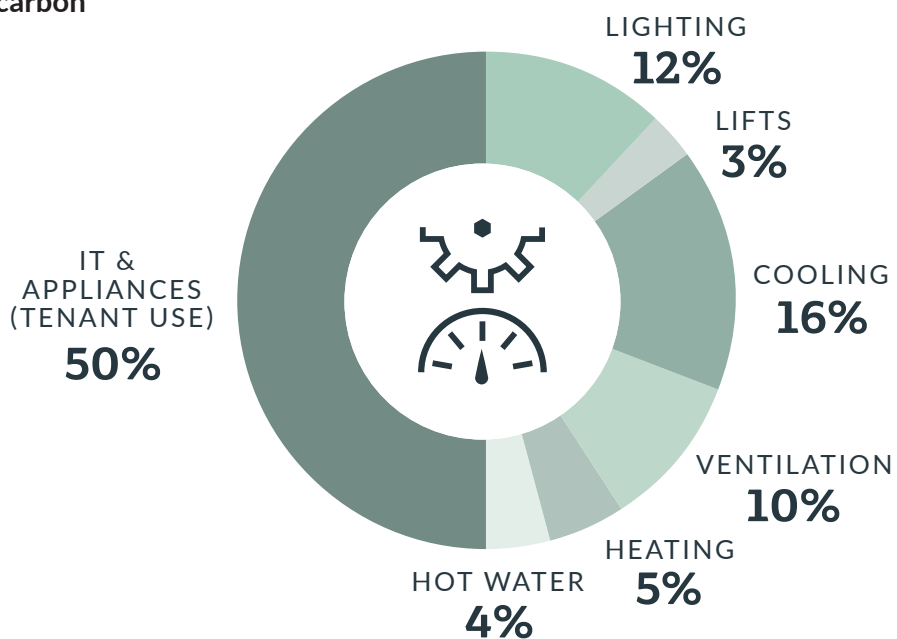
ASSESSING EMBODIED AND OPERATIONAL CARBON

Understanding whole life carbon requires an assessment of the specific design of the building and the systems installed. These charts show our analysis of embodied carbon and operational carbon for a typical modern office.

Embodied carbon



Operational carbon



5 simple steps.

A building with net zero operations has no net production of greenhouse gas emissions as a result of its use, when evaluated over the year. Net zero can be achieved by generating all energy use from onsite renewable sources, or by using offsite renewable energy sources and other carbon offsets that displace the greenhouse gas emissions resulting from the building's operation.

Our process for achieving net zero carbon is simple and applies to everything from standalone buildings to vast real estates. At every stage you'll benefit from expert advice, simplified options and design solutions, all based on real life experience and tailored to your specific needs.

Our 5-step process.

1. ASSESS Energy & carbon baseline

Evaluate the baseline energy/carbon performance. This applies to the design for a new building, or the operation of an entire estate, portfolio of assets or single existing building.

2. REDUCE Optimisation & upgrade

Assess a range of measures to reduce energy demand, including optimising the building fabric, building systems and controls.

3. GENERATE Onsite options

Establish how much energy can be generated onsite from renewable sources.

4. SOURCE Offsite options

Investigate sourcing electricity from the grid via a renewable energy contract or directly procure an offsite renewable energy supply.

5. OFFSET Displace remaining

Investigate carbon offsets, such as afforestation / local carbon displacement projects.

VERIFY NET ZERO CARBON
Declare outcomes and monitor

Our ethos.

Action over words.

It's personal

Problem-solving DNA

Leaders in our field

Sustainability has been at the heart of what we do for decades, working on some of the most pioneering schemes. Our people are passionate about playing their part in shaping a net zero built environment, doing what we do best to develop innovative, cost-effective and proven solutions – all while using our industry influence and expertise to drive change. Delivering Net Zero Carbon is a service we can provide for all our clients, no matter their size or sector.

www.hoarelea.com/specialism/net-zero-carbon

Our climate commitment.

We were one of the first signatories of the 2019 Building Services Engineers Declare initiative. Upon making our declaration, we set out an immediate course of action in line with the 11 recommendations put forward in the declaration, adopting a strategy to appropriately respond to the challenges and report against them every year.

www.buildingservicesengineersdeclare.com

Design for performance.

We are proud to be delivery partners for the Better Buildings Partnership 'Design for Performance' initiative that seeks to reduce energy in-use. We champion designing for performance, rather than simply building regulation compliance, to make the built environment the best it can be.

www.betterbuildingspartnership.co.uk



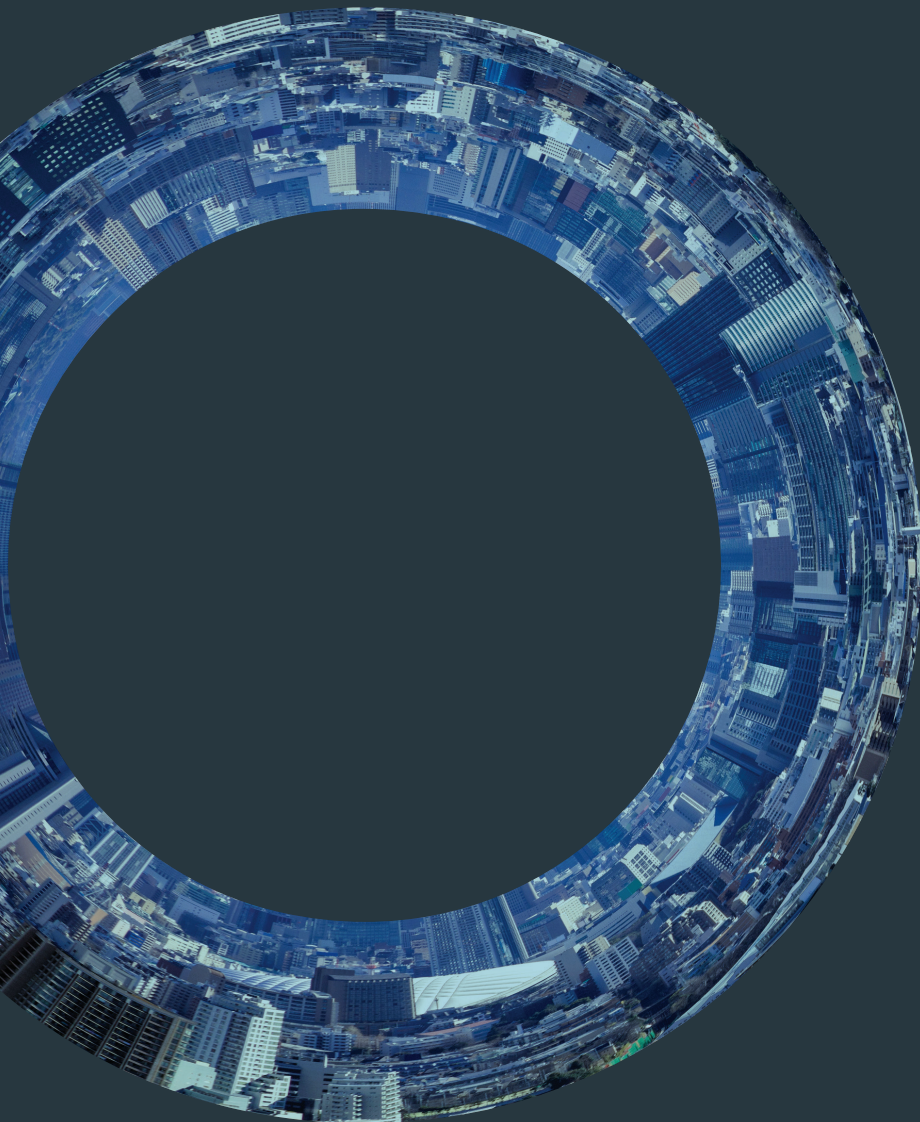


Engineers of human experiences.

Hoare Lea is an award-winning engineering consultancy with a creative team of engineers, designers, and technical specialists. We provide innovative solutions to complex engineering and design challenges for buildings.

Irrespective of the scale or complexity of a project, we provide a full range of MEP, environmental, and sustainability services, bringing buildings to life and ensuring that they perform in operation as well as they look.

HOARELEA.COM



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