IMPACT REPORT 2020 – 2025

Creating sustainable value

Decarbonising the built environment
and adapting to changing conditions

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2020-2025 at a glance

We contribute to a thriving and sustainable world by developing science-led solutions to built environment challenges of safety, security and sustainability.

550+
Employees

BREEAM

2.9 million+
Total registered built assets

100+
Countries

85
BREEAM Award winners, showcasing exceptional contributions to sustainability in the built environment.

Launched The BREEAM Podcast, sharing stories behind pioneering projects.

LPCB

16,500+
Total certified products, systems, and services

50+
Countries

New standards:
LPS 1976
LPS 1673
LPS 2083

Updates:
LPS 1204
LPS 1131
LPS 1014
LPS 1531

Research & Innovation

Publication and standard highlights:

The Cost of Ignoring Poor Housing

Testing Guidance for Products in Mental Health Facilities *with DIMHN*

UK Net Zero Carbon Buildings Standard *with project partners*

30+
Peer-reviewed journal articles

Programme highlights:

CONSTRUCTION INNOVATION HUB

CIRCUIT

BAMB

BRE Academy

40,000+
Individuals trained

1,450+
Organisations

90+
Countries

10
New courses

Constructing Excellence

40+
Events annually

2,000+
Professionals engaged

Constructing the Gold Standard launched in 2024 is a public sector construction framework verification scheme designed to improve value, reduce risk and achieve net zero.

SmartWaste

27,000+
Construction projects

80 million+
Tonnes of avoided landfill waste reported

£305 billion
In contract value

SmartWaste Scan launched in 2025 reduces manual data entry and simplifies duty-of-care checks.

Foreword

Gillian Charlesworth
Chief Executive Officer

As a profit-for-purpose organisation, our ambition is bold. We want to be the world's leading science, data, and innovation hub for the built environment. Our ambition is also firmly grounded in our ethos that evidence-based research and industry collaboration are key to delivering buildings, infrastructure, and communities that are fit for the future.

Over the last five years, our commitment has translated into tangible advances across the built environment – from embedding sustainable construction and real estate practices through our standards such as BREEAM, to deepening our global partnerships on net zero pathways, improving safety outcomes, and empowering professionals through training and tools.

This report does more than document what we have achieved. It reflects the expertise and dedication of our people, who bring to life our mission every day across the UK and internationally. It reaffirms the importance of stakeholder collaboration and continuous improvement.

The journey to a more sustainable built environment is far from complete. As I conclude my tenure as CEO in September 2025, I look forward to seeing how BRE continues to focus on the challenges that matter most, guided by science and driven by our responsibility to create lasting value for society.

I hope this report offers insight, inspiration, and a sense of what's possible.

Kaie Warner
Head of Responsible Business

Compiling this report has been a privilege and also a reminder of the complexity and ambition that define sustainability in the built environment. Over the last five years, our work continued to encompass a wide range of activity from decarbonising construction to supporting health, safety, and skills development across our sector.

This report captures that breadth by detailing our research, standards, tools, and partnerships that help shape a safer, greener, and more resilient world. It also reflects the very real challenges of translating global sustainability goals into practical, science-based action – something our teams tackle daily.

Bringing together these stories and data points has reaffirmed for me how essential it is to keep questioning, learning, and collaborating. Each section of this report is a step in our ongoing journey – a journey that requires both technical rigour and human perspective to drive real impact.

Introduction

BRE exists to contribute to a thriving and sustainable world by developing science-led solutions to built environment challenges of safety, security and sustainability. Our long-term vision is to be the world-leading innovation, science, and data hub for the built environment.

BRE is 100% owned by the BRE Trust, a registered charity that invests our profit back into research for public benefit. Committed to facilitating positive change at all levels, we:

- conduct scientific research on creating sustainable buildings, infrastructure, and communities
- collaborate with others on policies and practices that drive safety and sustainability throughout the construction value chain
- provide built environment education and capacity building globally
- provide meaningful monitoring and reporting processes that improve asset performance
- showcase and reward best practice.

With a passion for their work, our colleagues deliver advisory, testing, certification, commissioned research, digital products, and training services that cover all aspects of the built environment and associated industries.

Over our last five financial years from 2020 to 2025, we generated around £290 million in revenue, which includes around £20 million in Government grants. With 575 employees on average, we contributed around £140 million through wages and salaries, aiding spending power. Our suppliers benefited from around £130 million in goods and services delivered.

Globally active, we expand our reach through representatives and partners around the world and have offices in the UK, USA, the Republic of Ireland and China. Our products can be adapted to local conditions to support businesses based in different markets and enhance our collective positive impact. Operations in the Republic of Ireland enable us to continue providing our EU conformity assessment services. Our current National Scheme Operators (NSOs) – organisations licensed by BRE Global to operate country-specific BREEAM schemes – are in The Netherlands, Spain, Germany, Austria, Switzerland, Sweden, and Norway.

We lead and participate in multiple collaborative programmes for standards and policy development. We comply with internationally recognised managements systems such as ISO14001 environmental management, ISO 45001 occupational health and safety, and ISO 9001 quality management. We also maintain Cyber Essentials Plus.

This report provides an overview of our work over the last five financial years to enhance the built environment.

Our sustainable built environment goals to 2030 are:

Energy and emissions
Achieve net zero emissions by 2045 and champion a fair and just energy transition

Materials
Increase reuse and recycling to help circulate products at their highest value

Water
Reduce water consumption and support responsible and sustainable water use

Resilience
Enhance ability to respond to external shocks and stresses

Biodiversity
Regenerate natural systems and restore biodiversity loss

Health and wellbeing
Enhance occupant wellbeing and champion the delivery of healthy and resilient buildings

Travel and accessibility
Promote sustainable modes of transport and inclusive design

Procurement
Assess supplier sustainability performance and promote impact driven financing

Science-based solutions for decarbonising each stage of a building's lifecycle

BRE provides data, standards and tools that enable lifecycle assessment for buildings and embed circularity principles in construction. We test low and zero carbon construction products and processes to establish benchmarks and foster innovation. Through combining our wide range of expertise, we maintain the gold standard for sustainable building certification.

→ **One Angel Square, Manchester**

Co-op headquarters at One Angel Square in Manchester achieved a BREEAM New Construction Outstanding rating and saves up to 60% on energy costs.

We provide data, standards and tools that enable life cycle assessment for buildings and embed circularity principles in construction

Life Cycle Assessment (LCA) quantifies global warming potential and other environmental indicators, which enables the specification of more sustainable materials, construction methods and operational strategies. More sustainable approaches help increase asset value, improve building user experience and health, and mitigate climate risks.

At BRE, we create and deliver scientific and whole life approaches and standards for asset construction, management and performance. It is important to have a whole life perspective and consider the net impact of our approaches as there will always be trade-offs.

Our IMPACT® specification and database enables the measurement of embodied environmental impact of buildings. It seamlessly integrates with life cycle assessment (LCA) tools. As of March 2025, two of the most-widely used carbon management and assessment software platforms globally are IMPACT certified – One Click LCA and Cerclos (formerly eTool). These tools model environmental impacts from the earliest design stages. BRE is also one of the organisations supporting the Built Environment Carbon Database (BECD) that aims to be the main source of carbon estimating and benchmarking for the UK.

In 2024, we co-launched the pilot version of the UK Net Zero Carbon Buildings (NZCB) Standard that provides a single agreed definition and methodology for industry. Along with this we continue to actively participate in the preparation of international, European and British Standards such as our ongoing work with B/558 – sustainability of construction works – at BSI to develop and revise European construction LCA standards through the European Committee for Standardisation (CEN).

We provide pro-bono expertise to initiatives that share our science-led vision such as the Science Based Targets Initiative (SBTi) technical advisory group and Carbon Risk Real Estate Monitor (CRREM) global scientific and industry committee. SBTi and CRREM deliver decarbonisation pathways globally for real estate.

BRE operates a comprehensive Environmental Product Declaration (EPD) scheme, in line with the European standard EN 15804 and audited by Eco Platform. EPDs are an environmental label that use LCA data to quantify the environmental performance of a product. Due to the forthcoming EU Construction Product Regulation (CPR) amendments, this widely recognised standardised approach is quickly becoming the benchmark in environmental reporting for manufacturers. Over the last five years, we have verified 100s of EPDs globally from single products produced by SMEs to high volume product variations and sector wide EPDs. These include a wide range of product types from windows and steel to smoke detectors and paint. We also offer an LCA tool that gives product manufacturers access to LCA data and a route to obtaining multiple EPDs cost effectively.

In 2024, we co-developed freely available life cycle carbon assessment foundation training with support from the Laudes Foundation and delivered through CIBSE Training. The course is designed for anyone working within real estate and construction to learn about carbon efficient construction and the process of assessing life cycle carbon in a consistent way.

Lighting in the net zero and circularity journey

Lighting not only enables safe movement and work within buildings but also influences how people feel and perform. Effective lighting depends on a balance of daylighting, energy-efficient artificial lighting, and integrated lighting controls, all tailored to a building's design and users.

As we move beyond the success of the low energy lighting roll out, our 2024 commentary outlines progress and priorities for next steps in the sustainable lighting transition with a focus on efficiency, circularity and daylighting. We need more empirical research on how the rollout of low energy lighting has impacted energy use in homes and business buildings. Lighting manufacturing and markets should be designed for circularity and more emphasis needs to be placed on the benefits of daylight. More information on our work in this area is on pages 19-20.

Understanding material resource efficiency is critical across a building's lifecycle, with significant opportunities during early stages of new builds and renovations to design out waste, investigate material and technology choices and reduce lifecycle emissions and costs.

Our 2017 Pre-demolition Audit Code of Practice established a process for completing independent audits that aim to increase building transformation, product reuse and higher value recycling. Resource efficiency requirements in our sustainable building certification schemes (BREEAM) were a main driver for market uptake of these audits at that time. Since then, we have supported the development of multiple waste management and circular economy policies and planning requirements across the UK and Europe. Our collaborative work has delivered improved guidance, procedures and enabling technology.

Buildings as Material Banks (BAMB) from 2015-2019 followed by Circular Construction in Regenerative Cities (CIRCuIT) from 2019-2023 are two successful €10 million European Commission Horizon 2020 projects that we delivered in partnership with progressive organisations across Europe. We effectively demonstrated construction approaches that focus on harnessing materials in our existing built environment from design and construction through to operations and redevelopment. This included showcasing several avenues for reducing the use of virgin materials and establishing the materials passports concept, of which the value is increasingly becoming clear to the construction sector. The 2024 EU Ecodesign for Sustainable Products regulation will require nearly all products sold in the EU to have digital product passports. Materials passports and digital product passports are essentially a one stop shop for product information across its lifecycle and should be available to actors along the value chain.

We helped develop the 2025 Timber in Construction Roadmap that demonstrates opportunities and barriers to the use of timber in construction. The roadmap highlights that carbon storage is around 50% higher in timber framed homes than masonry homes and larger buildings have even more carbon storage potential.

As we work towards healthy, sustainable and circular building products being the norm, we also provide pre-redevelopment audit services. These pre-redevelopment audits of buildings over the last five years have recommended the avoidance of over 187,000 tonnes of waste to landfill, which is equivalent to avoiding 18,700 tonnes CO2e. This is similar to powering over 4,500 UK homes for a year.

Our BES 6001 Framework Standard for Responsible Sourcing of Construction Products provides a holistic approach to managing a product from the mining or harvesting of component materials, through to manufacture and processing. We released the latest version 4.0 in 2022. As of March 2025, there are active certificates for over 20 product groups ranging from concrete, bricks, steel, and glass to roofing, drainage, electricals and paints.

CIRCUIT

This project has received funding from the European Union's Horizon 2020 research and inovation programme under grant agreement No 821201

BAMB
BUILDINGS AS MATERIAL BANKS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 642579

SmartWaste is our everyday sustainability software that streamlines waste management and materials tracking, generates ESG reports, and monitors progress towards net zero goals.

SmartWaste is used throughout construction to manage carbon, waste, materials, and energy, supporting net zero goals and compliance with sustainability standards. We want to help our customers forecast their waste impact more accurately and make more sustainable decisions early in the process.

As of March 2025, over 27,000 construction projects worth £305 billion in contract value have used SmartWaste to plan, monitor and report on sustainability regulations and targets – avoiding over 80 million tonnes of waste going to landfill.

To further support our customers and the industry, we launched SmartWaste Scan in February 2025, incorporating AI-powered Optical Character Recognition (OCR) to extract data from waste transfer and material delivery notes efficiently and accurately.

Key benefits are time and cost savings – saving almost a quarter of processing time per document, reducing manual data entry costs and simplifying duty-of-care checks. Mobile accessibility supports flexible and efficient working practices and real-time updates facilitate quick and easy data sharing. Automated verification with reference data sources enhances compliance through reducing data errors while providing a complete audit trail.

"We are constantly looking at ways to improve, particularly around how technology can help achieve our sustainability goals. Working with SmartWaste has allowed us to really drill into how bulk waste is being managed and gives us greater control than paper-based systems."

GAVIN ALLAN
GROUP SUSTAINABILITY OPERATIONS LEAD
Robertson Group

£305 billion
In contract value

80+ million
Tonnes of avoided landfill waste reported

We test low and zero carbon construction products and processes to establish benchmarks and foster innovation

Transitioning to meet global net zero carbon goals has the potential to boost productivity and growth and avoid severe climate change damage. Construction products, especially cement and concrete products, are significant contributors to global embodied carbon emissions and therefore have high potential to help mitigation.

BRE works with public and private sectors around the world to facilitate the scale up of innovations and stimulate demand. We test sustainable construction products and processes, including those that are not yet covered by standard test methods.

Our 2023 study on environmentally superior construction products that are not yet commercially available, commissioned by Innovate UK, highlights significant potential to mitigate embodied carbon emissions in the short to medium term through:

- supplementary cementitious materials as alternatives to carbon-intensive Portland cement,
- carbon sequestration,
- reclaimed and reused steel,
- recycled glass as feedstock for flat glass production, and
- increased training to expand adoption of best practice.

However, interventions are required to help address product development challenges including support for standards development and creating markets for new entrants. BRE's collaborative platform, Constructing Excellence, brings together key stakeholders that form partnerships to help remove such innovation barriers and promote the adoption of best practice.

Our collaborative work in 2023 on 'Durable Low Carbon Reinforced Concrete for Challenging Environments' (DULCET) led to the development and piloting of a new faster hardening cement and reinforced concrete range from Cemfree. This is for aggressive chloride environments such as coastal areas and highways that require de-icing. Repairs due to chloride and carbonation-induced reinforcement corrosion are costly. Reinforcement corrosion can be effectively 'designed-out' using non-corroding alternatives to steel. The basalt fibre-based alternative provided by one of the partners in DULCET also offers 40% carbon savings on conventional reinforcement, weight savings and full recyclability. Standards, specifications, realistic scale evaluated trials and their underpinning information -applied research, published case studies and experience – are essential for getting any new cement adopted at scale.

BRE Global Ireland provides services that enable manufacturers to market their products within the European Economic Area, Switzerland, and Turkey – through the CE mark under the Construction Products Regulation (CPR) and Marine Equipment Directive (MED). BRE Global Ireland also provides a pathway for manufacturers to obtain CE marking for innovative construction products that are not, or not completely, covered by a harmonised European standard.

Over the last five years, innovative projects include, but are not limited to, the development of European Technical Assessments (ETAs) for Lapitec sintered stone, based in Italy; Acre Works post tensioning system, based in Malaysia; and Ash & Lacy NaturAL-X & Mechslip brick cladding systems, based in the UK.

"Standards, confidence building and science-based benchmarks through site trials, independent durability and performance studies, and robust LCAs are key to unlock the necessary investment and acceptance of new materials by users and clients."

DR. ANDREW DUNSTER
PRINCIPAL CONSULTANT
BRE, Magazine of Concrete Research editorial panel member of IOM3 Sustainable Development Group and Ceramics Group (Cementitious Materials)

15-year field trial for timber posts

Since 2015, we have been managing a UK field trial, commissioned by the Wood Protection Association (WPA), that tests the performance of preservative treated timber posts over time, made from British softwoods.

In 2025, we conducted the ten-year test procedure, resulting in valuable data for the European database on wood durability, which is published in EN 350 – the standard for the durability of wood and wood-based products. The trial also enables future development of BS 8417 preservation of wood code of practice, the WPA code of practice: industrial wood preservation, and the WPA benchmark quality approval scheme for treated wood.

Most of the untreated posts have now failed, demonstrating that untreated wood of any kind is not fit for purpose for ground contact applications. The preservative-treated posts continue to perform well, particularly incised spruce. For this trial, the aim is a minimum 15-year service life.

Collaborative hubs and networks are crucial for transforming the construction industry by addressing fragmentation, driving technology adoption, and promoting more sustainable and productive built environment practices. Hubs can act as catalysts for change, bringing together diverse stakeholders to develop and implement innovative solutions.

We founded the Construction Innovation Hub in partnership with Manufacturing Technology Centre (MTC) and the Centre for Digital Built Britain (CDBB). From 2018 to 2023, with UK Research and Innovation (UKRI) investment, we collaborated with over 600 organisations, policymakers, practitioners and academics to address performance and productivity challenges. The Hub generated information management solutions that accelerate digital adoption across industry and established a global community to align on a standards-based approach – all towards creating a better global infrastructure. Through this work, the Global BIM Network was created where primarily public sector and multi-lateral organisations access and share guidance, protocols, case studies, training materials and other resources that facilitate digital built environment innovation. 1,000 representatives from 97 countries attended the Network launch.

In 2022, the Hub published the Product Platform Rulebook. The platform approach encourages innovation within offsite construction to meet the needs of future infrastructure. Also in 2022, the Seismic commercial building demonstrator at our Science Park showcased a platform-based approach for construction projects with methods that were 75% faster to complete, 70% lower in carbon impact, and 47% better in value. The Seismic Group continues to work on integrating modern methods of construction (MMC) and digital technologies using the open Seismic Platform®. The Hub is now part of the High Value Manufacturing Catapult – a research and innovation network established and supported by UKRI.

At BRE, we continue to foster innovation through supporting the development of new standards such as PAS 8700 – a new MMC standard for new build residential properties to be launched in 2025. In partnership with Atkins and UCL, we are using our CaliBRE construction site efficiency tool in a six-year study for Homes England on MMC efficiency and barriers compared to traditional methods. Results should be published in 2026.

Through the Hub we also worked with over 200 partners to develop the Value Toolkit – a value-based decision making mechanism for construction that drives better social, environmental, and economic outcomes. It is already used by public and private sectors clients to make better-informed decisions. Our collaborative platform, Constructing Excellence, is now the distributor of the Value Toolkit, ensuring resources remain freely accessible and are positioned for widespread adoption.

VALUE TOOLKIT

→ **100% BREEAM Outstanding**
Completed in 2024, the 'mid-tech' Nova building in Oxford, England achieved a BREEAM New Construction Outstanding rating with a 100% score.

We maintain the gold standard for sustainable building certification

BREEAM was the world's first building certification system and today it still drives more ambitious approaches to sustainable design, construction and operations. Underpinned by scientific rigour, BREEAM continues to provide an authoritative third-party certification that is available for asset owners and developers across every aspect of the built environment.

In 1990 we launched BREEAM, which is now globally recognised for managing risks and creating value through sustainability for real estate and infrastructure. Our science-based and holistic approach helps to improve asset performance at every stage, from design and construction through to operations and refurbishment. We consider not only energy and carbon but health and social impacts, circularity and resilience, safety and security, ecological value and biodiversity protection.

We know that countries all over the world are feeling the impact of climate change in different ways and this will continue. BREEAM is widely accessible and is applicable to all building types. BREEAM can be and has been adapted to local conditions, languages, and building regulations, allowing for international consistency and comparability. We partner with BREEAM National Scheme Operators and other organisations globally to drive improved asset performance, enhancing our collective positive impact.

The market is increasingly recognising the value of sustainable assets and attaching higher prices. Consumers are increasingly demanding spaces that meet their sustainability goals. It can be challenging to equate sustainability building ratings to exact property premiums given the variety of factors that impact pricing; however, our 2021 analysis with KnightFrank found a positive and significant effect of Very Good, Excellent and Outstanding BREEAM ratings on prime Central London office rents – ranging from 3.7% to 12.3% premiums. JLL's research into Central London office investments similarly found that BREEAM certification resulted in 11.6% increase in rents and 20% higher capital values on average. Globally, average green rental premiums ranged from 7.1% to 11.6%.

In 2024, GRESB, a leading benchmark for assessing the sustainability performance of real estate portfolios, similarly found that sustainable building certifications serve as catalysts for sustainable performance improvement in buildings through commitment and adherence to rigorous standards and best practice. Buildings with recognised sustainable certifications score higher on GRESB assessments.

From national planning policies to organisational procurement strategies, BREEAM requirements are used as a lever for more sustainable building practices. Over 2.9 million built assets across the world have registered to use BREEAM. We have issued BREEAM certificates in over 75 countries and received registrations from over 100 countries.

New construction

BREEAM New Construction provides a framework to deliver newly built assets that are holistically sustainable, supporting commercial success while creating positive environmental and social impact. From our origins of assessing offices in major cities to more recent bespoke certification of an Antarctic research station, BREEAM New Construction covers every building type. Over the last five years, we processed over 14,000 certifications and registrations, mostly from the UK and across Europe.

We are preparing for the release of a new version in 2025 to place stronger emphasis on advancing decarbonisation efforts, while further improving sustainability across all stages of a building's lifecycle. We will also introduce BREEAM UK New Construction: Residential to supersede Home Quality Mark (HQM). This is our certification standard for new homes in the UK. We retained HQM's core technical robustness and quality and enhanced its alignment with the BREEAM suite of standards to meet the evolving demands of the housing sector and simplify certification processes.

↑ **Sustainable design for data centres**

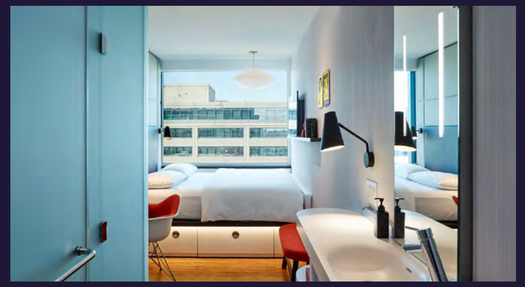
Iron Mountain earned North America's first design stage BREEAM certification for data centres and committed to BREEAM certification globally for new multi-tenant data centre locations. AZP-2, which achieved a BREEAM New Construction Excellent rating for the design stage, is a 547,000 square foot facility in Phoenix. The site can accommodate a maximum IT load of 48 megawatts (MW) and is matched by 100% renewable energy.

Buildings in-use

Monitoring and improving the operational performance of buildings is essential for reducing running costs, minimising environmental impact, improving occupant wellbeing and protecting the asset from risks. BREEAM In-Use offers a holistic third-party framework that helps property owners, managers and investors assess and improve the performance of their assets.

The certification standard evaluates asset level performance, such as energy efficiency and water use, as well as management practices, such as operational policies and procedures. Resilience is a key topic, considering exposure to physical risks and the implications of climate change, plus any other risks and opportunities that could have a major impact on the quality of life of building occupants and the surrounding community.

Certification is only valid for three years to drive continuous improvement with a credible methodology. Over the last 5 years, we issued over 23,000 BREEAM In-Use certificates across the UK, Europe and the USA.



↑ **Sustainability in hospitality**

Seven citizenM hotels, constructed between 2014 and 2022 with a combined area of over 650,000 square feet, achieved five BREEAM In-Use Excellent and two BREEAM In-Use Very Good ratings for asset performance. One of the Very Good ratings has already improved to Excellent during recertification.

These hotels are located in Boston, Chicago, Miami, New York City, and Washington D.C. Prior to these USA certifications, citizenM used BREEAM to identify opportunities for improvement across properties in Europe, which led to achieving BREEAM Excellent ratings or higher.

Infrastructure

We need high standards of sustainability in nationally significant infrastructure. BREEAM Infrastructure (formerly CEEQUAL) supports the design, construction, and maintenance of civil engineering works across the globe. The scheme has assessed more than £70 billion worth of infrastructure assets, spanning over 1,000 registered projects.

Projects assessed include road and rail networks, flood defence schemes, wind farms and energy tunnels, airport expansions, bridges, utilities, and public realm enhancements. Key outcomes reported by project teams are:

- 5–10% cost savings, with some projects reporting up to £5 million saved
- Carbon reductions of 20–40% on exemplar projects
- Improved collaboration and stronger sustainability culture across project teams
- Third-party verified results that support investor confidence.

BREEAM Infrastructure is currently active in the UK, Sweden, Norway, Ireland, Hong Kong, Qatar, UAE, Malaysia, Finland, the Falklands, and Antarctica. Demand is growing in Eastern Europe, with a Polish-language Technical Manual under development in 2025.

↑ **Electricity transmission systems**
Viking Link is a 1.4 GW high voltage electricity link between the British and Danish transmission systems. Developed by National Grid and Energinet with Siemens Energy as the lead contractor, the £1.7 billion project stretches 475 miles and could power up to 2.5 million homes. Viking Link achieved a BREEAM Infrastructure Very Good rating in 2024 by demonstrating commitment to sustainable practices and setting new standards for infrastructure development.

Refurbishment and fit-out

Refurbishment has the potential to unlock significant energy savings plus preferences are changing for how space is utilised. BREEAM Refurbishment and Fit-Out enables the assessment of existing buildings to reduce negative environmental impact caused during the refurbishment and fit-out process and create healthy, comfortable and safe working environments. The certification standard has four parts: external envelope, core services, local services, and interior design.

Over the last five years, we processed around 5,000 certifications and registrations, mostly from the UK and across Europe.

↑ **Heritage and sustainability**
Designed as a contemporary office space while maintaining its historical significance, The Northcliffe in London achieved a BREEAM Refurbishment and Fit-Out Outstanding rating.

The deep retrofit preserved the Grade II-listed façade of the original 1920s building and extended upper floors to create green roof terraces in its urban location. The semi-industrial aesthetic is maintained throughout, with exposed steel frame elements and semi-exposed ceilings. The Northcliffe won the BREEAM Awards Best Refurbishment and Fit-Out project in 2024.

Communities

BREEAM Communities provides a shared framework for planners, developers, policy makers, design teams, and communities to assess, improve, and certify the sustainability of large-scale development plans. All stakeholders are prompted to raise issues and integrate sustainable design solutions when there is opportunity to truly influence a masterplan, leading to better sustainability outcomes while building consensus with key partners. This approach is especially important for developments that are likely to have significant impacts on existing communities, infrastructure, or the provision of local services. Standards help ensure that developments have undergone credible and transparent processes. The scheme is used for new mixed-use communities, single-use developments of a significant size, and regeneration projects with plans for significant change to the urban fabric.

When the scheme was introduced in 2008, integrating environmental protection, social equity, and economic viability into the planning process was less heavily scrutinised than it is today. We are reviewing the scheme to determine the best way forward that meets market needs.

↑ **BREEAM Excellent from New Construction to In-Use**
After achieving BREEAM New Construction Excellent ratings in 2018 for Hermes Business Campus (HBC) in Bucharest, Romania, NGY Properties Investment SRL further demonstrated commitment to holistic sustainability performance through BREEAM In-Use certification. HBC achieved a BREEAM In-Use Excellent rating in 2023 for both asset and management performance. HBC is a three-building site with over 800,000 square feet of leasable space.

Sustainability governance and reporting

BREEAM can be implemented at any stage of an asset lifecycle to provide a credible framework that informs decisions and disclosures. We provide a comprehensive approach to addressing material topics such as climate change and pollution and demonstrating alignment with the UN Sustainable Development Goals, GRESB, CRREM, WELL Building Standard, Fitwel, and World Green Building Council's Health & Wellbeing Framework's six principles.

We understand the administrative burden of gathering and assessing similar data to support varied requirements. As regulatory landscapes evolve, we will continue to facilitate alignment with major reporting initiatives such as the EU taxonomy, climate transition reporting, and biodiversity net gain (BNG) in our forthcoming updates.

We also host a range of knowledge sharing activities for our assessors, partners, customers and the wider built environment community. BREEAM's insight-driven webinar series, hosted by expert panellists, is open to all. It covers global challenges in the built environment and explores the latest trends, solutions and success stories. Over the last year this included climate risk mitigation, retaining real estate value, and alignment with GRESB.

In 2024 we introduced The BREEAM Podcast. It tells the stories behind pioneering projects and discusses sustainability issues facing the industry along with opportunities and solutions. So far we have hosted 5 sessions that are available on various platforms. Topics range from sustainable finance and daylighting to explaining the purpose and basics of sustainability certification.

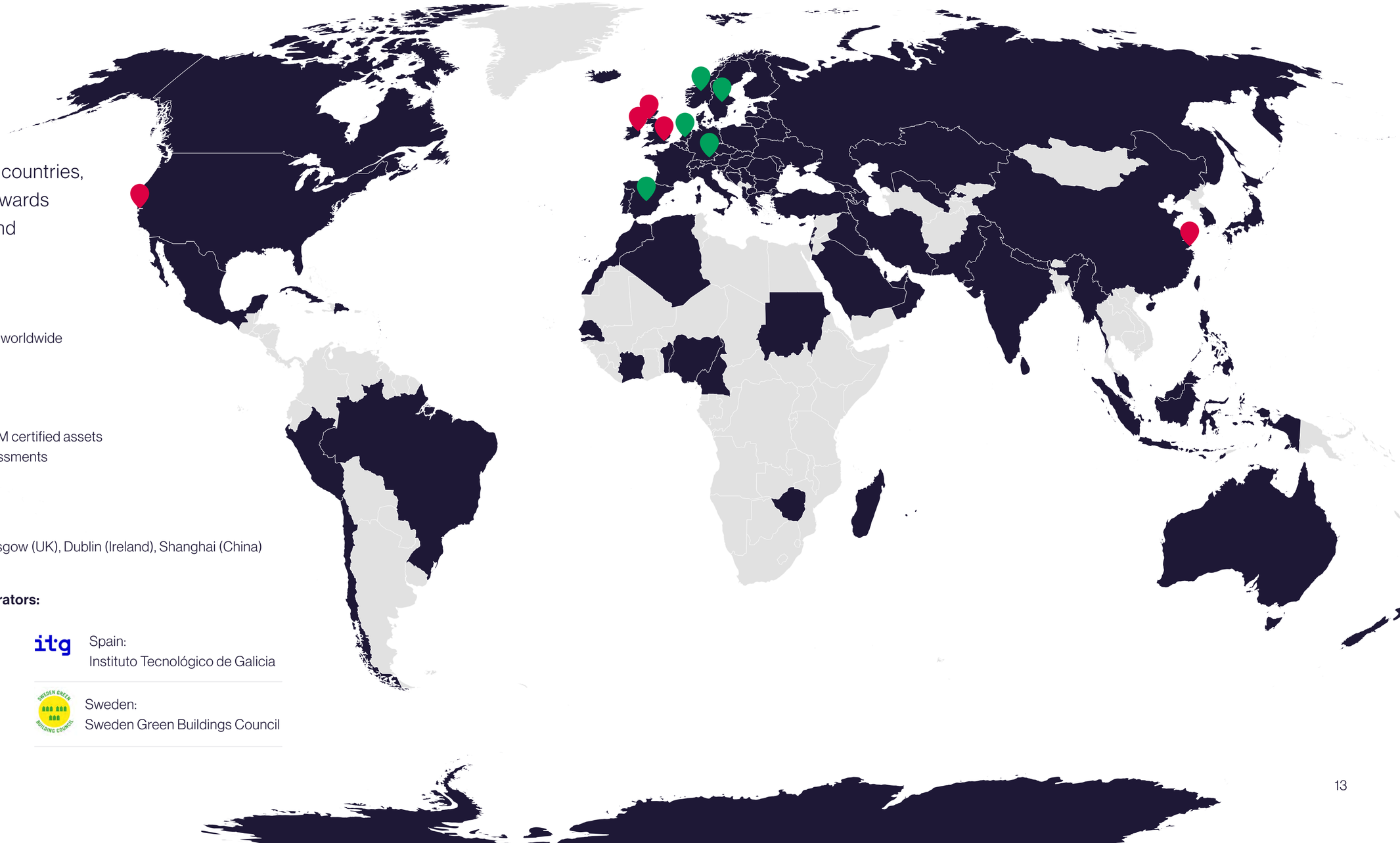
Our global presence

BREEAM®

BREEAM is used in over 100 countries, supporting the global shift towards more sustainable, resilient, and efficient buildings.

2.9+ million Registered built assets worldwide

100+ Countries with BREEAM certified assets and/or registered assessments



BRE offices:
California (USA), London (UK), Glasgow (UK), Dublin (Ireland), Shanghai (China)

BREEAM National Scheme Operators:

- Austria, Germany, Switzerland: TÜV SÜD
- Spain: Instituto Tecnológico de Galicia
- Netherlands: Dutch Green Building Council
- Sweden: Sweden Green Buildings Council
- Norway: Grønn Byggallianse

BREEAM Awards

We showcase and reward best practice that inspires others and promotes excellence.

BREEAM Awards bring together a diverse group of industry leaders to recognise significant sustainability achievements and foster collaboration. From 2020 to 2024, we awarded 85 winners at ceremonies in London and Shanghai. We usually host over 150 attendees at BREEAM certified venues. In 2021, we hosted the ceremony fully online for the first time and across three days, with over 400 attendees joining from all over the world.

The 2024 BREEAM Awards winners are:

HAUT Amsterdam
Best New Construction Residential Project

Unilever Hive
Best New Construction Non-residential Project

The Northcliffe
Best Refurbishment & Fit-Out Project

Mark e.o. HUIZEN
Best BREEAM In-Use Residential Building

CTP Clubhaus
Best BREEAM In-Use Non-residential Building

KKR
GRESB Portfolio Integration & Commitment Award

Duurzaamheids Certificering
BREEAM Assessor Company Award

2 Auriol Drive
BREEAM Lifecycle Award

Fugro NewHQ
Peoples' Choice Whole of BREEAM Award

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ACTIVE TRAVEL ACTIVE SCORE CERTIFICATION

SUSTAINABLE TRANSPORT MODE SCORE CERTIFICATION

→ **BREEAM 2024 Awards night in pictures**
The winners, Jane Goddard (BRE Managing Director – Building Performance Services), and the ballroom at The Peninsula, London.

Understanding the impact of built environment conditions on human health and safety

We investigate the health and financial impact of poor housing quality and conditions. We provide built environment-related risk analysis and testing to enhance planning and resilience. We assure building safety and security products and systems to reduce risks of fire, theft and harm. Overall, we enable the delivery of healthy buildings and spaces through investigating the impact of built environment conditions, especially for the most vulnerable communities.

We investigate the health and financial impact of poor housing quality and conditions

Many people may not realise that a significant health and safety risk is present in their homes, affecting both their wellbeing and the environment. Even among those who are aware, not everyone can address the issue. Housing condition surveys are invaluable for collecting data to develop and monitor housing policies and interventions that deliver holistic benefits.

From nationwide analysis to dwelling-level interventions, BRE works with public and private stakeholders to assess the condition and performance of housing stock. Our innovative use of national housing survey data has enabled us to create a variety of tools that explain the impact of poor housing conditions on the health of occupiers.

In 2010, 2016 and 2021, we published briefings on the cost burden to the UK's National Health Service (NHS) of the poorest quality homes. While the condition of the English housing stock has improved since the first publication in 2010, mainly due to heating and insulation upgrades, there are still around 2.4 million (10%) homes that fall below the minimum standard for housing. In 2023, we extended our research to deliver the 'Cost of poor housing in England by tenure' and the 'Cost of ignoring poor housing', which estimated the costs and benefits of tackling or not tackling poor housing over the next 30 years. Overall, the most common home hazards are those that cause injuries on stairs and steps and the most expensive costs to the UK's NHS are associated with treating people living in excessively cold homes. This type of research informs both public and private policy development such as the House of Lords Levelling-up and Regeneration Bill, Renters (Reform) Bill, and National Infrastructure Assessment published by the National Infrastructure Commission.

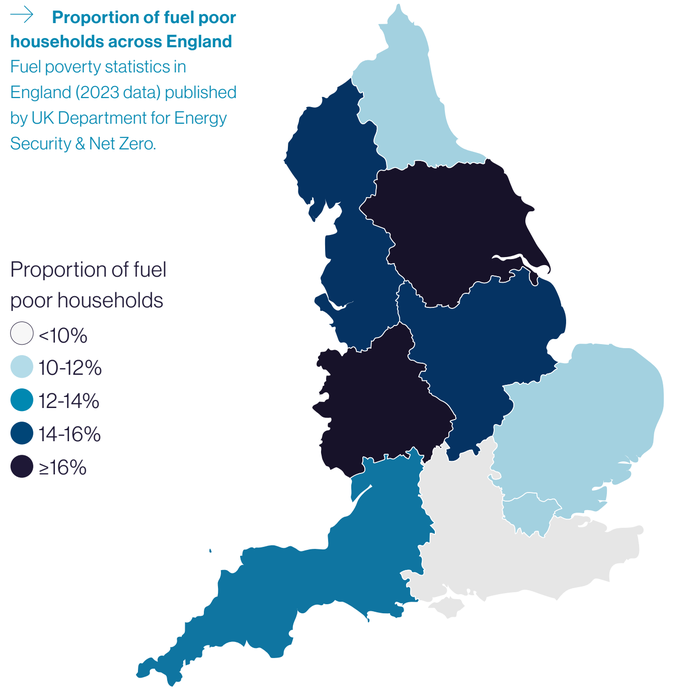
In 2024, 11% of households in England were fuel poor with many being single parent and younger households. A household is classified as being fuel poor in England when it has both a low income (after housing and required fuel costs are considered) and low energy efficiency. Estimates show that a typical home in the bottom EPC ratings of E, F and G has an energy bill more than double that of a home in the A-C EPC ratings. Fuel poor households are at a high risk of underheating their homes, creating significant health risks.

At the other extreme are risks associated with increased summertime temperatures. Our research with Loughborough University found that bedrooms overheat more at night than living rooms do during the day, even though outdoor temperatures are lower at night. Living room overheating is also greater in flats than other types of dwellings. We therefore continue to support public health advice that older households in particular should manage uncomfortably warm bedroom temperatures during the day to prevent heat build-up along with policies and practices that aim to mitigate the risk of overheating.

Once colder homes are identified, finding the money for improvement could be a challenge, especially for poorer homeowners. An additional challenge is meeting the cost of rising energy bills, which may widen the fuel poverty gap. Different sectors of the population face different fuel poverty challenges. For example, younger households are more likely to be privately renting, and around a third of the private rented sector stock was built before 1919. These older homes are more likely to be of poorer housing quality, and less likely to be sufficiently insulated. Domestic energy efficiency targets will not be met by only building new, well insulated homes. We need a concerted effort to improve existing stock and support needs to reach the most vulnerable groups.

While the cost to make a home safe can vary considerably, simple home safety measures can effectively and affordably address many hazards. Such measures can include installing handrails on dangerous stairs or fitting hard-wired smoke detectors. Local authorities and other agencies could deliver the greatest health benefits by focusing on the most cost-effective improvements to the poorest housing occupied by the most vulnerable people.

→ **Proportion of fuel poor households across England**
Fuel poverty statistics in England (2023 data) published by UK Department for Energy Security & Net Zero.



Cost of poor housing in England by tenure
Findings use 2018 and 2019 combined year (reference date 2019) English Housing Survey data and the NHS treatment costs used in our previous research inflated to 2019 prices.

Tenure	No. of homes with Category 1 hazard (% of total)	Annual cost to NHS	Average (mean) cost to make home safer	Pay-back period
Owner occupied	1.6 million (10%)	£783 million	£3,434	7 years
Private rented	619,000 (13%)	£290 million	£4,039	8-9 years
Social rented	217,000 (5%)	£65 million	£3,784	12-13 years
Total	**2.436 million**	**£1.138 billion**		

The UK has some of the oldest and least efficient stock in Europe, with the dominant source of heating in homes being gas-boilers. When making our homes and buildings more energy efficient, it's important to consider and avoid unintended consequences. This is especially important as we transition from relatively simple energy efficiency measures to more complex interventions.

In 2020 we analysed housing surveys from England, Scotland, Wales and Northern Ireland and projected the addition of 6.6 million homes by 2050. That results in a UK housing stock of 35 million homes with only a small number being replaced and many significantly improved, hopefully retaining some products and materials that are 'banked' in existing homes. The family semi-detached house built 1919-1964 is still likely to be the most common house type with over 5 million in 2050, along with 3 million pre 1919 terraced houses that are challenging to improve. A wide range of households will need support to retrofit their home, including wealthier households in the owner-occupier sector, for the UK to achieve its built environment net zero goals. As we decarbonise, we therefore need to provide property owners with reliable and user-friendly step-by-step information on how to achieve significant energy improvements and avoid unintended consequences.

£136 billion

Societal benefits over 30 years from improving England's poor housing: NHS savings, reduced energy bills, increased property values, and improved economic opportunities.

Over the last five years, we have supported the planning and evaluation of the UK's £2bn Green Homes Grant and Social Housing Decarbonisation Fund (SHDF). Both schemes aimed to save households money and improve energy efficiency, which also enhances occupant wellbeing and decarbonises the most vulnerable households. The Green Homes Grant scheme resulted in 52% of participating households (just over 10,000 homes) being taken out of fuel poverty. Our analysis identified that wall insulation (solid and cavity) and solar PV were the measures responsible for the largest increases in Standard Assessment Procedure (SAP) scores. SAP Ratings are a way of comparing the energy performance of different homes. The higher the SAP rating, the lower the fuel costs and associated carbon emissions.

SHDF feedback found that six in ten residents who had measures installed under the scheme are now prouder of their home. Most of these are using a different form of heating and/or had new doors and windows installed. Six in ten would also consider other energy saving installations in the future. Over half said that it is now more affordable to maintain a comfortable temperature in their home.

We helped develop the Welsh Government's second Warm Homes Programme by providing technical support on relevant retrofit measures, public consultation support, scenario modelling and impact assessments. The programme aims to address the climate emergency and cost-of-living crisis, building on lessons learnt from previous retrofit programmes. Estimated savings to the NHS by just targeting excess cold in Wales are over £41 million per annum with a payback period of 4.8 years. Low carbon measures also provide property owners with resiliency to rising energy prices.

For design and planning that creates high-quality homes and thriving places, we worked with the Design Council to develop a sustainability and design framework for Homes England – England's housing and regeneration agency. In partnership with NatCen Social Research, we researched landlord portfolios, attitudes and practices, including the impact of the COVID-19 pandemic and future plans for their portfolios. The English Private Landlord Survey 2021 report for the Department for Levelling Up, Housing & Communities helps government with understanding the private rented sector. We also worked with the University of Salford and Arcadis to provide evidence for the Future Homes and Building Standard, to be launched for England in 2025. We welcome more focus on in-use performance evaluation, which includes post occupancy evaluation.

We polled British homeowners at the end of 2022:

62%

Don't feel confident explaining how a heat pump works or the benefits

42%

Heard of the UK Government's Boiler Upgrade Scheme, which is specifically designed to incentivise the uptake of heat pumps.

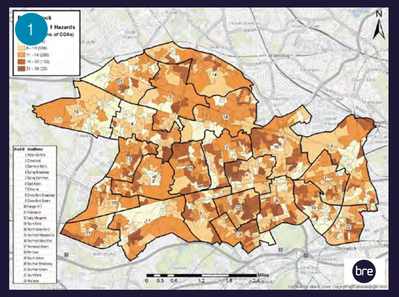
More work is still needed to enhance commissioning, handover and information provision. Getting domestic ventilation systems commissioned and operating correctly is essential for their effective performance.

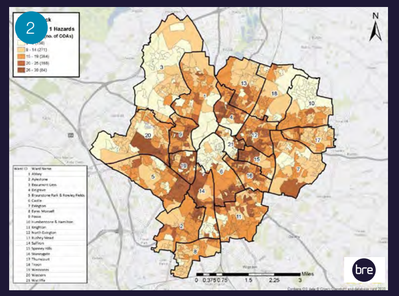
↑ **Webinar on how retrofit impacts quality of life and people**
Our National Housing and Data Insights Lead at BRE, Helen Garrett, led a lunch and learn webinar for the Supply Chain Sustainability School on how retrofit and other housing investment can deliver societal benefits including improving the quality of life of people living in the most dangerous or cold homes. The session aired in June 2024.

As we continue to advocate for retrofit guidance and support, especially for homes and buildings that do not meet adequate energy performance levels, our research teams are supporting current multi-year projects in the Innovate UK Net Zero Heat programme. 'Let Zero' focuses on private-rented landlords to develop an end-to-end solution, a 'trusted path', for upgrading their properties, tailored to occupant needs and benefits. 'TransformER' aims to enable the deployment of high-quality retrofit solutions. Our focus is on defining interoperability standards, streamlining accreditation routes, and prototyping products to cost effectively meet demand. 'RetroNetZero Regulatory Science and Innovation Network' aims to give innovators guidance on the steps needed to get their products adopted, as well as helping policymakers and regulators develop their approach to new technologies. Our forthcoming BREEAM Refurbishment and Fit-Out revised training, available from BRE Academy, will further help raise awareness of key technical renovation topics.

Generating housing insights through energy and stock modelling

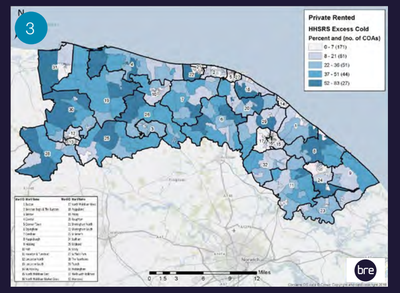
Our energy teams deliver UK Government led/funded housing and energy programmes such as National Housing Surveys (England, Scotland, Northern Ireland and Wales), the Housing Stock Condition Database, the Excess Cold Calculator, and local authority modelling for dwellings. We also deliver national calculation methodologies contracts for compliance with building regulations and energy performance in buildings. The procedures enable science-based policymaking, economic planning, environmental protection, and technological innovation.

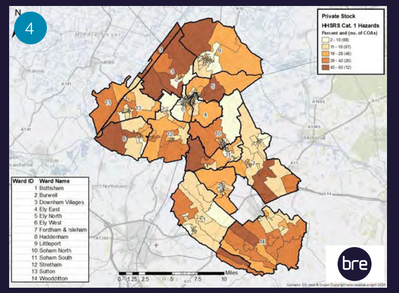


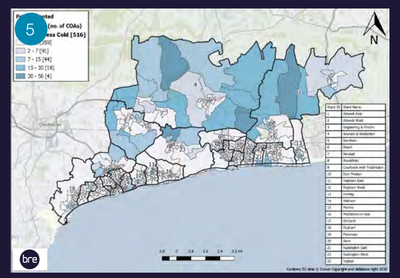


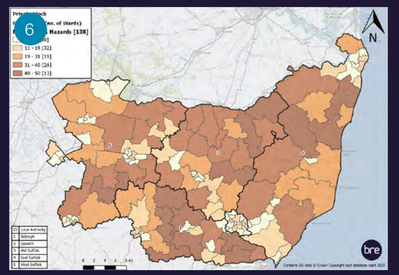
Images show examples of private sector housing stock modelling generated for:

1. London Borough of Ealing (2020)
2. Leicester City Council (2020)
3. North Norfolk District Council (2021)
4. East Cambridgeshire District Council (2021)
5. Arun District Council (2022)
6. The Suffolk Councils (2024).









We provide built environment-related risk analysis and testing to enhance planning and resilience

Extreme weather and other environmental stressors continue to disrupt our communities and stress our built assets with increasing frequency and severity. Understanding the impact allows individuals and organisations to prepare mitigation and adaptation plans, thus becoming more resilient to external shocks.

Environmental stressors are external factors in the surrounding environment that can negatively impact human health and well-being. Resilience is the ability of assets, networks and systems to anticipate, absorb, adapt and/or rapidly recover from a disruptive event. Our research, environmental-related risk analysis services, and sustainable building certifications (BREEAM) help enhance planning considerations and the resilience of physical assets, protecting natural assets and reducing human vulnerability.

In 2024, we created a new tool to help address the lack of focus on climate and environmental risk in the financial services industry and support decarbonisation decision-making. The Real Estate Portfolio Carbon Risk Score (CaRIS), funded by Innovate UK, shows the operational and embodied carbon of residential assets and investment portfolios along with carbon risk scoring and benchmarks. In 2024 we also launched our international green building alliance and developed a practical guide to facilitate the multi-trillion investment needed by 2030 to meet global energy transition goals. The guide provides the investment community with comprehensive insights on achieving compliance with sustainability goals across geographies.

Extreme events such as floods and droughts are becoming more frequent and more severe. Our flood resilience research supports guidance such as the CIRIA Code of Practice (CoP) for Property Flood Resilience (C790) that was launched in 2020. Property Flood Resilience (PFR) is used to reduce the risk of damage to homes and businesses that may flood, speeding up recovery and reoccupation. Resistance measures should reduce the amount of water entering buildings and recoverability measures should limit the damage caused if water does enter.

The first Property Flood Resilience (PFR) immersive experience by Flood Re used the Flood Resilient Repair House prototype in our Innovation Zone at BRE Science Park to demonstrate practical and affordable adjustments that can be made to a property to make flooding much less destructive and distressing. Some of the solutions include flood resistant doors and windows, water resilient walls and insulation, moveable kitchen units, floor and wall membranes to channel water towards floor drains, automatic sump pump that stops water rising through the floor and disperses water quickly, and one-way valves fitted to toilets and sinks to prevent flooding via sewers. In 2023, Flood Re launched the ‘Be Flood Smart’ campaign in partnership with Environment Agency at the new BeFloodReady PFR Centre in Oxfordshire’s HR Wallingford.

Assessing light pollution

Artificial lighting transformed the way that we live, enabling us to expand our active hours but it should be in the right place at the right time. Developments risk being a light pollution source of annoyance to people and harmful to wildlife. Some of the most important considerations to address when assessing a scheme’s light pollution are:

- The effect on light levels outside development spaces
- Existing lighting at the location
- Protected sites or species and effects on wildlife
- Areas of protected night sky
- Building materials for the proposed development and their interaction with light.

Over the last five years we have continued to assess light pollution from proposed developments and infrastructure and advise on cost-effective remedies. This work supports Environmental Impact Assessment for planning applications and we provide evidence at planning hearings and public inquiries as expert witnesses.

Early in 2025, we introduced a new service that supports regions with climate-risk modelling, leveraging our decades of expertise in energy and building stock modelling along with our wider research experience. We will continue to explore more ways that we can help increase the resilience of our built environment.

↑ **Shimna flood alleviation scheme achieved BREEAM Excellent**
The Shimna flood alleviation scheme is in Newcastle, a seaside resort town in Northern Ireland. The devastating impact of severe flooding made it essential to develop a robust flood management scheme, providing vital flood protection for over 300 properties. Through balancing technical innovation, environmental sensitivity, and social responsibility, the scheme achieved a BREEAM Infrastructure Excellent rating.

Indoor environmental quality (IEQ) is an indicator that encompasses air quality, thermal comfort, lighting and noise. Poor IEQ is detrimental to people's wellbeing and comfort and can adversely impact our ability to carry out indoor tasks.

Across BRE, we continue to work in various ways to raise awareness on the importance of understanding and measuring IEQ. Building occupants may be exposed to a variety of pollutants and conditions that can cause harmful consequences and therefore require appropriate control strategies.

Excessive heat gains may result in indoor spaces becoming dangerously hot, affecting health and productivity. With the increasing occurrence of heat waves and a warming climate, it is crucial to identify buildings that are at risk of excessively high temperatures. There are various contributing factors such as location, building fabric design, internal building services and occupancy patterns. In some cases, the extent of overheating can be significantly reduced with measures such as solar shading to limit heat coming in and increased ventilation such as open windows. However, in many cases, a broader range of remedial measures is more appropriate.

Innovation ranges from full comfort cooling to heat pumps linked to Mechanical Ventilation with Heat Recovery (MVHR) systems. Our wide range of testing and consultancy for manufacturers of heating, ventilation, and air conditioning (HVAC) systems enhances our understanding of how these products work and through site investigations, we are able to identify inadequacies from design to installation, commissioning and maintenance.

We use this expertise to support industry groups and policy development such as the revision of domestic ventilation provisions in the forthcoming Future Homes Standard. We supported the 2021 revision of England's building regulations for ventilation and provided technical input for the development of overheating building regulations introduced in 2022 – establishing new requirements to prevent excessive heat buildup in new residential buildings.

Lighting standards and good practice

Daylight is a key aspect of sustainable building design. It is vital that workplaces and homes have good levels of daylight as it enhances comfort, reduces energy use, and supports thermal performance. We supported the development of 'BS EN 17037 Daylight in buildings' published in 2019. It introduces climate-based daylight modelling for more accurate assessments of daylight provision in buildings.

In 2022, we updated our BR 209 site layout planning for daylight and sunlight guide to good practice, which is a key reference for local authorities assessing daylight and sunlight provisions in planning applications. It includes impacts on solar technologies from loss of radiation. In 2023 with CIBSE, we published practical insights and detailed guidance on daylight calculations to help practitioners apply the daylight assessment methods in BS EN 17037.

Circadian lighting is tuneable lighting that can alter its colour and intensity. In spaces with insufficient daylight, circadian lighting may enhance alertness during working hours by using bright light, then switch to lower brightness and warmer colours when it is time to relax. In 2020 with CIBSE, we published guidance on the effects of circadian lighting on health and wellbeing and how it should be controlled.

"Unfortunately, not everyone can enjoy breezes. In urban areas, noise, pollution and security concerns mean people don't necessarily want to open windows. People also want big windows with views, which is fine, but overheating has to be considered. Overheating happens when more heat enters a building than can leave and it can be prevented with simple measures."

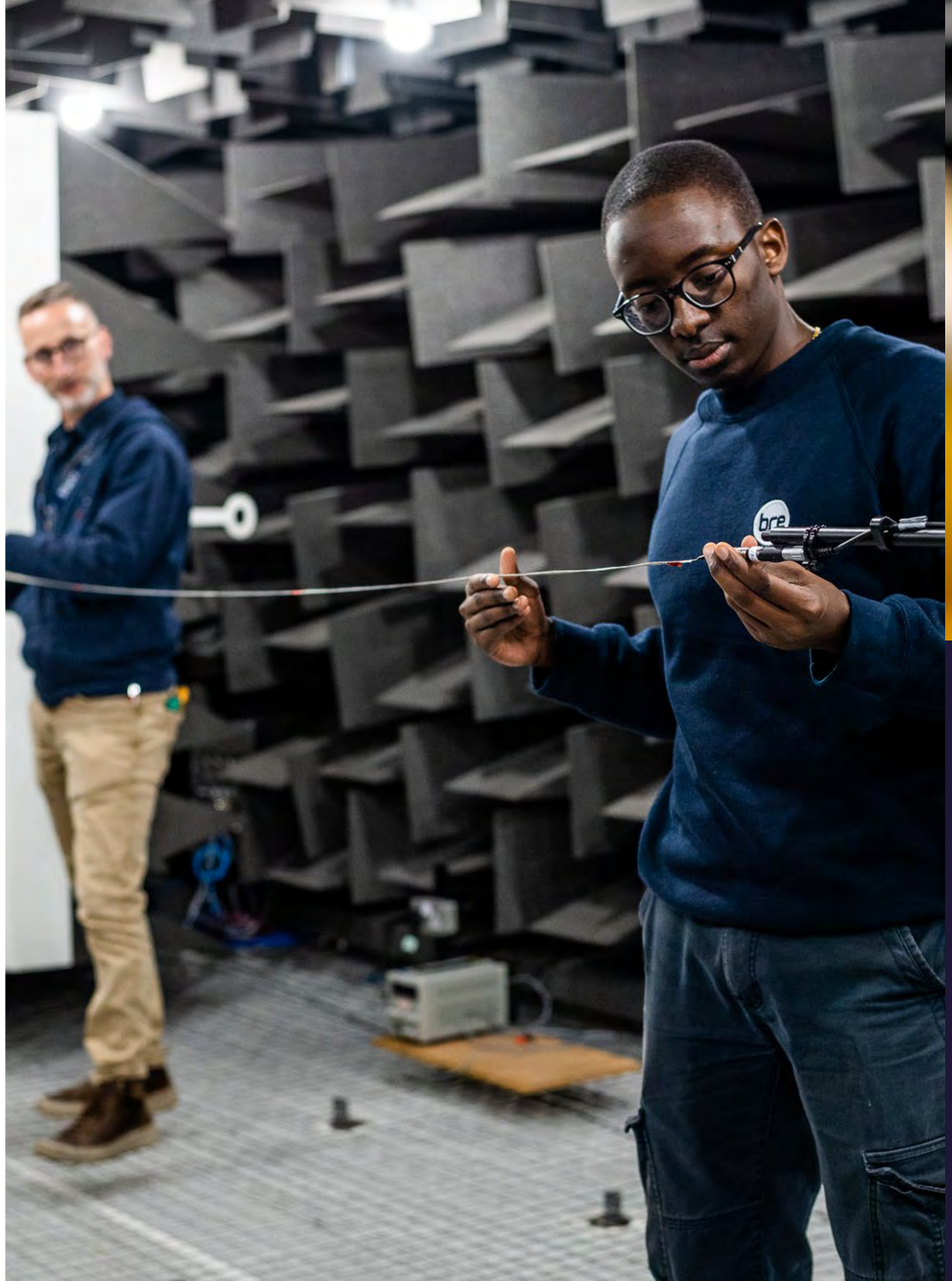
MICHAEL SWAINSON, PHD
PRINCIPAL ENGINEER, BRE

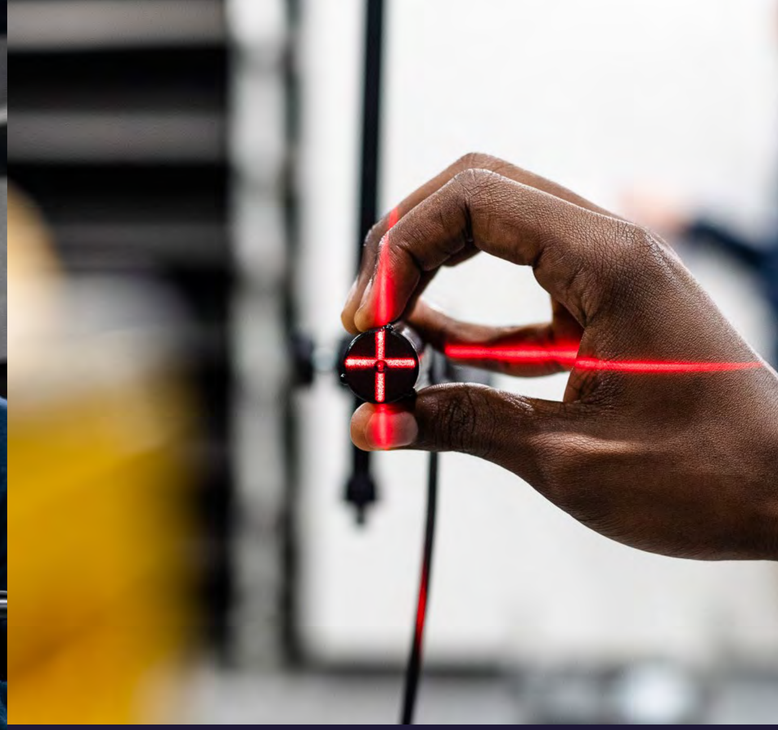
Understanding indoor air pollution

For decades we have investigated the complexity of indoor air quality and approaches to improving air quality. Unlike outdoor air pollution, indoor emissions are not easily dispersed, and pollutants can accumulate on surfaces. Groups with increased health risk from poor air quality include young, elderly and pregnant people along with people with respiratory disease.

There are various ways to tackle indoor air pollution such as removing pollutant sources, improving ventilation, increasing public awareness and making legislative changes. Our sustainable building certification schemes (BREEAM) have IEQ requirements and for air quality this includes actions such as site-specific Indoor Air Quality Plans that address how to remove or minimise sources of indoor air pollutants. BRE Academy also provides IEQ training in alignment with established standards and guidance.

Our work on acoustics enables managing the sound environment within a building so that noise levels are controlled and occupants can communicate effectively without excessive noise or reverberation disruptions. Over the last five years our acoustics testing has ranged from the sound insulation performance of partition systems and the sound power level of heat pumps and MVHR systems to recessed downlighting and cable raceways. We mainly test in accordance with BS EN ISO 10140 series of standards for laboratory measurement of sound insulation of building elements. This supports product development and improvement, enabling manufacturers to meet demands for better sound insulation in building products. We also test for sound power in accordance with BS EN ISO 3743-1, 3744 & 3745.





Bespoke testing to support research and development

Our acoustic testing facilities include a sound transmission suite, anechoic chamber, and HVAC test chamber. Our anechoic chamber, shown here, measures the acoustic properties of small devices such as alarm sounders. Our UKAS-accredited sound transmission suite benefits from large access doors and an overhead crane. It features both horizontal and vertical test apertures to accommodate different types of building products. Our HVAC test chamber can be temperature and humidity conditioned to test the performance, including acoustic properties, of building services equipment such as heat pumps.

We assure building safety and security products and services to reduce risks of fire, theft and harm

From accidental events to targeted attacks, effective building products and services can help provide safe and secure environments for individuals and organisations. Standards help ensure that these products and services perform as they should and also support the introduction of new and improved technologies.

LPCB is an internationally recognised and trusted provider of third-party certification. We certify over 16,500 products and services across 50+ countries, ranging from fire detection and suppression to solutions that address risks such as burglary and terrorism. Our Loss Prevention Standards (LPS) set robust performance criteria, giving stakeholders confidence that product and services certified to these standards will perform as expected.

Certified products and services are openly listed in the RedBookLive database, which is used as a key reference by those involved in recommending and specifying fire and security products and services. In 2024, we relaunched the LPCB RedBookLive website, making it faster, easier to navigate, and overall more user-friendly.

We review standards through open consultation with external stakeholders to strengthen quality management and promote the use of modern installation practices and products. Over the last five years, some of the standards we reviewed and issued include:

- **LPS 1204:** Issue 3.2 to ensure that gas extinguishing and condensed aerosol systems are appropriate for the occupancy and premises where they are installed and will operate reliably
- **LPS1131:** Issue 2.0 to align with the current EN 12259-12 and best practice for pumps used in automatic sprinkler systems
- **LPS 1014:** Issue 5.5 for certified fire detection and alarm systems firms
- **LPS 2083:** Issue 1.0 to evaluate the effectiveness and reliability of the automatic water level control valve when used as part of an LPCB LPS 1276 approved above ground suction tank installation
- **LPS 1531:** Issue 2.0 to assess whether the installing company can install passive fire protection products such that the systems meet the specified fire performance.

Where complete published technical standards do not exist, we write an LPS referencing the relevant clauses of national, European or international technical standards.

For video fire detectors, we worked for many years with the Fire Industry Association (FIA) and manufacturers on the development of test methodologies. Due to the complexity and variable functionality of video fire detectors, there were no defined and robust methods of assessing capability and reducing false alarms. Our collaborative research programme used the principles from existing fire detection standards and in 2024, successfully resulted in the creation of LPS 1976 for video flame detection.

These systems detect fires in areas where traditional detectors may be inappropriate or when a quicker response is needed. They are well suited for large open spaces where they can be placed at greater distances from the fire, more effectively supporting challenging environments such as departure lounges, aircraft hangars, oil rigs, waste processing facilities, tunnels, and factories.

In 2024, we also created a new security standard LPS 1673 that addresses the threat of violent forced entry intrusions by offenders using bladed and blunt weapons. It is the result of extensive research conducted by the UK's National Protective Security Authority (NPSA) and National Counter Terrorism Security Office (NaCTSO). We also received support from the US Bureau of Protective Security. NPSA recommends LPS 1673 in their protection guidance for high-risk individuals. Secured by Design recommends it in their 2025 guides for residential and commercial properties.

We have similar collaborative studies that are still in progress. In 2021, we started to investigate how well domestic heat alarms perform over time and with varying levels of contamination. In 2023, we expanded to commercial settings, investigating heat detectors. Findings could lead to improved guidance on when to replace heat alarms and detectors and updates to key safety standards such as BS 5446-2 heat alarm standard and EN 54-5 heat detector standard. Our previous study in 2020 on optical smoke alarms and detectors provided recommendations on when to replace these life-saving devices.

Other current studies include how well smoke and multi-sensor detectors withstand common triggers of false alarms. Reducing nuisance alarms builds trust and ensures people act quickly when there is a real emergency. We also support research that helps ensure the cybersecurity of building control systems, including fire and security systems. Cyberespionage and warfare is one of the world's top ten risks.

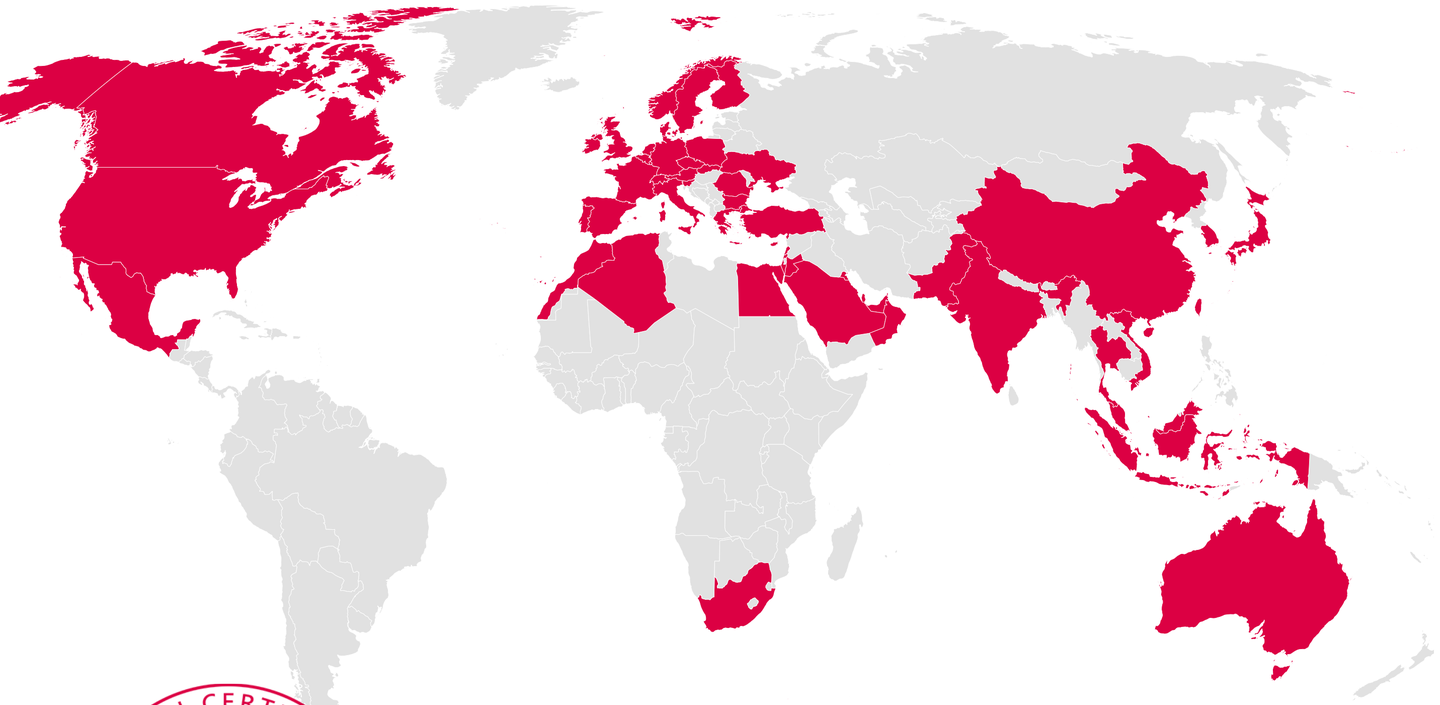
"Technology is rapidly developing across the security landscape with the combined purpose of solving problems and satisfying an impetus to differentiate. This drive to be different will continue to gather pace but at a cost – it can detract from the drive for quality and reliability. While technological advances can provide opportunities to address security threats, they can equally present security threats if they have not been rigorously tested and their reliability fully validated."

RICHARD FLINT
TECHNICAL AND COMMERCIAL LEAD, BRE
International Security Journal's top 30 influencers in the global security sector

We share our knowledge through various activities from participating in major industry conferences, events and research projects to producing webinars, short videos and briefing papers. Through BRE Academy, we provide formal training.

↓ The LPCB mark has been issued to products and services from organisations based in over 50 countries

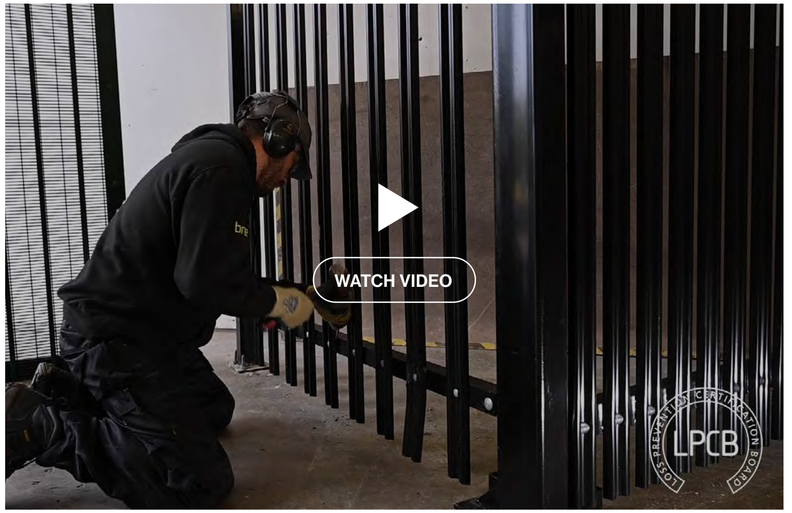
Our customers further distribute their products and services across their territories to help safeguard life and property.



→ Increasing fire safety and reducing security risks

Our standards are trusted worldwide to push fire and security products to their limits. For example, Cova Security have received increased demand for their gates from those operating within the utilities and data centre sectors due to Cova holding certification to LPS 1175 and the assurance that provides regarding their gates' ability to resist forced entry attempts.

The image shown is a general testing example and not specific to Cova Security products.



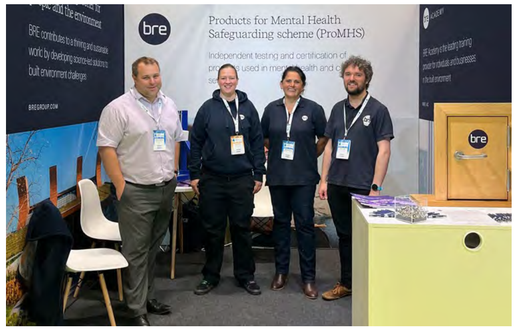
→ LPCB débuts Live Testing Lab at The Security Event 2024

We introduced an LPCB live testing lab at The Security Event 2024 in Birmingham. We demonstrated the effectiveness of a diverse range of LPCB certified physical security products and compared them to non-certified solutions. Following its successful introduction, we plan to host the live testing lab again in 2025.

The safety of people undergoing treatment in a mental health facility is critical. Their safety can often be affected by the products selected for these environments.

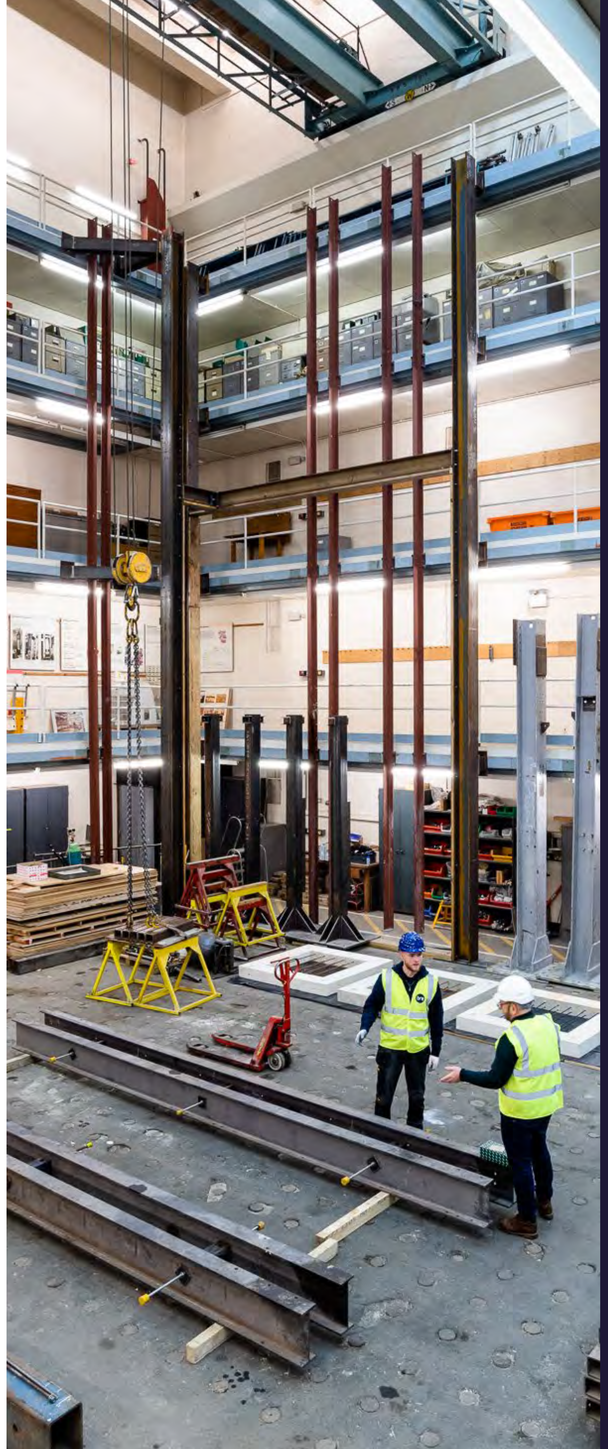
For many years we have been working with the Design in Mental Health Network (DIMHN) towards helping manufacturers to independently test and verify their products. Through consultation with over 60 key stakeholders, we developed Informed Choices: Testing Guidance for Products in Mental Health Facilities. Launched in 2020, the guidance provides testing methodologies for materials, fixtures and hardware specifically designed for use within mental healthcare facilities.

In 2021, with DIMHN, we updated the testing guidance and introduced the Products for Mental Health Safeguarding (ProMHS) scheme for independently assessing the performance of products. We have commenced the assessment of a variety of products ranging from windows and doors to light fittings.



↑ **BRE at Design in Mental Health**
We connect with designers, clinical professionals, estates teams, manufacturers, and innovators to explore how good design can enhance mental health settings. We collaborate with a community dedicated to improving mental health and care facilities.

Assessing the quality, performance and safety of solar PV systems and heat pumps
Microgeneration Certification Scheme (MCS) is an independent UKAS-accredited quality assurance scheme for microgeneration products such as solar panels and heat pumps. It's used to assess the quality, performance and safety of small-scale energy products. For microgeneration products to be eligible for UK government financial incentives, they must be certified against the MCS. We offer a range of UKAS-accredited certification services against this scheme. Over the last five years, we continued to carry out certification assessments for solar PV, heat pumps and solar mounting systems.



Structural testing and inspection services that help develop safe and sustainable solutions

Our laboratories are renowned for their scale and capabilities. Structural technology investigations include static loads, wind loads, impact loads, robustness, weather tightness, air tightness and durability. Some of our work over the last five years:

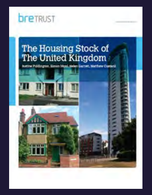
- identified and reduced inefficiencies in the design of pre-cast concrete elements
- assessed the loaded adequacy of reclaimed materials towards enabling reuse of construction products
- supported research projects that develop sustainable construction solutions such as low carbon concrete, alternatives to steel reinforcement, and WikiHouse – a modular system by Open Systems Lab that can be produced by a distributed network of local microfactories using digital fabrication tools.

Some of our structural fire engineering work:

- assessed the fire resistance of existing buildings, including historic buildings where little or no information is available, and the form of construction is not covered by existing codes and standards
- tested large-scale forms of construction to provide assurance beyond standard fire test procedures, satisfying specified performance criteria
- provided assurance that specific mix designs for tunnel linings meet the stringent requirements associated with fires in tunnels
- fire tested products or assemblies not covered by existing codes and standards
- assessed the anticipated behaviour for forms of construction with no available fire test data using finite element analysis.

Publications

2020



The housing stock of the United Kingdom provides a UK-wide analysis of housing quality and condition, comparisons between the UK and other countries, and projections on what the future UK housing stock will look like.

100 years of council housing presents steps for investing in the best quality social housing. It reviews the last century of changes to publicly owned housing in England. Council housing is owned and managed by local authorities, however, many of these homes are now managed by housing associations and all social housing is sometimes still referred to as council housing.

Circadian lighting research with CIBSE investigates its effects on health and wellbeing and how it should be controlled. Circadian lighting is tunable lighting that can alter its colour and intensity.

2021

Informed choices: testing guidance for products in mental health facilities v1.22 provides testing methodologies for materials, fixtures and hardware specifically designed for use within mental healthcare facilities. It brings the various requirements for these products into one document to help manufacturers and specifiers make confident, evidence-based decisions.

The cost of poor housing in England builds on our previous briefings that investigate how housing impacts our health and the benefits of making improvements. English housing stock improved since the 2015 report mainly due to heating and insulation upgrades, however, the estimated costs of rectifying the most serious hazards and the related cost burden to the NHS of treating people remained similar.

The cost of poor housing in Ireland similarly investigates Irish housing stock.

2022

Decarbonising heat in Britain's buildings provides key technology limitations and opportunities for shifting to decentralised heating networks and the importance of the role of local authorities and councils.

BR 209 site layout planning for daylight and sunlight guide to good practice supports the interior daylight recommendations in 'BS EN 17037 Daylight in buildings' that incorporates climate-based daylight modelling. Daylighting is a key element of sustainable building design.

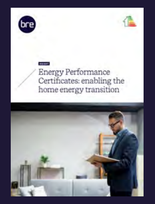
2023

The cost of ignoring poor housing builds on previous briefings to estimate England-wide costs and benefits of tackling, or not tackling, poor housing over the next 30 years. We include a wider group of societal costs and benefits than previously assessed and provide an underlying model that can be used to shape targeted actions and resources for unsafe homes.

The cost of poor housing in England by tenure for the first time provides the cost of substandard housing to the NHS in owner occupied, privately rented, and socially rented sectors.

Daylight calculation methods with CIBSE provides detailed guidance for practitioners on applying the daylight assessment methods in 'BS EN 17037 Daylight in buildings'.

2024



Energy Performance Certificates (EPC): enabling the home energy transition explains how EPCs could evolve to be more useful for homeowners. With targeted reforms, EPCs can achieve their potential as a trusted starting point for advice and information on how we can all make our homes better.

Lighting in the net zero journey outlines progress and priorities for lighting with a focus on efficiency, circularity and daylighting.

2025

Progress on energy efficiency in England and priorities for the Warm Homes Plans highlights that over half of English homes now meet an EPC rating of C or better, which is significant progress over the last 20 years. It also explains the need to unlock higher energy efficiency in the remaining millions of homes.

Quality teaching and learning to address built environment skills gaps and empower our future workforce

As training providers, we have a vital role in shaping the future of our industry. We provide training that helps organisations adapt to evolving built environment needs. We enhance sustainability skills and empower our future workforce. Topics we cover include built environment fundamentals, sustainable building and infrastructure benefits and high-quality assessments, indoor environmental quality, building information management, fire safety, and much more.

We provide training that helps organisations adapt to evolving built environment needs

As technology rapidly advances and ways of living and working evolve, its critical to understand the role our built environment plays and adapt to our changing needs. Comprehensive learning and development strategies enable organisations to be future-fit and thrive in the long term.

Over the last five years through BRE Academy we have trained over 40,000 individuals and provided training programmes to over 1,450 organisations across 92 countries. Beyond the Academy, our experts across BRE also provide bespoke training on emerging topics such as net zero road mapping for planners in local councils. Most of the individuals and organisations that we support work in or with construction, manufacturing, real estate, infrastructure and the public sector. This ranges from asset owners, project managers, facility managers and contractors to policy makers and finance and insurance professionals.

Our online self-led learning and in-person and virtual classroom training enables others to scale climate solutions in their workplace and beyond. Our clients are able to perform their jobs more effectively and adapt to changing conditions, advance or transition careers, and improve confidence. PWC green jobs barometer for the UK found higher levels of pay for green jobs in a number of higher-skilled professions and also in entry-level green roles, with 60% of occupations commanding an average pay premium of 23%.

Many of our own colleagues also benefit from BRE Academy training, with up to 25% of colleagues completing courses annually.

As governments in the UK and across Europe continue to focus on building safety and energy efficiency with the introduction of enhanced construction products, energy performance, and building safety regulations, its critical that we continue to upskill and reskill. We supported the development of a competence framework for sustainability in the built environment, published in 2025 by the Construction Industry Council (CIC) and Edge – an underpinning framework for developing discipline-specific sustainability competence requirements across the built and natural environment sector. Over the last five years we added the following BRE Academy courses:

- **‘The digitalisation of Building Safety Act & the Golden Thread’** on how to manage building safety data and be complaint with the Act.
- **‘Net zero carbon foundations’** for those who care about the impact of the built environment but don’t know where to start.
- **‘Circular economy in construction foundations’** to explain the circular economy concept in the context of the built environment.
- **‘Introduction to Indoor Environmental Quality’** (IEQ) to provide an overview of the background, scope and features of the standard BS 40102-1 health and wellbeing and IEQ in buildings. Implementing the guidelines could provide benefits such as improved occupant health and well-being, enhanced productivity, reduced absenteeism, and increased satisfaction among building users.
- **‘Indoor Environmental Quality in practice’** builds on the guidelines for monitoring and reporting IEQ and well-being in occupied buildings to provide more comprehensive guidance on practical implementation of BS 40102-1.
- **‘Radon remedial measures for existing buildings’** and ‘Radon protection for new buildings’ on how to measure and reduce radon levels and radon protection requirements for new buildings.
- **‘BREEAM in practice’** to comprehensively explain BREEAM, covering principles, scope, assessment, and the quality assurance process.
- **‘Building Information Modelling (BIM) ISO 19650 1 & 2 project delivery**’ to comprehensively explain information management using BIM according to the international BIM standard.
- **‘ISO 19650 delivering Information Management in practice’** to equip learners to realise the benefits of information management using BIM and expand their knowledge of the standard.
- **‘Level 4 Fire Risk Assessor’** to equip learners with the knowledge to complete fire risk assessments.

40k+
Individuals trained

90+
Countries

"Tutors were very helpful and knowledgeable and made the whole experience very enjoyable"

"Very well prepared lecture and training concept with practical examples to familiarise participants"

"The trainer was excellent, content just at the right level, great course"

"Really supportive guidance made the exam process very easy to understand"

BRE ACADEMY TRUSTPILOT REVIEWS

BRE Bookshop provides authoritative information about all aspects of the built environment and provides access to the results of BRE research. It's a valuable digital learning and research hub with over 40,000 publications, including books. We review the most in demand publications and aim to create supporting courses where needed. An example of this is our radon training. Some recently added bookshop content includes:

- '**Conventions for U-value calculations**' (BR 443 2019 edition) to calculate U-values of new building elements, including walls, roofs, floors, windows, and doors.
- '**Site layout planning for daylight and sunlight: a guide to good practice**' (BR 209 2022 edition) to be used in conjunction with the interior daylight recommendations for new buildings in BS EN 17037 daylight in buildings.
- '**Radon: guidance on protective measures for new buildings**' including supplementary advice for extensions, conversions, and refurbishment projects (2023 edition) to reduce the concentration of radon.

Every year we host and support knowledge sharing activities ranging from free webinars and podcasts to award ceremonies, conferences, and testing demonstrations. Across our 2024-25 financial year, we hosted 12 events with over 2,800 attendees on a variety of topics including circular economy, sustainable finance, green skills, BREEAM, and loss prevention standards. Most of our attendees are from real estate and construction as their core sector then public sector, infrastructure and manufacturing.

We participate in over 20 major events each year that bring together industry to share knowledge and explore the latest solutions such as Futurebuild, Intersec, Footprint+, UKREiF, Expo Real, Digital Construction Week, Highways UK, The Security Event, Design in Mental Health, CIF, and IAASF to name a few.

↑ **'From net zero to healthy homes and buildings' panel at Futurebuild 2025**
Our Deputy CEO and Managing Director – Building Performance Services, Jane Goddard, shared insights from our housing and energy research during a Futurebuild panel discussion in March 2025. Joined by Innovate UK, the Healthy Homes and Buildings Coalition, and the Department of Energy Security and Net Zero, the panellists emphasised the need for a joined-up approach from industry and government to educate and innovate for healthier homes and buildings.

12+

Knowledge sharing events hosted or supported annually

2,800+

Attendees

Meeting the growing demands for sustainability expertise

Longevity Partners, an award-winning global sustainability and energy consultancy, enrolled 22 members of their delivery teams across the UK, Europe, USA and Japan, in BREEAM In-use assessor training. They did this to keep pace with growing demands for sustainability expertise from their real asset clients.

Longevity supports businesses globally in their transition to a low-carbon economy. They collaborate with developers, owners, investors, and occupiers to improve asset value, wellbeing, and operational performance.

"The BREEAM assessor training is extremely straightforward and easy to follow, and the enterprise training dashboard was an excellent tool for tracking the team's progress. This training has elevated the expertise of the team and enabled us to deliver high quality BREEAM In-Use assessments that our clients rely on."

ERIC COLL COSTA
GLOBAL HEAD FOR BREEAM IN-USE
Longevity Partners

We enhance sustainability skills and empower our future workforce

We are facing some of the greatest challenges of our time and overcoming them requires global action. This includes investment in people's capabilities to be catalysts for change. Education is a powerful driver of sustainable development through skills that lead to solutions and widespread behaviour change.

There is no specific 'sustainability job' – sustainability skills are required across all industries and sectors and across all functions; however, far too many people lack the required skills and experience to drive our transition. LinkedIn global green skills report 2023 shows that one in eight workers have one or more green skills and demands for green skills outpace supply. PWC green jobs barometer for the UK similarly finds demand for green skills to be comparatively resilient, but there is concentration of green job creation in white collar and skilled professions and mainly in a handful of regions. Some skills are skewed towards males, thus increasing gender gap issues.

As training providers, we have a vital role in shaping the future of our industry. We work with the education sector, primarily university and colleges, to strengthen academic programmes. Investing in professional, industry-recognised training can enhance students' employability and readiness for the workforce. From architecture and civil engineering to business management and healthcare, integrating BRE research and training into university or college programmes helps equip graduates for professional success. For example, we work with Loughborough University under an enterprise framework with a focus on BREEAM training and the University of Strathclyde in Glasgow to deliver Passive House training.

We are also active members of Business in the Community and have senior colleagues who support the Circle Partnership's Circle Academy and Women of the Future programmes. These like-minded organisations want to improve equitable access to education and learning and ensure that we are not stifling economic opportunities for anyone.

For decades we have supported doctoral research, fellowships and student learning. Outputs from 2020-2025 include 30 academic articles in peer-reviewed journals, multiple conference presentations and workshops, 3 successful doctoral programme completions and new lectureships.

30 academic articles in peer-reviewed journals

3 doctoral programme completions

The research and teaching covers a range of topics that help drive our decarbonisation goals such as:

- investigating the use of calcined clay as a reactive alternative to help produce lower-carbon Portland cement with Coventry University
- optimising phase change material use for energy-efficient buildings with University of Bath
- heating patterns in English homes and the risk of cold-related illness with Loughborough University
- enhancing community energy resilience using renewable energy in developing countries with Loughborough University
- the potential of distributed ledger technologies to improve traceability assurance in the construction industry with Loughborough University
- sustainability and innovation modules for Civil Engineering and Construction Management degree programmes at the University of Hertfordshire
- BREEAM and BIM focussed lectures to multiple universities including Coventry, Loughborough, Liverpool John Moores, Southampton and Swansea Trinity St. David.

Supporting academic programmes

In 2022 we hosted students and academic leads from the Energy Resilience and Built Environment (ERBE) Centre for Doctoral Training at BRE Science Park. ERBE funds training at Loughborough University and University College London (UCL) to develop academic grounding in building energy demand.

Doctoral students shared their research then we discussed synergies with our activities and the future direction of energy demand and net zero. The students provided very positive feedback. This type of engagement provides an opportunity to demonstrate the transition from academic research to industry-based science and research roles.

Bold partnerships for climate leadership and action

Collective action leads to meaningful change. We bring stakeholders together to tackle system level challenges. We shape and advocate for consistent policies, standards and initiatives that drive safety and sustainability throughout the construction value chain and help demonstrate accountability.

→ **Global alliance to unlock sustainable finance for the built environment**
Panellists during London Climate Action Week for an event hosted by the international alliance of world leading green building rating system organisations.

Constructing Excellence

60+
Member organisations

37
Best practice clubs across 8 regions

40+
Workshops, roundtables and events held annually

2,000
Professionals participated in events in the last 5 years

Our Constructing Excellence collaborative platform is on a mission to positively disrupting industry delivery processes to transform performance. Thought leading members from over 60 organisations across the construction value chain – investors, developers, contractors, designers, engineers, consultants, manufacturers, universities – come together to brainstorm and take action that drives much needed change.

There are 37 best practice clubs across 8 regional centres and our main working groups include offsite manufacturing, procurement, digital, performance measurement, climate action, innovation exchange, and major projects. Our partnership with European Construction Institute enables our cross-border knowledge sharing. Our internal collaboration with BRE Academy enables our members to qualify for continuing professional development (CPD) credits when they attend our workshops and events. We held 200 workshops, roundtables and events over the last 5 years for over 2,000 professionals.

In 2024, in partnership with Kings College, we launched an independent verification scheme called 'Constructing the Gold Standard' to champion an integrated and collaborative approach to framework procurement, contracting and management. This public sector procurement standards verification scheme aims to ensure that Government and the wider public sector adopt urgent recommendations for improved value, reduced risks and achievement of net zero on all construction projects. Five organisations have so far been verified through the scheme.

In 2025 we assumed management of the Value Toolkit resources developed by the government backed Construction Innovation Hub in partnership with over 200 partners to help redefine value and how to measure it. Using the Value Toolkit enables value-based decision making that drives better social, environmental, and economic outcomes. We are now working with other organisations that helped develop the Toolkit to create a community of practice.

Constructing Excellence National Awards celebrate excellence in the built environment across England and Wales to recognise and inspire high performance across the sector. Held annually in London, winners are selected through regional awards from 13 categories and we typically host over 450 attendees.

Constructing Excellence Conference brings together key decision makers across the construction value chain to explore major issues and how our work can help deliver solutions. In January 2025 we held our most recent annual conference in London, with a focus on 'Delivering Excellence: Better for the Planet, Better for Society, and Better for the Bottom Line'. We had 135 participants from over 100 organisations.

We also recognise the critical role that mentorship plays. Generation4change (G4C) is our young professionals platform where new starters can find camaraderie and share ideas. G4C creates a collective voice for our future leaders. Along with an awards programme, G4C recently launched a mentoring programme to help accelerate the careers of future leaders.

→ **Constructing Excellence Awards 2024**
The National Awards highlight outstanding achievements in the built environment throughout England and Wales. The 2024 awards saw 13 winners, along with 4 highly commended projects.

Net Zero Carbon Buildings

UK Net Zero Carbon Buildings Standard

BRE established the first ever quality standard for construction in the 1920s and haven't stopped. We are now developing the UK Net Zero Carbon Buildings Standard with Better Buildings Partnership (BBP), Carbon Trust, Chartered Institution of Building Services Engineers (CIBSE), Institution of Structural Engineers, LETI, Royal Institute of British Architects (RIBA), Royal Institution of Chartered Surveyors (RICS) and UKGBC. This standard aims to provide a single agreed definition and methodology for the industry to determine what constitutes a net zero carbon building. In 2024 we released the pilot version.

BECD
Built Environment Carbon Database

We also support the Built Environment Carbon Database (BECD), which is a platform for sharing actual performance information on low carbon building practices to increase our understanding of whole life carbon within the built environment.

RetroNetZero RS&IN

We lead the coordination of the RetroNetZero Regulatory Science & Innovation Network, which is an Innovate UK-funded project to give innovators guidance on the steps needed to get their products adopted, as well as helping policymakers and regulators develop their approach to new technologies.

BREEAM®

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CRREM

Globally, collaboration between our BREEAM team, SBTi, and CRREM helps maximise the impact of individual efforts to drive sustainable building practices and progress the journey to net zero carbon emissions. Our international collaboration supports a common vocabulary, promotes transparency, and fosters informed decision-making. BREEAM's focus on sustainability assessments, SBTi's science-based targets, and CRREM's mitigation of climate risk together create synergies that enhance environmental performance throughout a building's lifecycle.

Sustainable Finance and Transition Planning

Launched in 2024, our global alliance brings together leading green building rating systems and partners to unlock the sustainable finance needed for the built environment to play its role in meeting global climate goals – $35 trillion in investments needed by 2030 to meet global net zero transition goals. We will ensure that investors, property owners, developers and governments have the information they need to enact transformational change in the built environment.

Our members are:

- BRE (UK)
- Green Building Council of Australia (GBCA)
- U.S. Green Building Council (USGBC)
- Singapore Green Building Council (SGBC)
- Alliance HQE-GBC France
- GRESB
- Climate Bonds Initiative (CBI)
- Carbon Risk Real Estate Monitor (CRREM)

Having GRESB and CBI as supporting partners means that the alliance is backed by the key players that investors, banks, and issuers rely on to confirm the sustainability credentials of their portfolios and debt instruments and to confirm net zero alignment.

Our first publication, 'Financing Transformation: A Guide to Green Building for Green Bonds and Green Loans', details how building verification and certification standards can be used to comply with global classifications and bond frameworks. Systems like BRE's BREEAM, USGBC's LEED and the GBCA's Green Star support ESG reporting and compliance with multiple classification frameworks, such as the EU and UK green taxonomies, along with putting buildings on science-based decarbonisation pathways.

↑ **International partnership to unlock sustainable finance for the built environment**
L-R: Peter Templeton (CEO, USGBC), Jane Goddard and Gillian Charlesworth (Deputy CEO and CEO, BRE) and Davina Rooney, (CEO, GBCA).

Together we are demonstrating the critical role that verification and certification schemes play in supporting more sustainable decision-making and reporting.

In addition to creating this alliance, over the last five years we have prepared consultation responses and research evidence for various branches of UK Government on measures to decarbonise the built environment, create a circular economy, and improve safety. We hosted workshops and roundtables with local government representatives, businesses and civil society on topics such as energy performance of buildings, healthy homes, circularity, digital waste tracking, and green finance. We continued to actively contribute to relevant ministerial-led working groups, industry coalitions and advisory boards. These activities enable parliamentary scrutiny, inform government policy and support local businesses and administrations.

BRE Innovation Park

The BRE Innovation Park was created to trial and test pioneering ideas of architects, developers and manufacturers before applying them to real communities.

Over its two decades at BRE Science Park, it featured full-scale demonstrations of sustainable buildings and landscape designs with innovative low-carbon products, materials and technologies. From technical conferences to school visits, we received thousands of visitors and worked with hundreds of organisations. These demonstrations pushed the boundaries of current knowledge and practice, educated stakeholders, and helped form new collaborations to drive positive change across the built environment. We are reflecting on this journey to identify the best way forward that supports our goals to 2050 and beyond. Here are some of the demonstrations from over the years.

→ **The Parker and Seismic**

The Parker home by More Housing and the Seismic commercial building by a research consortium demonstrate modern methods of construction (MMC).

→ **Community Healthcare**

Originally constructed as a sustainable school using a laminated solid timber building system then converted to a health centre, demonstrating how retrofit can reduce operational costs.

→ **The King's Natural House**

Designed by the King's Foundation for Building Community to demonstrate a simple, low-tech and easy to build low carbon home for volume housebuilders.

Our operations

We consider the impact of our operations and set ambitious targets to reduce our harm to the environment while helping others do the same. The success in our approach is largely attributed to our passionate colleagues who are empowered to create and lead sustainability initiatives. Our approach also embodies principles that underpin our products and services, such as BREEAM, and contribute to achieving the UN Sustainable Development Goals.

Our people

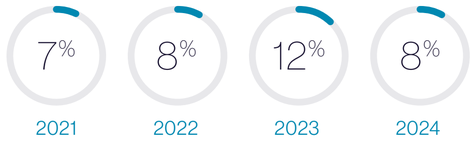
The skills and expertise of our people – many nationally and internationally renowned – is our key resource. It is essential that we maintain and develop a skilled and motivated team with appropriate benefits and a working environment where everyone can thrive.

We want everyone who comes into contact with us to find an ambitious business and teams who take responsibility for the integrity of our science and solutions while providing value for our customers. The rich variety of qualities and the world-leading expertise of our people enriches our business.

Equal opportunity

We are committed to ensuring equal opportunities for all and encouraging diversity in the workplace. We seek to establish a work environment that is free from any form of discrimination, harassment and victimisation and where differences are valued.

We made significant progress in closing our mean gender pay gap from 25% in April 2017 to 7% in April 2021. This change reflected the actions taken to ensure greater parity in pay. Our mean gender pay gap has remained similar over the last five years:



This level of analysis has enabled us to improve our strategic actions. During our 2023/24 financial year, 47% of our new starters were female (an increase on the previous year's 42%) and 62% of promotions were awarded to female colleagues (an increase on the previous year's 60%).We can see the impact of our actions at the lower, lower middle, and upper middle quartiles.

As of April 2025, our organisation was made up of 58% men and 42% women.

We will continue to develop strategies that further narrow our gender pay gap such as understanding intersectionality in relation to pay gaps associated with other characteristics. Since April 2024, we have been gathering data to analyse the pay gap for ethnicity, disability, neurodiversity and sexual orientation and have reached a diversity survey completion rate of 58%. The analysis so far shows that whilst we are more diverse than the national average, we do have a pay gap relating to ethnicity and sexual orientation, linked to lower diversity in the upper quartile. Neurodiversity and disability characteristics so far have no significant pay gap.

Health and safety

The health and safety our colleagues, visitors, contractors and everyone involved in our work, is our top priority. A resilient and healthy workforce is essential to our success.

Our people undertake regular mandatory health and safety training on topics such as behavioural safety, fire safety, manual handling and risk assessment, along with specialised training appropriate to their work. Our physical and mental health support includes pre-employment checks and occupational surveillance health checks.

We are certified to the internationally recognised ISO 45001:2018 occupational health and safety management system standard, which helps us reduce workplace incidents and create a health and safety culture. We are also certified to ISO9001:2015 for quality management and we maintain Cyber Essentials Plus for cybersecurity.

In 2023, we introduced a new online tool that makes it easier for colleagues to report on health and safety matters. This has enhanced our monitoring and improvement performance and helps encourage colleagues to prioritise safety.

Employee voice and engagement

Our Colleague Forum, led by our Director of People, is formed from volunteers representing their business areas to share views on working at BRE. Topics include anything relating to colleagues' experience at work such as proposals for changes to benefits and ways of working. Our executive team sponsors four Colleague Networks – LGBTQ+, Neurodiversity, Race, and Women. Overall, we gather opinions and feedback from company-wide engagement surveys that guide team planning around improvements and successes.

Over the last five years our Colleague Forum contributed to discussions on flexible working, which developed our approach to and culture of flexible working. The Forum supported our selection of wellbeing providers and our search for a new Chief Executive Officer (CEO). Prospect is the recognised trade union at BRE with membership open to all colleagues. Prospect negotiates pay and representatives are invited to attend the Forum.

↑ **BRE Appreciation Awards**
Our CEO, Gillian Charlesworth, presenting Ruben Graham, Certification Project Manager, with a 2024 Appreciation Award for his vital contributions and positive working relationships.

Along with the Forum, our Colleague Networks support our commitment to BITC's Race at Work Charter, signalling visibility, allyship, inclusion and belonging. Our Networks supported the collection of diversity data through raising awareness on key challenges. Our annual company-wide festive quiz incorporates themes from all networks. In general, our Forums and Networks help drive our colleague engagement through raising awareness and sharing stories.

Communications and engagement can support a strong workplace culture. Our approaches include:

- daily intranet updates with the latest news and information and a weekly newsletter with a summary of updates
- a social media platform for work that incorporates communities for peer conversations
- monthly live online updates led by Executives for all people managers and managers of functions
- quarterly live in-person and online updates led by Executives for all colleagues
- always-on emails for feedback to the CEO and internal communications team.

Our Quarterly and Annual Appreciation Awards further foster a positive and productive work environment.

Wellbeing

We are keen for colleagues to achieve a positive balance between work and personal life. We promote flexible working arrangements and our family-friendly support for leave includes maternity, paternity, parental, adoption and shared parental, time off for dependents, and compassionate leave. Our menopause at work policy outlines the support we offer people to help manage symptoms they might be experiencing.

Overall, our wellbeing strategy covers prevention, diagnosis, treatment and rehabilitation. Our health and cash plan provides a range of benefits such as dental, optical, chiropody, physiotherapy and more. Colleagues have GP access for speaking to a medical doctor over the phone at any time or having a video call during working hours. The counselling and support helpline is also always available.

We regularly review our range of policies and resources and promote wellbeing learning and activities through internal communication channels. Colleagues collectively walked over 10,000 miles during our April/spring 'walk to work' and October 'walk to Biodiversity COP16' initiatives during 2024/25.

Professional development

We support our colleagues to be excellent in their field through providing skills development pathways and career opportunities. We take a continuous performance development approach by encouraging regular check-ins between colleagues and managers that focus on actions, objectives, feedback, strengths and support. We offer flexible ways of working and our overall aim is to provide a great place to work. Our main office refurbishment in 2021-22 incorporated designs to facilitate our flexible ways of working.

Our People team includes dedicated positions for learning and development. In 2022 we introduced a new digital learning platform that significantly increased the amount and range of development topics that are freely accessible to all colleagues – over 100,000 courses. Content ranges from short modules and books to certifiable programmes. We also invest in one professional accreditation annually, BRE Academy courses and relevant conference and event participation. We supported over 100 professional registrations in our 2024/25 financial year, almost 20% of our workforce.

↑ **Two graduates from our 2023/24 cycle**
For graduates, we provide skills development placements across the business along with coaching and mentoring.

100+

Professional registrations during 2024/25

19

Apprenticeships over the last 5 years

Graduate programmes offer a structured and supported pathway for recent graduates to enter the workforce. With on average 10 graduates per cycle, we provide skills development placements across the business along with coaching and mentoring. We regularly review our graduate programmes through feedback from graduates and the teams they work with to enhance our approach.

An apprenticeship is a structured training programme that combines practical on-the-job experience with formal education and qualifications. Apprenticeships are an excellent route for career development. Over the last five years we have had 6 colleagues complete apprenticeships and 13 are in progress.

Our People team are committed to monitoring our expertise and competencies to ensure that they fully meet the needs of our industry and our business, and to help our people realise their full potential.

Community relations

Colleagues can take one day a year to volunteer to improve the built environment. We manage the programme through the Neighbourly platform that is BCorp certified and matches businesses with good causes. Since first offering colleagues the opportunity to volunteer in this way in 2022, more than 100 employees have spent 1,144 hours taking part in activities such as environmental clean ups and redecorating rooms and skills-based volunteering such as advice on sustainable housing improvements.

Our success is dependent on our relationships with all of our stakeholders, from our Trustees, colleagues and customers to our suppliers and wider community. Over our 100+ years of existence, we have collaborated to improve research, education and practice in the built environment. Our stakeholder engagement table on the next page provides an overview of our interactions.

100+

Employees volunteered through the Neighbourly platform

1,100+

Hours volunteered since 2022

The way we engage with and learn from our stakeholders is critical to our success. We approach this in various ways, appropriate to each stakeholder group.

Stakeholder	Main collaboration topics	Engagement channels	Outcomes
Colleagues	• Occupational health and safety • Business and information governance • Corporate goals and performance • Career development • Organisational diversity • Wellbeing and engagement • Sustainability	• Colleague Forum and Colleague Networks – LGBTQ+, Neurodiversity, Race, Women, Sustainability • Safety, Health and Environment Forum and reporting platform • Engagement surveys • In-person and online company-wide Executive-led sessions with open dialogue • Newsletters • Corporate social platforms • Direct line to CEO	• Improved talent management processes, including new learning and development strategies • Improved workplace safety through enhancing procedures and simplifying reporting • Enhanced organisational diversity policies and the creation of new Colleague Networks and initiatives. • Colleague-led sustainability initiatives with increasing engagement
Customers	• Customer experience • Customer/ built environment needs and challenges • Sustainable cities and communities • Building safety and security • Skills development	• Interactions with sales and relationship management leads • Online customer portal • Conferences and events • Customer satisfaction groups and surveys • Webinars, podcasts, and short technical videos • Newsletters	• New and enhanced products and services such as SmartWaste Scan • Reduced time for addressing customer needs and concerns • Solutions that improve user interfaces for customers and reduce administrative burden • Increased customer engagement with news releases and social media content
Government	• Standards development • Policy recommendations • Sustainable cities and communities • Building safety and security • Legal compliance	• Technical and special interest working groups • Roundtables and workshops with policy makers • Sharing evidence with committees and responding to consultations • Annual reports	• New and updated technical standards and databases such as Housing Surveys and SAP methodology • Better-informed decisions regarding local, national and regional policy instruments for safe and sustainable built environment activities
Suppliers	• Quality and reliability of products and services • Business ethics and legal compliance • Health, safety and environmental management practices	• Interactions with purchasing leads • Supplier induction processes • Safety, health and environment checks	• Reduction in packaging used in purchased goods • Better procurement terms and opportunities

Stakeholder	Main collaboration topics	Engagement channels	Outcomes
Business Partners, Non-Governmental Organisations (NGOs), and Academic Institutions	• Standards development • Public policy and advocacy • Research and innovation • Sustainable cities and communities • Building safety and security • Skills development	• Industry and NGO alliances • Technical and special interest working groups • Partner network meetings • Research projects • Conferences and events • Webinars, podcasts, and short technical videos • Newsletters	• New and updated technical standards and databases such as the UK Net Zero Carbon Buildings Standard for a single agreed methodology • Research findings and best-practice industry guidance to help meet global climate targets • Amplified voice through joint statements, campaigns and initiatives
Communities: local community, built environment sectors, end users – building owners and occupants	• Sustainable cities and communities • Building safety and security • Skills development • Employment	• Participation in local and regional community groups • Webinars, podcasts, and short technical videos • Newsletters • Community volunteering • Constructing Excellence membership	• Openly accessible high quality technical and educational resources from publications, webinars, podcasts, etc. that are viewed and used by a wide range of stakeholder groups • Increased engagement with news releases and social media content • Over 1,100 volunteer hours improving the built environment
BRE Trustees and Board	• Corporate goals and performance • Strategic risks and opportunities • Research and innovation • Business and information governance	• Quarterly meetings and performance updates • Committees – Risk & Audit, Remuneration & Nominations, Investment • Annual reports	• Enhanced management of business risk and opportunities • Sustainable returns on investment

Our environment

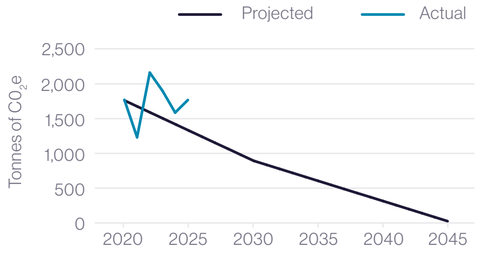
We work with our customers and wider community to amplify positive impact from built environment activities and eliminate and reduce harms to the environment. We are also committed to monitoring our environmental impact and identifying opportunities for improvement.

Our sustainable built environment strategy outlines our goals to 2030. Our holistic approach reflects the topics covered in BREEAM to comprehensively capture the attributes that define high performing assets. We are certified to ISO14001:2015 and the success in our approach is largely attributed to our passionate colleagues who are empowered to create and lead sustainability initiatives.

Energy and emissions

Goal: Reduce Scope 1 and 2 emissions by 50% and Scope 3 emissions by 35% by 2030 towards achieving net zero emissions by 2045.

Scope 1 + 2 projected vs actual emissions



Our energy consumption has been fluctuating due to a variety of factors including hybrid working, testing activity, and temperature changes. Our key projects over the last five years include the refurbishment of our 1960's main office building, which achieved a BREEAM Refurbishment and Fit-Out Excellent rating, and energy efficiency upgrades to lighting and lab equipment. We also reviewed the health of our private electricity network and commenced a metering and communication systems upgrade that is still in progress. This will improve our monitoring capability and further support more targeted interventions and building user engagement.

We encourage behavioural change through training and awareness raising activities. Along with formal training available through our learning platform or other accredited sources, we have monthly Sustainability Colleague Network sessions with on average 39 colleagues. Across the last year topics included: reducing plastics waste; carbon impact of transport; community action to increase reuse; Earth Overshoot Day by country; overconsumption during major sporting events and example solutions; sustainability of information and communication technology; biodiversity; climate change and COP29; impact of household energy efficiency improvement measures; and global water scarcity and flood risks.

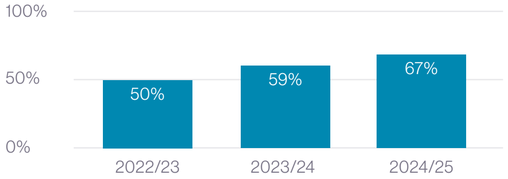
We also have monthly research and innovation knowledge sharing sessions with topics such as the influence of indoor environmental quality (IEQ) on occupant health and wellbeing.

For carbon emissions, we conducted a screening exercise for all categories using the Greenhouse Gas (GHG) Protocol corporate accounting and reporting standard. Most of our emissions are in Scope 3 from purchased goods and services, capital goods, and business travel. Natural gas (Scope 1) and electricity (Scope 2) are also material due to our Science Park operations. Calculations for 2024/25 are underway and results will be used to enhance our carbon reduction planning.

Materials

Goal: Increase reuse and recycling rate to 75%, excluding energy recovery, and circulate products and materials at their highest value.

BRE Science Park recycling rate (zero waste to landfill)



We have maintained zero waste to landfill since 2012 and our focus now is on increasing reuse and improving material separation to facilitate higher value recycling. We have seen a continuous rise in our recycling rate and have reduced our total waste tonnage by 23% to 618 tonnes in 2024/25 compared to 2019/20. We aim to continuously enhance our approaches to the responsible and circular use and management of materials.

→ **Embodying our values – small actions, great impact**
Laura Critien, our Team Manager for Microgen & Accreditation, is also our archiving lead and material reuse champion across the business.

Water

Goal: Reduce total water consumption by 15% and support responsible and sustainable water use.

Our Science Park water consumption reduced by 31% to 22,655m3 in 2024/25 compared to 2019/20. We enhanced our leak detection programme and use water efficient equipment for replacements. Moving forward we want to further reduce process related water usage, such as in our laboratories.

Biodiversity

Goal: Raise awareness of our Science Park's natural environment and enhance its ecological value.

Along with the need to accelerate decarbonisation, the global rate of species extinction is significantly higher than it has ever averaged in human history. We therefore continue to encourage the ecological enhancement of built assets such that construction has a net positive impact on biodiversity.

Over the last five years we have been raising biodiversity knowledge amongst colleagues through educational and interactive activities. Leading up to the 16th Conference of the Parties (COP16) to the Convention on Biological Diversity, we hosted a company-wide 'walk to COP16' initiative that was supported by 53 colleagues and we included a nature photo competition. Our engagement with internal and external stakeholders also enabled us to prepare a new biodiversity action plan for BRE Science Park, including protected species factsheets to help raise colleague and visitor awareness.

Health and wellbeing

Goal: Champion the delivery of healthy and resilient buildings and spaces that enhance occupant health, safety, and wellbeing.

BRE Science Park provides a variety of amenities such as our onsite café, lounge areas, football field, tennis courts and neighbouring walking and cycling trails. We share a boundary with Bricket Wood Common, a valuable area of semi-natural habitat with many trails. Our main office building refurbishment has also enhanced our working spaces to improve wellbeing and support our mostly hybrid ways of working.

Overall, we aim to provide a healthy and safe environment in our workspaces such as adequate daylighting and views, glare control, and comfort control as required. We want our colleagues to perform tasks safely, efficiently and comfortably. As described in the previous section on 'Our People', we embed occupational health and safety considerations in our processes.

Travel and accessibility

Goal: Promote the use of sustainable modes of transport and provide sustainable travel measures that reduce costs, congestion and emissions, and generate wellbeing benefits.

Along with encouraging flexible working arrangements where feasible, BRE Science Park has frequent nearby local bus routes that connect the site to the wider public transport network. Eleven bus stops and Bricket Wood rail station are within a 2km walking distance. We completed a commuting survey during 2024/25 to establish a new baseline due to our increase in hybrid working. Moving forward, this will help us identify opportunities for improving commuting experiences and supporting more sustainable travel habits.

For business travel, we embedded a sustainable travel hierarchy in our travel and expenses policy. This promotes active travel such as walking and cycling and encourages the prioritisation of rail travel over air travel where feasible.

Supporting the Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) are a plan agreed to by all world leaders to build a greener, fairer, better world by 2030, and we all have a role in achieving them. With only five years to go, the UK needs urgent help with achieving these Goals that aim to combat catastrophic climate change, eradicate poverty, reduce inequalities, and protect our natural environment.

1 No poverty

1.5 Resilience of vulnerable groups to climate-related extreme events – p15-21

3 Good health and wellbeing

3.9 Health impact of air pollution – p20

4 Quality education

4.3 Technical and vocational education and training – p27-29

4.4 Skills for employment – p27-29

4.7 Sustainable development education – p27-29

5 Gender equity

5.5 Women in leadership – p35, p37

6 Clean water and sanitation

6.4 Increased water-use efficiency – p11-14, p40

7 Affordable and clean energy

7.1 Access to modern energy services – p15-21

7.2 Increased share of renewable energy – p11-14

7.3 Improved energy efficiency – p11-21

7.4 International cooperation for clean energy research, technology and investment – p30-33

8 Decent work and economic growth

8.2 Economic productivity through innovation – p6-14

8.4 Improved material resource efficiency – p6-14

8.5 Employment and decent work for all – p35-37

9 Industry, innovation and infrastructure

9.1 Quality, reliable, sustainable and resilient infrastructure development – p11-14, p19-25

9.2 Sustainable and inclusive industrialisation – p6-10, p19-25

9.4 Sustainable infrastructure and industries – all

9.5 Scientific research and development – all

9.5a Sustainable and resilient infrastructure development for all – p11-14, p19-25

11 Sustainable cities and communities

11.1 Adequate, safe and affordable housing and basic services – p15-21

11.2 Accessible and sustainable transport systems – p11-14

11.3 Inclusive and sustainable urbanisation – p11-14, p15-21

11.4 Protection and conservation of natural heritage – p11-14

11.5 Resilience to disasters – p15-25

11.6 Improved urban air quality and waste management – p6-14, p20

11.7 Safe, inclusive and accessible, green and public spaces – p11-14, p22-24

11.7a Strengthened national and regional development planning – all

11.7b Integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, and resilience to disasters – all

12 Responsible consumption and production

12.1 Fundamental changes to production and consumption patterns through sustainable buildings and construction, sustainable public procurement, consumer information, and education – all

12.2 Sustainable management of natural resources – all

12.5 Reduced waste generation through prevention, reduction, recycling and reuse – p6-14, p30-40

12.6 Promotion of corporate sustainable practices – all

12.7 Promotion of sustainable public procurement – all

12.8 Sustainable development education – p27-29

13 Climate Action

13.1 Resilience and adaptive capacity to climate-related hazards and natural disasters – all

13.2 Integration of climate change measures in policies, strategies and planning – all

13.3 Awareness-raising and capacity building on climate change mitigation, adaptation, impact reduction and early warning – all

13.3a Facilitate climate financing – p30-33

14 Life below water

14.5 Conservation of coastal areas – p11-14

15 Life on land

15.5 Reduced degradation of natural habitats and loss of biodiversity – p11-14

15.9 Integration of ecosystem and biodiversity values in planning and development processes – p11-14, p30-33

16 Peace, justice and strong institutions

16.6 Development of effective, accountable and transparent institutions through establishing safe and sustainable systems and practices –p11-14, p22-24, p30-33

17 Partnerships for the Goals

17.14 Enhanced policy coherence for sustainable – all

17.16 Multi-stakeholder partnerships for sustainable development that mobilise and share knowledge and expertise – p30-33

17.17 Promotion of effective public, public-private and civil society partnerships – all

17.19 Initiatives that help develop measurements of progress on sustainable development – p11-25, p30-33

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