



POLICY

BRE Manifesto 2024: Making British buildings safer, smarter and greener



About BRE

BRE's purpose is to contribute to a thriving and sustainable world by developing science-led solutions to built environment challenges.

We generate new knowledge through independent research. This is used to create the products, standards and qualifications that help make sure that buildings, homes and communities are safe, efficient, productive, sustainable and enjoyable places to be. Our customers use our expertise, and products and services to deliver their social, environmental and economic goals.

COVER IMAGE: BOMBAY SAPPHIRE DISTILLERY,
LAVERSTOKE MILL, HAMPSHIRE

Sustainability was vitally important to Bombay Sapphire at Laverstoke Mill. The design of a low carbon, BREEAM assessed, flagship distillery underpinned the design brief, which was supported by the client and design team from the outset. The scheme was the first ever refurbishment project to achieve a BREEAM 'Outstanding' rating.

Introduction

The next government should commit to world-leading standards for UK buildings and issue a White Paper on building standards within six months of the new government.

The UK built environment faces interlinked challenges: a backlog of unsafe and unhealthy existing homes; a housing shortage requiring millions of new homes which must be high quality, resilient and sustainable; business buildings and infrastructure that do not meet the needs of the modern economy. The building sector - the UK's second largest source of carbon emissions - is not decarbonising fast enough to keep on track with the net zero target and is largely unprepared to deal with the adverse effects of climate change.

These challenges can only be met through a new policy approach. A new building standards strategy can power investment in better buildings by providing long-term certainty for owners, occupiers, supply chains and investors. Government needs a forward-looking view of how British

buildings will evolve, particularly to achieve the low carbon transition, but also in terms of wider sustainability, resilience and standards of safety and decency. A strategy should cover official, regulatory standards and government support for ambitious, industry-led standards (an area where the UK is strong). It should lay out plans for the research, development, delivery and leadership required to transform the UK's built environment.

Building Research Establishment (BRE) is a profit-for-purpose international building science organisation which has supported government to ensure the safety and sustainability of the built environment since 1921. These are the policies that we believe should be central to an incoming government's approach to delivering the standards that the UK's buildings need.



Research:**Collaborative R&D and testing between government and the UK's net zero innovators to accelerate uptake of new technologies**

- A programme of support for Britain's low carbon innovators is needed, providing early, government-sponsored, sustainability and fire safety testing.
- The current product innovation cycle for building technologies is too often: *Make-market-sell-discover unforeseen consequences-back to the drawing board. Repeat.* That cycle can be broken through a new R&D and testing programme that is independent yet works collaboratively with innovators. This will enable rapid adoption into standards of the products that can speed the transformation of our building stock.

Standards development:**Priorities to support the green transitions**

- At a regulatory level, a fully updated set of standards for decent, safe housing is needed. All domestic and commercial buildings need effective, official energy and carbon performance certification. There needs to be a clear trajectory for building regulations to enable the low carbon transition beyond the currently planned Future Homes and Buildings Standards, particularly to address embodied carbon.
- Ambitious industry-led standards – such as that provided by BRE's world leading BREEAM and LPCB certifications – can provide a framework for the evolution of regulatory standards. The public sector should set an example here through embracing more stretching standards. We must stop celebrating achieving minimum standards when a more ambitious maximum is attainable.

Working across Government

Many of our proposals reach across multiple government departments. For example, a national retrofit programme is essential to deliver low carbon standards for existing buildings, focused on tackling unsafe homes first. This will include support for business owners, particularly SMEs, to retrofit existing commercial buildings. With millions of buildings needing work, this will also create over a hundred thousand jobs at every level, in every nation and region by 2030. BRE research shows

Delivery of higher standards:**Using the levers of government to crowd in investment**

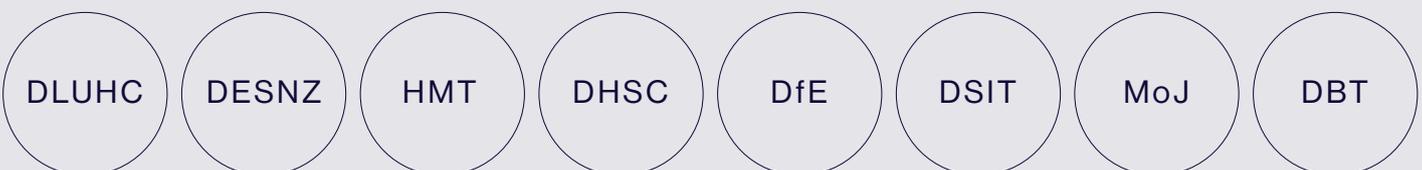
- Higher standards in buildings will be paid for principally by building owners. To unlock that investment, government needs to use all the levers available to it: well-signalled regulatory and fiscal incentives, as well as leadership through the public estate and the National Infrastructure Strategy.
- For insulation and heat pump roll-out, public investment is needed to prime the market and support low income households. A national retrofit strategy is essential to ensure that spending is properly targeted, and energy efficiency is tackled alongside improvements to unsafe and unhealthy homes.
- A well-resourced and ambitious planning system is vital to unlock development of the buildings and infrastructure we need to limit the impact of climate change on our communities.

Governance and leadership:**For a transformation in our built environment**

- Local authorities need to have the powers and capacity to deliver effective planning, to tackle poor and unsafe housing, and to lead their communities in the low carbon transition.
- At government level, better buildings need to be considered as a cross-departmental opportunity: as well as the skills, training and economic growth opportunities, BRE particularly highlights the need for better housing to be seen as a major opportunity for public health.
- Globally, standards can be a great British export – the UK has an excellent track record in this to build on.

that this is not just a climate change imperative, but a public health emergency; investment now will save the NHS and wider society over £135 billion across the next three decades. This requires joined up action from DLUHC, DESNZ, HMT, DHSC and DfE, with leadership from No 10 and the Cabinet Office, as a minimum.

We highlight on pages 4-12 which of the current government departments is best placed to lead each recommendation.



BRE's recommendations for
an incoming government:
policies to transform the standards
of Britain's buildings



THE NRP ENTERPRISE CENTRE

The NRP Enterprise Centre in Norwich exemplifies the use of low embodied carbon materials. It achieved a BREEAM Outstanding rating and was described by BCO Awards judges as 'probably the UK's greenest commercial building'.



Research

Collaborative R&D and testing between government and the UK's net zero innovators



Government-industry collaboration programme for early stage testing of innovative low and zero carbon technology (LZC) products for safety and sustainability

Working with low carbon entrepreneurs at early stages of development will ensure innovative products can meet sustainability standards and do not lead to unforeseen fire safety or negative health outcomes. Frontloading the R&D process with early, independent and collaborative, safety and environmental impact testing could transform the pace of rollout of the technologies needed to improve the built environment.

This should avoid the situations where, for example, UKRI has funded a product or project which then struggles to be approved for inclusion in government-funded databases or have its lessons adopted more widely.



Testing and benchmarking

For products and technologies that are further along the innovation cycle, testing for real world performance is key: slow progress on real world testing preventing adoption into standards has been a long running complaint of Britain's innovators. Particular priorities need to be:

- **Low carbon heating:** Most UK homes will switch to a new clean heating system over the next 15 years. A wide range of new heat pump and other clean heating technologies are emerging on the market. Industry-government partnerships for large-scale field trials of low carbon heating are essential to ensure these technologies work effectively for householders. High profile, large scale failures would irreversibly damage public confidence in net zero.
- **Modern methods of construction:** New regulatory and support regimes can unlock the long-established potential for modern methods of construction (MMC) and timber framed construction to deliver low carbon, high performance and cost-effective buildings; these need to be informed by a major programme of benchmarking and testing.
- **AI offers exciting opportunities for the construction sector.** For example, embracing technologies like the digital twinning of UK infrastructure and of the built environment will enable improved planning and retrofit. BRE would like the next government to invest in accelerating the use of AI and visual data recognition so that housing and net zero commitments can both be met.

DESNZ

DSIT

Underpinning Research

Government must commit to working much more closely in partnership with industry and academia in pursuit of the shared goal of a safer, more resilient and more sustainable built environment. Priority areas should include:

- Indoor environmental quality standards, which become increasingly important as buildings are designed or retrofitted to meet net zero standards. Research needs to address the current lack of data regarding indoor air pollutants and related issues such as temperature, humidity and ventilation rates, and development of robust testing of emerging ventilation products and solutions.
- Fire safety: Fire safety is an under-considered issue for the transition to LZC. New technologies being used in buildings must be fire safe. The carbon - as well as human - cost of disproportionate fire events is also rarely recognised, representing a major waste of embodied carbon. A centre of excellence for net zero fire safety, covering buildings and other low carbon energy systems including electric vehicles and battery technologies, is needed. This should for example, explore the fire safety implications of having multiple technologies like PV panels and battery storage for energy generated at home in highly insulated residential properties.



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Standards development: priorities

DESNZ

DLUHC

Effective energy and carbon certification for all buildings

In its first King's Speech, a new government should set a timeline for the development of a net zero ready EPC system for homes, including a new provisional EPC for the 40% of homes that do not yet have one. BRE has set out fuller thoughts on EPC reform in a recent [report](#). For non-domestic buildings, many countries are adopting official rating systems based on ongoing operational energy use: this should be delivered in the UK. [BREEAM In Use](#) offers a holistic model for doing this.

DLUHC

Building regulations

A clear timeline is needed for the next stage of the Future Homes and Buildings Standards beyond 2025. A key next step is to include embodied and whole life carbon. Ambitious building regulation changes need to cover existing and new buildings – and improving the current low quality of new homes created in existing buildings. Building regulations should steadily build from best practice in voluntary standards – for example an important, successful requirement of [BRE's Home Quality Mark standard](#) is to require swift nesting blocks in all new build properties to help nature co-exist alongside housing.

DLUHC should formally recognise a role for a national beyond-building-regulations set of standards which would enable local authorities to set higher energy and carbon requirements in planning and be used in public procurement.

DLUHC

Standards for decent, safe homes

The Decent Homes Standard (DHS) should be extended to cover the Private Rented Sector in the first year of a new Parliament. BRE has also proposed that a version of the DHS could be used as a benchmark for the owner-occupier sector to identify those homes which could benefit from additional government support. In addition, effective enforcement of the DHS is necessary, with regular and well-resourced inspections.

New research is needed into unsafe homes: the scientific basis for the Housing Health and Safety Rating System was developed in 2004 and now requires updating with the latest evidence.

The Decent Homes Standard should be extended to cover the Private Rented Sector in the first year of a new Parliament



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Delivering Standards

Using the levers of government to crowd in investment

HMT

Fiscal incentives

Cost remains a significant barrier to investing in retrofit for too many households. Government should further extend VAT relief on all products and labour connected with proven energy/carbon saving retrofit technologies (addressing the disparity between retrofit and new construction in VAT). Government should also lead work with the financial services sector to broaden the reach of green mortgages and consider a stamp duty incentive for energy efficiency.

Additional business rates relief for low carbon buildings and businesses would help SMEs in particular to choose greener options

HMT

DBT

Investment zones

Most government investment zones cover substantial metropolitan areas, but we suggest that smaller campuses could be designated 'micro' investment zones, with the same advantages as larger ones. These would support dedicated specialist research and development and help develop clusters of excellence.

DfT

DfE

DHSC

MoJ

DLUHC

Use the power of public investment and procurement

The public sector estate and public bodies can drive up quality and performance of buildings – creating scale and bringing down costs:

- Ambitious standards should be specified in the Treasury Green Book for new construction projects. We would like to see verification schemes such as BREEAM, BREEAM Infrastructure and LPCB embedded in HM Treasury guidance for the public sector estate, which will help reduce waste, improve resilience and support the UK's net zero targets. Building vital institutions like schools, hospitals and prisons to the highest standards will improve the health and experience of their users.
- Beyond-building-regulation minimum standards, which could include BRE's Home Quality Mark, should also be used by Homes England, and wherever government is funding or part funding new homes.

DLUHC

Making infrastructure more resilient

The need for enhanced standards, particularly to manage climate risk, extends beyond buildings to wider infrastructure. With infrastructure integral to economic prosperity yet also increasingly vulnerable to climate change, tougher standards for construction and maintenance should be mandated in government infrastructure contracts and funded research, by ensuring that the National Infrastructure Strategy explicitly prioritises climate risk mitigation, adaptation and resilience across programmes.

DESNZ

Resource local authorities properly across key functions to deliver higher building standards

Local authorities should be resourced to invest in the capacity of:

- Local and regional planners, ensuring that they fully understand issues like low carbon construction and retrofit, biodiversity and energy.
- Building control staff. Adequately trained and resourced Local Authority Building Control surveyors will ensure low carbon construction and retrofit are fire safe and environmentally safe and secure.
- Environmental health and housing teams, to help identify, monitor and tackle poor and energy inefficient housing in their area, particularly in the private rented sector. This will not just help enforce penalties against poor landlords, but also help landlords with good intentions understand their legal commitments and help them improve their property.

DESNZ

DLUHC

A national retrofit strategy

A national retrofit strategy is needed to deliver low carbon standards for existing buildings, focused on tackling unsafe homes first. This will include support for business owners, particularly SMEs, to retrofit existing commercial buildings.

Central to this should be a full review of existing retrofit support schemes – including ECO, the Great British Insulation Scheme and the Home Upgrade Grant - carried out to increase the pace of delivery, particularly in owner occupied homes and to deliver high quality future-proofed retrofits. Where these schemes have been successful, lessons should be learned, and the approach should then be expanded nationally.

Advice is also a key issue: BRE would like to see England have a network of advice centres to help consumers get the most relevant information for their own homes, delivered by or in partnership with local authorities and communities. Central government should provide core advice resources to ensure advice is always up to date to consider the latest technologies coming on the market and covers areas such as low carbon heating and indoor air quality and ventilation.



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Governance and leadership

For a transformation in our built environment

DLUHC

A White Paper on Building Standards

DLUHC should lead government in producing a White Paper laying out how the standards for Britain's buildings will evolve to 2050.

DLUHC

DESNZ

Leadership in the net zero transition

For meaningful progress towards net zero to happen, government needs to support the organisations and people who will deliver it. In many cases these will be local authorities. BRE is unconvinced that a delivery authority focussed on net zero is the right approach; we think it is likely to be more effective to ensure that all relevant bodies have net zero and resilience embedded in their objectives, with a clear set of responsibilities defined between central, regional and local government.

DHSC

Realising the health benefits of a high standard housing stock

The public health emergency caused by the poor quality of Britain's homes requires investment now to save the NHS billions across the next decades. Housing must be recognised as an urgent public health issue by the Department of Health and Social Care and prioritised in NHS strategic planning.

DfE

Building the future workforce and addressing skills gap

Engaging young people with the opportunity to transform our built environment.

The skills shortages throughout many parts of the construction sector are well known. For example, BRE struggles, along with regulators and rest of the industry, to train and recruit specialist staff like fire experts. The installation and maintenance of fire-related products is a vital part of the building safety landscape, and is another area where the workforce is ageing and not being replaced. This issue is recognised by the construction and engineering sectors but fundamentally this is a wider challenge which a government lead is required to address, starting with promoting these (skilled, well paid, lifelong) careers to young people.

DBT

Exporting British standards

British standards and certification services are recognised around the world as high quality and rigorous. Britain has the potential to be regarded as an international leader in net zero by ensuring that this is at the forefront of international trade negotiations.

This should be a priority area for British trade agreements and British embassies and consulates to promote as a key export and tool of soft power. For example, BREEAM is the UK's sustainable scheme for the built environment, exported to nearly 90 countries around the world and the LPCB is a globally recognised third-party certification body delivering certainty in the field of fire safety products for over 150 years.

Housing must
be recognised as
an urgent public
health issue



Appendix

What BRE does for government

BRE's world-leading expertise in building science means that we are appointed to work on a wide range of projects for UK national and local government. Some of these are ongoing projects which have lasted many years. Others were/are single pieces of work with partners like Innovate UK. Our current and recent work includes:

DLUHC and devolved governments

- National Housing Surveys: For nearly 50 years, BRE has carried out the English Housing Survey (EHS). We also carry out the Scottish, Welsh and Northern Irish Housing Surveys.

DESNZ/DLUHC

- National Calculation Methodologies for energy and carbon in buildings: BRE developed and maintains the official SAP and SBEM methodologies used to assess and compare the energy and carbon performance of homes and non-domestic buildings, respectively. These methodologies underpin building regulations and energy performance certificates. For government, BRE is currently developing a full net-zero ready update to SAP called the Home Energy Model.

- Heat pumps: We support DESNZ's market surveillance of heat pumps by testing a range of products.

- Fuel poverty statistics: BRE's Housing and Insights team produced these for DESNZ, analysing data to show fuel poverty levels and the fuel poverty gap.

DLUHC

- Homes England: Our Strategic Advisory team developed a sustainability and design framework for Homes England in partnership with the Design Council. We are currently taking part in a six-year project to evaluate the performance of homes built via MMC, and worked with the University of Salford and Arcadis to provide evidence to feed into the Future Homes Standard.

- Decent Homes and Housing Health and Safety Rating System Reviews: BRE is on the Decent Homes Review Sounding Board and also provides technical expertise on how the Decent Homes Standard is currently modelled for government statistical purposes. BRE contributed to the review of the Housing Health and Safety Rating System (HHSRS), used by environmental health officers to identify unsafe homes.

- Fire safety: BRE is currently working on a range of research projects, including means of escape for disabled people, trigger thresholds and innovative construction technologies. (The technical teams responsible have moved from DLUHC to the Health and Safety Executive.) We also continue to conduct bespoke fire experiments to help inform the development of Building Regulations.

Local authorities

- Housing and health: We work with local authorities across the country to provide them with robust evidence on housing conditions in their local area which they find invaluable in tackling poor housing and meeting their statutory requirements for private sector housing.

- BREEAM: Over 170 local authorities specify BRE's leading built environment sustainability standard BREEAM in their local plans as a way of ensuring sustainability standards are met in future developments.

Cross-departmental

- Public sector buildings: Many schools and hospitals across the UK use BREEAM to ensure that they meet the highest social and environmental standards.

- Infrastructure projects: Major public infrastructure projects like Crossrail, Thameslink and motorway upgrades use BREEAM Infrastructure to help mitigate their impact on the environment and communities around them.



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Published March 2024
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