Our Pathway to a better future



Think Zero



1. Baseline

2. Delivery

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Think Zero









Net zero carbon Pathway approach

Foreword by James Raynor

57 "As long-term placemakers, with a unique portfolio, we commit to reaching net zero carbon by 2030 to ensure we, and the places we manage, are resilient to the devastating effects of climate change."

2. Delivery

3. Enablers

Pathway timeline



Time is running out for us to manage climate change. It's hard to overstate this point. Personally and professionally, we have to transform the way we live and work – and do it now.

But there is also an amazing energy around this issue. As part of the Better Building Partnership Climate Change Commitment, our Pathway to net zero is just one of 25 from UK property companies that together have £300bn worth of assets under management.

GBI has been working to cut carbon for some time. A £25m retrofit programme has already contributed to a 25% carbon saving¹ since 2013 and I'm now proud to announce a £90m Programme to improve the energy efficiency of our portfolio.

This Pathway also goes much further than setting out a strategy. It contains many of the tools required to deliver it, from an Environmental Scorecard for developments to green leases and a Supply Chain Charter.

Here as in all things, behaviour matters. We have sought to be completely honest and transparent in setting out this Pathway and we have prioritised transforming our business so that it, and the places we manage, will be fit for the future.

We are also genuinely committed to working hand in glove with our occupiers, suppliers and communities. It's an obvious point to make but carbon reduction across our value chain isn't something you can achieve alone and ultimately it secures our mutual success.

James Raynor

Chief Executive, Grosvenor Britain & Ireland



Introduction

As long-term placemakers, we see it as our responsibility to ensure that we, and the places we manage, are resilient to the devastating threat of climate change. Since the industrial revolution manmade greenhouse gas emissions (GHGs) have resulted in increased global temperatures and serious global impacts such as the loss of biodiversity and the increased severity of extreme weather events. The Intergovernmental Panel on Climate Change (IPCC) has warned that we need to dramatically reduce GHGs before 2050 if we are to avoid more severe consequences.

A key contributor to climate change is the built environment which accounts for c.40% of global emissions². Progress has been made over the last decade in tackling these emissions, but the sector needs to accelerate action.

In 2019, Grosvenor Britain & Ireland (GBI) committed to reaching net zero carbon by 2030. In this document, we detail how we are going to achieve that goal and the key milestones along the way.

Getting to net zero

The critical path for our business involves significantly improving the energy efficiency of our existing property portfolio, minimising the carbon emissions in the construction of our developments, and collaborating with our occupiers and suppliers to reduce their emissions. We aim to generate renewable energy (onsite where possible) and the remaining emissions that we cannot eliminate will be offset, resulting in net zero.

We also need to transform how we operate as a business, embedding sustainable behaviours and practices within our culture. In 2021 we will be setting a Science Based Target to ensure our approach aligns with the Paris Agreement and GBI is contributing to limiting global temperatures to below 1.5°C.

This document covers our scope, our reduction Pathway, the targets to reach our net zero goal and our delivery strategy. We are including both direct (Scope 1 and 2) and indirect (Scope 3) emissions from our value chain.

aseline	2. Delivery



Three key areas will enable the accelerated delivery of our Pathway:

Reducing the energy use and greenhouse gas emissions of our historic London estate in Mayfair and Belgravia:

1

Using our £90m Programme we will retrofit our existing buildings and collaborate with occupiers to reduce their emissions through smart energy use and renewable energy supply. By 2030, for example, we aim to have encouraged and supported at least 75% of occupiers by floorspace to use energy sourced from renewables.





Reducing the embodied carbon in our developments and designing buildings that are operationally net zero:

All developments will be low embodied carbon (<500kgCO₂e/ m² from 2025), have low energy demand, be all-electric and powered from renewable energy sources (on and offsite). Larger office developments will also follow the Design for Performance approach.

Reducing the carbon emissions from our supply chain:

By 2030, our aim is at least 40% of our suppliers by emissions will have set a Science Based Target and procure their energy from renewable sources, and supplier vehicles serving our London estate will be electric by 2025.











About us

Long-term placemakers

GBI plays many different roles. We are a landlord, builder, master developer, asset manager and public sector partner.

We are long-term placemakers with over 340 years' experience. Our heartland is in Mayfair and Belgravia, where we support nearly 1,000 businesses, 9,000 residents, and tens of thousands of workers and visitors every day.

Our portfolio includes other destinations and developments elsewhere in London, Liverpool, Oxfordshire, Essex, East Sussex and Cambridgeshire, with a target pipeline of 30,000 homes in new neighbourhoods by 2023.

Our historic estate in Mayfair and Belgravia is comprised of over 2,500 units mostly within a conservation area including 500 Grade I and II listed buildings and structures. Due to our ownership,

we have varying levels of control and influence on our developments, occupied assets and joint ventures.

We see ourselves as stewards of these places and builders of new communities. We have a responsibility to ensure these places are resilient to climate change and fit for the future while making sure we are mitigating our impact on global temperatures by transitioning rapidly to net zero.

As a family-owned property company we can think longterm while pioneering change to meet these challenges.

We are committed to partnering closely with occupiers, suppliers and other investors, recognising that effective change is fundamentally dependent on collaboration.

Our intention is to harness the power of community and deliver on this Pathway in a way that benefits everyone. 2. Delivery

3. Enablers

Appendices

















Our Climate Change Commitment

Clear strategy for delivery

GBI committed to four green goals in 2019: zero carbon, zero waste, valuing nature and bringing our partners with us. These goals are designed to make GBI a more sustainable business, helping us actively work towards achieving the UN's Sustainable Development Goals and focussing our efforts on the areas where we can have the biggest impact. By committing to reaching net zero carbon by 2030 in 2019, we recognised the urgency of the climate crisis but, at the time, we had no definitive plan. Since then, we have been working to refine our approach and develop a clear strategy for delivery as documented in this Pathway. We have also expanded the scope of our ambition to include not only our directly managed buildings but also emissions that we only have indirect control over.

In addition, we were one of the founding signatories to the BBP Climate Change Commitment to publish a Net Zero Carbon Pathway by the end of 2020. This document fulfils that commitment and summarises our key areas of focus for reducing carbon across our value chain, the related targets and the actions we are taking.

We also outline the key enabling factors required to facilitate this Pathway around our own internal governance, culture, data and how we want to collaborate with other businesses and stakeholders.

aseline		

Appendices



GBI's green goals

2. Delivery



Zero carbon By 2030, GBI will achieve net zero carbon from its buildings, developments and supply chain.



Zero waste

GBI will ensure zero non-hazardous waste to landfill from buildings and developments in its control by 2030.



Valuing nature

By 2030, GBI's portfolio will have achieved a **significant net biodiversity gain**, responding to the need to halt the decline of the UK's wildlife and restore ecosystems.



Bringing our partners with us

By 2030 all our suppliers will be compliant with our Supply Chain Charter and are working with

us to deliver equal social and commercial benefit.









Net zero carbon Pathway approach



Appendices



Think Zero







Our net zero commitment

We have baselined our carbon emissions and developed a delivery strategy to reduce them, which we are working to implement and enable.

Read more *page 11*

1. Baseline

Pathway scope

Ensure our reduction Pathway is comprehensive and covers all major emission sources of our value chain.

Baseline

Develop a baseline based on our Pathway scope to understand where we are now and identify the biggest levers to reduce our emissions.

Future emissions

Model future emissions based on development pipeline, energy use data and grid decarbonisation assumptions.

Honest



Read more *page 15*

2. Delivery

1. Reduce demand

By setting targets and developing tools to reduce construction impact and operational energy.

2. Increase renewable energy

By prioritising on-site renewable energy. Any off-site renewables or procurement should demonstrate additionality.

3. Offset residual

By developing a strategy that uses a recognised framework and transparently demonstrates effective offsetting.

3. Enablers

Our governance & culture

Ensure governance structure supports the Pathway and that sustainability is embedded in GBI's culture.

Data & verification

Measure progress and ensure we are transparent with our peers and partners.

Collaboration & partnerships

Work closely with others to deliver our targets incl. peers, local government and key stakeholders.

Our approach is underpinned by 5 key principles...

Long-term

Practical

Collaborative

Innovative









We have used a series of guiding principles to inform this approach:



Collaborative

we recognise that we cannot reach
net zero alone. It demands that we
work closely with our partners,
stakeholders and communities
to collectively reduce
emissions together.

Innovative

new and creative solutions are essential to help cut energy use and carbon emissions across our portfolio. We won't always get things right, but we are prepared to be bold and try new things, learning the lessons and sharing them with our partners. Appendices









1. Baseline



2. Delivery

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Pathway timeline



Think Zero









Pathway scope

GBI has a unique portfolio of historic properties, a diverse development pipeline, along with a mix of retail and leisure destinations. Due to our ownership, we have varying levels of control and influence on our developments, occupied assets and joint ventures.

We have reviewed our carbon footprint and included in our Pathway scope the emissions from assets we can realistically control and influence.

Whilst there are some emissions that are not within our baseline and Pathway, we are still working to influence and reduce these emissions where possible. We will regularly review this and our baseline to ensure we are considering industry best practice and continue to be bold and ambitious.

This table covers both embodied and operational carbon within our Pathway scope for all assets under management. See appendix for a more detailed scope breakdown.



5. Long leasehold properties are where GBI hold the freehold of a property and has leased it to an occupier for typically over 100 years. These are predominantly residential but do include commercial, retail and hotel geared leases. These are included in our 2050 goal.

ord and uction	Net zero carbon Pathway approach	1. Baseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$
This table covers	both embodied an	d operational carbon within	our Pathway scope.				
Supply chain		Within baseline and Path Supply chain focussing	way to 2030 on our biggest sup	opliers by emissions	Other emissions we are lo	oking to influence	
Developm	ent	Future developments – Developments already although, as they were set, not all of them achi improve the sustainabil	including those de underway – are inc designed before of eve the targets so lity credentials of t	esigned in 2020 cluded in our Pathway ur new targets were we will continue to hese developments	Masterplanning ⁴ – due business and the lack o of the developments, it	to the unique nature of t f control we have over t is not part of our baseli	this part of our he constructione.
Our buildings		All managed properties long leasehold units with Refurbishments, repair managed properties Joint ventures based or Acquisitions, will be inco our portfolio to allow tin (a forecast is currently in	s across all asset cl thin directly manag s, and maintenance n equity ownership luded within two ye me for data collect included in the Pat	asses, including ged buildings e of our ears of entering ion and validation hway)	Disposals (at point of sa when sold Non managed, long lea very limited control Properties where we pr services, as we have lin	ale), as these fall outside sehold ⁵ properties wher ovide third party manag nited control	e our footprint e we have gement
Our corpo emissions	rate	Energy from our direct Staff travel (incl. busine	corporate activitie ess and commuting Pathway under Developmen	s and offices g travel)	Staff working from hon	ıe	









Baseline and future emissions

Baseline emissions

Having identified the scope of our Pathway, we have calculated the carbon emissions for our value chain i.e., our direct (Scopes 1 and 2) and indirect (Scope 3) emissions under the Greenhouse Gas Protocol. As with most other real estate companies, most of our emissions are within scope 3 and outside our direct control. Our baseline year is 2019 and is split into our largest emission areas. Further detail on this can found in the appendix.

A breakdown of GBI's 2019 emissions

Development

Embodied carbon emissions (relating to building materials, deliveries to sit construction etc.) from buildings and communities that we create

Supply chain

The suppliers that support our existing buildings and corporate purchased goods and services



4 01-	59.1k tonnes CO ₂ e	Our corporate emissions	0.61
4.8 K		Our corporate activities including waste, water and energy	
,		Our buildings	18 .5
		The occupier emissions from our portfolio in Mayfair and Belgravia, and landlord emissions from commons pa	d arts
35.1k			

2019





Baseline and future emissions

Future emissions – business as usual

Having calculated our baseline, we have estimated the future emissions from our business based on our development pipeline, industry energy use benchmarks and grid decarbonisation forecasts (see appendix). This estimate is based on a 'business as usual' (BAU) scenario and assumes we make no material changes to how we operate as well as only limited changes to our buildings and developments.

The graph shows our cumulative BAU emissions from 2019 to 2030. It shows that our supply chain should be our biggest focus for our Pathway followed by our buildings then our developments.

Business as usual forecast of cumulative emissions between 2019–30: What would GBI's carbon impact look like between 2019–30 if we don't act?





Baseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$







2. Delivery









Delivery strategy

The content of this delivery strategy is founded on the energy hierarchy and related guidance from the UKGBC, the Better Buildings Partnership and others covering our development impact, energy efficiency, renewable energy and offsetting in the journey to net zero carbon.

Underpinning each of these targets is a series of tools and actions described in the next section. They are anticipated to result in the following reduction Pathway to net zero.

Our Pathway approximates unidentified future acquisitions, and we commit to ensuring that the potential impact of these assets on our Pathway is considered prior to acquisition. The Pathway figures shown do not include the effect of procuring green tariff renewable energy from the grid, to take a conservative view of the additional carbon savings provided by green tariffs⁶.

6. We used location-based factors to calculate our pathway. Using market-based factors results in an additional 5% reduction in 2030, more details are available in the appendix.

Our reduction Pathway (2019 baseline – 2030)

59.1k tonnes CO₂e Our corporate 1% emissions Developments 8% Reduce Our buildings 32%Supply chain 59%

2019 baseline







Reducing demand



GBI has an extensive supply chain that covers its buildings and corporate purchased goods and services. From professional fees to providing waste collection services for our occupiers, our supply chain accounts for 49% of our total cumulative **BAU emissions.**

To minimise the impact of our supply chain on the environment we must work closely and collaboratively with our suppliers. Creating trusted and transparent relationships with them will be key to unlocking our Pathway over the next decade.



Target By 2030

40%

of suppliers by emissions to have set a Science Based Target

Additional targets:

- $\rightarrow\,$ All direct supply chain vehicles serving our London estate should be electric by 2025
- ightarrow By 2030, 40% of suppliers by emissions to procure energy from renewable sources
- \rightarrow All repairs/maintenance suppliers to disclose their emissions and set a plan to reduce them



2. Delivery



Tools & activities

Supply Chain Charter

To influence and support supplier behaviour, we have developed an industry leading **Supply Chain Charter**. This has three standards impacting our GHG emissions: tackling climate change together, sourcing and using materials responsibly, and eradicating waste.

The Charter is an essential lever to ensure suppliers align with our values and social, environmental and governance aspirations. It sets out the standards we expect of ourselves as well as those we expect from the companies we work with across 12 areas, from health and wellbeing to sourcing sustainable materials.

We have sought to ensure this does not place excessive demands on our suppliers' businesses and have partnered with the Supply Chain Sustainability School to offer free training on sustainability, offsite construction and management techniques designed to help embed change. 127 of our suppliers have undertaken training since we joined the school in 2017.

We have a dedicated reporting system to monitor and map the impacts of our supply chain, identifying areas of improvement and helping us report on progress against our commitments. We also work with our suppliers to develop action plans in areas that do not yet meet the standards we require.

Our 12 standards

- Supporting suppliers 0. and building trust Proactively (+)
 - managing health & wellbeing
 - Paying suppliers on time
 - Working to high ethical standards
- **Encouraging fairness 1** inclusion & respect

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- **Providing inclusive** ₽ď & equitable employment
 - **Engaging the** community
 - **Tackling Climate** change together
 - Sourcing and using materials responsibly
 - **Eradicating waste**
 - Valuing nature
- pollution



Helping to reduce



CASE STUDY

A trusted service partner: **Ethos Facilities Management**

Facilities management firm Ethos is one of the largest single suppliers on our London estate.

Sustainability is core to this partner's philosophy and Ethos were the first supplier to sign up to, and report against, our Supply Chain Charter resulting in a number of collaborations.

Increasing energy efficiency

Driving monitoring and targeting of energy control in buildings ensuring visibility and efficiency of consumption

Building a dedicated utilities and energy team focused on efficiency and the transition from fossil fuel burning assets to deep green energy

New sustainability project manager advises and challenges GBI

Reducing supply chain emissions

Sustainability training programme delivered to team

Launched an all-electric fleet of 40 vehicles in 2019 ahead of our 2025 target

Revised procurement strategy to align with GBI's environmental goals

First partner to procure 100% renewable energy



2. Delivery



Delivery risks and responses

Since supplier emissions are indirect emissions,

we have limited control and are reliant on influencing these companies to reach our own net zero goal. However, the environmental credentials of our new suppliers will be factored into supplier selection. Estimating our supplier emissions is a challenge due to the limited emissions data available and our current reliance on benchmark estimates for our baseline emissions. We intend to require suppliers to provide verified carbon footprint data to give an accurate and transparent picture of emissions. This will also signal to the market that carbon emissions are an important consideration in our supplier selection and procurement strategy. To manage this process, we have recently appointed a Head of Supplier Management.







Within our development pipeline, the most significant developments over the next 10 years include:

- → **Bermondsey**, a new neighbourhood of over 1,500 homes for rent, including 35% affordable, 3 acres of public and play space and a secondary school
- → **South Molton Triangle**, a 2-acre site in North Mayfair providing 204,000 sq. ft of new Grade A office space, alongside shops, restaurants and cafes
- → **Cundy Street Quarter**, a mixed-use development in Belgravia which almost doubles the affordable homes on site
- \rightarrow **65 Davies Street**, a 65,000 sq ft. office development above the new Elizabeth Line station at Bond Street

The total carbon emissions for these developments make up 23% of our total cumulative BAU emissions (2019-30).

Target From 2025

$500 \text{kgCO}_2 \text{e}/\text{m}^2$

All developments must be low embodied carbon (less than $500 \text{kgCO}_2 \text{e/m}^2$ from 2025), achieve Net Zero Carbon Pathway compliant EUI targets and be all-electric;

Additional targets:

- ightarrow Use whole life carbon assessments to inform design. We will aim to set 2030 targets including in-use and end of life (stages B, C & D) when we have access to more evidence based data for these stages, ideally from our own portfolio, and a better understanding of how the rate of grid decarbonisation impacts embodied carbon assessments
- \rightarrow Embodied carbon target for developments from 2025 to be 500kgCO₂e/m² (building life cycle stages A1-A5 includes substructure, superstructure, MEP, Façade, internal finishes and sequestration)
- → Achieve Net Zero Carbon Pathway compliant energy use intensity (EUI) targets for all property types that we develop by 2030 (targets can be found in the appendix)
- ightarrow All office developments over 1,000m² will follow Design for Performance principles



Tools & activities

2. Delivery

We will apply three key tools and activities to our developments: a Sustainable Development Brief, Design for Performance, and a Masterplanning and Development brief.

Sustainable Development Brief

Our Sustainable Development Brief sets quantitative targets for EUI, operational carbon and embodied carbon emissions. This is backed up by an Environmental Scorecard system which tracks all projects through the development cycle and approval process.

This Brief sets out how developments are to be designed to support our environmental goals. It combines industry best practice with a range of approaches to inform design and improve performance of the buildings. All developments designed from 2020 must meet the key requirements in this Sustainable Development Brief.

The targets we have set in our Pathway will be applied to all projects going forward. We will also continue to work to reduce the embodied carbon for developments already underway as well as minimise their whole life carbon impact. The weighted average embodied carbon of our inflight new build developments, many of which are still in early stages of design, is $652 \text{kg CO}_2 \text{e/m}^2$.















Bermondsey: Materials innovation

In Phase 1 of our Bermondsey build to rent project we are pioneering solutions to reduce the development's embodied carbon.

Phase One 359 rental homes

600 pupil secondary school

8,155 sq m of employment space

3,100 sq m of ground floor uses

Reducing embodied carbon

Cross-laminated timber internal structural frame introduced

Cemfree concrete (used for nonload bearing structures) reduces embodied carbon emissions by up to 80% vs conventional products

Deploying our commitment to the SteelZero Forum, aimed at responsible sourcing, production, use and recycling of low embodied carbon steel

Demolition waste prioritised for reuse over recycling

A live innovation tracker captures emerging products and materials for adoption



2. Delivery









South Molton Triangle

This development combines retrofit and façade retention of listed buildings and heritage assets with new build to create a low carbon scheme in Mayfair's conservation area.

Features 271,500 sq ft

of new Grade A office space shops, restaurants and cafes; homes and a new hotel

Sensitive design celebrates historic context and adapts heritage buildings for contemporary use

Applies London Plan Energy Hierarchy

37%

Buildings to produce 37% less carbon than ones built to current UK standards (vs a Part L2A 2013 compliant building)

Testing new approach to delivering energy efficiency in UK offices

- J Design for Performance Pioneer Project
- **VABERS UK**

The South Molton Triangle is one of the first projects in the UK to implement this pioneering approach to office design and delivery. It will provide real-life evidence of how the performance gap can be closed to ensure office developments deliver on their design intent.



2. Delivery

3. Enablers



Design for Performance

We are pioneering the NABERS⁷ UK Design for Performance scheme in one of our developments in North Mayfair, South Molton Triangle. The Design for Performance scheme builds on the work of the Better Buildings Partnership as scheme ambassador and NABERS as the scheme owner to address the performance gap between design and in-use energy performance and improve the measurement, transparency and accountability of energy performance in new build offices.

Critical success factors of the Design for Performance approach are setting energy performance targets at project inception, embedding these within the supply chain for delivery, and verifying performance when the building is occupied.





^{7.} The National Australian Built Environment Rating System which provides simple, reliable and comparable sustainability measurement



Oxfordshire Garden Village

Grosvenor has masterplanned these proposals for a new community of over 2,000 homes, a business park and community and sports facilities on a 450-acre site in Oxfordshire.

An early commitment was made to make the residential element fully electric and to prioritise fabric efficiency, with low carbon technologies and renewables also contributing towards net zero.

GBI will require all housebuilders participating on the site to build homes to a fabric efficiency that complies with the Future Homes Standard, currently being consulted on by the Government.

At least 20% of the energy demand for all homes will be met through onsite renewable sources, including solar power.

There are plans for a smart hub for energy management, which could also accommodate battery storage and fast EV charging points.





2. Delivery



Masterplanning and Development brief

As well as developing buildings directly, we also undertake masterplanning which involves promoting land, achieving planning permission, and selling plots to housebuilders to develop new communities at scale across South East England. We call this our Strategic Land business. Due to the limited control we have over the delivery of these developments, we are not including these buildings in our Pathway emissions. However, we are still seeking to influence the emissions reductions by developing a bespoke Masterplanning and Development Brief that will be completed in 2021. This Brief will provide tools to embed sustainable design choices into each site as we are doing at Oxfordshire Garden Village.

Delivery risk

Our development carbon targets are ambitious and will not be achieved unless we are successful in collaborating with our supply chain. We need a wider pool of contractors and designers who have set their own Net Zero Carbon Pathway and we need manufacturers to continue to bring cost-effective innovative materials and technologies to the market.





Reducing demand



Our buildings consist mainly of our historic London estate in Mayfair and Belgravia. Including 500 Grade I and II listed buildings and structures.

From 2021 we will also hold a 10% stake in the central Liverpool retail destination, Liverpool ONE. Across all these existing assets both occupier and landlord energy are the primary contributors to our carbon emissions.

Currently we estimate that our buildings, including Liverpool ONE, make up 27% of our cumulative BAU emissions (2019-30). Through our Net Zero Carbon Pathway we plan to reduce our annual carbon impact by more than 70% by delivering an extensive £90m programme of retrofits well as working with occupiers to reduce their emissions by changing behaviours and procuring green energy for their buildings.

Due to the historic nature of our assets we have limited embodied carbon from the maintenance of our buildings. However, despite this, we will still aim to reduce embodied emissions during the retrofit and fitouts of our buildings.

Target

Net zero

Achieve Net Zero Carbon Pathway compliant energy use intensity (EUI) targets for all property types by 2030 (targets can be found in the appendix)

Additional targets:

678k

tonnes CO.e

- ightarrow Replacing largest 55 gas boilers by 2030, representing over 70% of annual gas consumption
- ightarrow Smart meter installation in all directly managed areas by 2022



27% of 2019-2030 **BAU** emissions

Appendices



We have a small number of maintenance assets containing refrigerants. The annual fugitive emissions of refrigerant gas amounts to just over 60tCO₂ using standard loss factors and has been included in our Pathway.

Tools & activities

2. Delivery

To deliver our targets for GBI's buildings there are two key areas of focus, our Net Zero Programme and occupier engagement. Each are supported by a series of tools including embodied carbon tools for retrofits, green leases, green fitout guides and a smart meter rollout across our estate.

London Estate Net Zero Programme

Buildings must be both highly efficient and supplied with low carbon energy. We also recognise the multiple benefits of greater energy efficiency: lower operational costs, reducing fuel poverty and retaining long-term asset value.

The central element of our approach is a shift from a regime of predominantly tracking theoretical energy performance (via Energy Performance Certificates and Building Regulations) to one based on actual operational performance (e.g. Display Energy Certificates and NABERS UK energy ratings). This shift is occurring across the industry, but the regulation and industry frameworks are still emerging and are likely to take several years to become established.

In the interim, we have developed a set of EUI targets (see appendix). This will ensure that GBI prioritises demand reduction. This pre-empts regulation and will help future proof our assets.

EUI tracking will be applied to a growing proportion of our buildings in tandem with our programme of smart meter installation and the roll out of green leases. Since April 2020 all new leases include clauses to collect, analyse and act on occupier energy consumption data.

Our EUIs will be kept under review as our evidence base improves and industry standards and/or regulation emerges.

It is particularly challenging to retrofit historic properties to a net zero standard. Therefore, to achieve this, we plan to implement £90m Programme to retrofit our buildings (c.£300 per m²). This cost is solely for the works required to improve the energy intensity of properties and excludes the overall cost of maintaining and adapting our portfolio over time. Since 2013 we have retrofitted more than 450 units (in over 100 buildings) on our London estate prioritising

properties and families that are most in need of improved energy efficiency to prevent fuel poverty.







Retrofitting historic residential properties

95% of our London estate lies in a conservation area and there are 500 directly managed listed buildings in our Mayfair and Belgravia portfolio.

A £90 million Programme will see us retrofit our existing historic buildings and also collaborate with tenants to reduce their emissions.

In 2017, we achieved the first ever EnerPHit Passivhaus accreditation in London for residential rental properties. This accreditation means that the heritage buildings we refurbished achieved a low energy use of only 25kWh/m²/year.

Both projects involved historic buildings on our London estate including a late 19th Century property on Passmore Street and another from 1720 on Adams Row.

These properties offer a high quality of living with a significant reduction in utility expenditure. Super insulated walls and triple glazing reduce unwanted noise and help provide a constant ambient temperature of 17°C without using the heating system.

These homes also incorporate a Heat Recover Ventilation system that guarantees clean, fresh, filtered air supplied to all rooms.

Façade 8.8% Renewables 4.5% External works 0.6% Services/

MEP 10.1%

KWh/yr KWh/m²yr £/yr £/month

* assuming 3 occupants

2. Delivery





nea		Total energy demand (includes din egulated energy)				
Predicted*	Actual	Pred	icted*	Actual		
		Gas	Electricity	Gas	Electricity	
3,893.00	1,427.00	8,509.86	6,062.58	2,623.86	4,217.57	
35.00	12.83	76.50	54.50	23.59	37.91	
£135	£50	£296	£800	£91	£556	
£11	£4	£25	£67	£8	£46	







.57



Liverpool ONE

Liverpool ONE's journey so far has been focused on reducing landlord's energy use. We have achieved a **GRESB** Green Star score and installed onsite renewable energy generation through 83 solar PV array installations, producing 416 MWh of energy. Since 2015 electricity usage has reduced by 655,112 kWh per annum with additional savings from recent initiatives including LED lighting installations with projected savings of over 200,000 kWh per annum. From January 2021, we will work with our partners to further reduce the energy intensity of Liverpool One.

Embodied carbon tool for retrofits

Whilst the primary focus of our £90m programme to retrofit our estate is operational energy, we recognise that retrofitting existing buildings can itself lead to some embodied carbon via the materials used for and the waste generated by a refurbishment.

A new tool to help Project Managers and design teams decide on material specifications with the lowest embodied carbon impact has been created for us by our consultants. This is used alongside an initial cost plan as early in the project as possible to recover the most embodied carbon savings through smarter materials choices.

We have aligned our approach and calculations of embodied carbon on the professional statement 'Whole life carbon assessment of the built environment' (2017) from RICS.

Occupier engagement

The occupier engagement programme provides a platform for supporting the use of EUI targets and acting on the findings to drive greater energy efficiency.

Reaching net zero by 2030 is not a target that GBI can achieve in isolation. We recognise the central role that our occupiers and partners play in delivering these ambitions. As a landlord to over 1,000 businesses and 9,000 residents we are also uniquely placed to drive significant change both within our own sector but also across those of our occupiers. To do this we need to change the relationship between landlord and occupier from one that has historically been transactional to one of partnership and collaboration.

Green leases To deliver carbon emission reductions from occupiers, we have developed and rolled out industry leading green lease clauses into our standard leases in April 2020. Guidance and advice from the BBP were used to develop these clauses and we have been one of the first landlords to implement them extensively in our portfolio. We are also working to transfer current occupiers onto green leases, with encouraging interest being shown.

The new clauses in our leases are designed to make going green easy and cost-effective for occupiers, as well as enable us to have an ongoing collaborative dialogue with them.



The green clauses enable us to:

2. Delivery

- ightarrow Collect, analyse and act on occupier energy and water consumption data together
- ightarrow Procure 100% green energy for occupiers at highly competitive and less volatile prices
- ightarrow Prepare EPCs for buildings and determine landlord's works necessary to improve environmental performance
- ightarrow Expand waste and delivery consolidation programmes to reduce traffic and pollution
- \rightarrow Provide opportunities for training and knowledge sharing

Green fitout guide

Our fitout guides outline how occupiers should approach their store and office fitouts to minimise embodied carbon and reduce future energy demand. Occupier fitouts can create unnecessary waste and embodied carbon. Our guides help occupiers undertake greener fitouts that still provide the branding and look that they want.

As part of these fitouts GBI undertakes a Building Performance Evaluation before every new letting to ensure that any proposed fitouts don't impact the energy performance of the property. The Green fitout guide also provides advice on fixtures and fittings, heating systems and materials that can be used to create a more sustainable fit-out or refurbishment for both offices and retail units.

Building management for third parties

Whilst this part of our business is not included in our baseline due to the limited control we have over third parties, we will seek to influence these businesses to be sustainable and expect them to work with us to become net zero in the medium to long term.









CASE STUDY

Retrofit, minimising embodied carbon: 7 Holbein Place with its retained façade

This recently approved application to refurbish and extend a 1980s office block will create one of London's most sustainable office developments through the retention of the existing structure, re-use of materials and introduction of extensive greening and innovative technologies.

An early whole life carbon assessment minimised upfront embodied carbon with suppliers challenged to trial new low embodied carbon approaches in the design and build phases.

LETI

Meets LETI Pioneer embodied carbon target

39%

embodied carbon saving compared to a new façade solution

The in use performance of the allelectric scheme will be reduced through efficient lighting and mechanical equipment, on-site renewable energy generation, blue roofs and SUDs.

69%

operational carbon saving vs a typical commercial refurbishment

59.9%

Forecast site-wide regulated carbon savings of up to 59.9%



2. Delivery

Appendices







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and the

Delivery risks

There are three key delivery risks associated with reducing the carbon impact of our buildings:

- 1. Getting access to buildings. Many of the works we may have to undertake can be disruptive for occupiers. We are therefore working on a strategic plan that will ensure minimal disruption for occupiers whilst also allowing us to deliver meaningful changes to building energy efficiency by 2030.
- 2. A significant challenge that we face with our historic portfolio is the tension that can exist between heritage and energy efficiency objectives: We are working closely with external partners such as Historic England and The National Trust to develop a way for landlords like ourselves to balance the protection of heritage properties with reducing their environmental impact.
- 3. Finally, reducing occupier emissions is reliant on influencing third parties. Whilst green leases support our intention to collaborate closely with occupiers and help us ensure that wherever possible we are working with our occupiers to reduce their emissions we are also exploring other ways to support occupiers to reduce their environmental impact, such as providing free energy audits and action plans.



Reducing demand

Our corporate emissions

Our corporate emissions make up 1% of GBI's total BAU emissions (2019–30) and includes emissions from energy consumption in our corporate offices, waste, staff commuting and business travel.

We have been working hard to address the key areas of these emissions which has resulted in the progress detailed here, and will continue to reduce them.





Corporate head office energy, water and waste

For our corporate head office, we already procure REGO certified green electricity to minimise emissions and have installed smart meters to measure our energy usage from our corporate activities.

We are also reviewing the energy efficiency of our offices. Over the last decade we have reduced electricity use by 34% in our corporate head office. We are now exploring how we can improve the energy efficiency of the building through improved glazing, reducing leakages and passive heating.

We have been working to reduce our water consumption. We have installed propelair lavatories in our head office, which use 80% less water than a standard lavatory delivering a saving of over 8 million litres of water a year, equivalent to 3000kg of embodied carbon. 2. Delivery

3. Enablers

Appendices

The office's recycling rate averages 93% with zero waste to landfill and no single-use material used in our catering operations. Other changes include consolidated deliveries by electric vehicle to reduce emissions and traffic around our building as well as Airlite paint used in all meeting rooms to improve air quality.

Staff carbon footprints

As a result of Covid-19 the location of our staff's carbon footprints have changed, and we want to support them in minimising them wherever they are based. We are exploring procuring green energy for staff as we do for occupiers alongside other initiatives to make it easier for them to reduce their emissions at home.







Increase renewable energy

Whilst it is important for GBI to reduce demand by minimising construction impacts and reducing operational energy at a UK level, there is a point at which supporting additional renewable generation will deliver greater carbon benefit per pound of investment than further efficiency improvements.

The cost of supporting genuinely additional renewable generation will be considered in this context and we will use the emerging best practice guidance from industry bodies such as UKGBC.

Targets:

40%

of suppliers by emissions to procure their energy from renewable sources by 2030

Maximise

renewable energy generation and ensure all developments powered from renewable sources, prioritising those highest in the renewables' hierarchy

75%

of occupiers by floorspace to use energy sourced from renewables by 2030



Tools & activities

2. Delivery

Onsite energy generation

GBI currently has 190 rooftop solar photovoltaics (PV) arrays. 6 properties also have ground or air source heat pumps. To increase onsite renewable energy, we are undertaking a review of established and emerging renewable energy and storage technologies applicable to both our London Estate and developments in London and the south east.

Our strategy to increase renewable supply is as follows:

- \rightarrow Onsite renewables in developments to be driven by EUI targets (see appendix for targets). The Sustainable Development Brief also requires a financial and cost of carbon viability calculation, and a viability review of onsite energy storage.
- \rightarrow Expansion of the automated energy data capture system to capture the output of all PV systems with metering.
- \rightarrow A review of the performance of existing onsite systems, and integrating the lessons learnt into future installations.
- → A GIS⁸ study of remaining renewable potential locations across the London estate (including using the GLA's Solar Opportunity Map) alongside a review of the potential for energy storage and energy sharing (e.g. street lighting and EV charging points). Intervention in public spaces on the estate will require close collaboration with Westminster City Council.

Renewable energy procurement

We plan to use the hierarchy proposed by the UKGBC for renewable energy procurement. GBI currently procures renewable electricity under a green tariff from a supplier with a 100% renewable generation mix. Our strategy to increase renewable supply is to:

- \rightarrow Fuel switch under the gas replacement programme replacing our largest 55 gas boilers by 2030 (more than 70% of total gas consumption).
- \rightarrow Offer occupiers a REGO certified green tariff from the same supplier as GBI.
- ightarrow Explore the possibility of corporate Power Purchase Agreements, ensuring they are from new renewable energy capacity meeting high standards of additionality.
- \rightarrow Explore possibility of supporting renewable energy projects within our own business.

8. Geographical Information Systems study that uses satellite imagery to assess roof areas that can accommodate renewable energy generation (e.g. solar panels)





Offset residual

Offsetting is the final step in reaching net zero having reduced emissions and increased renewable energy supply.

We are exploring what approach GBI needs to take to deliver a viable and transparent offset strategy for our residual emissions in 2030. We expect to finalise our offsetting approach in 2021 and intend to use guidance and best practice outlined by institutions such as Oxford University's recently published offset approach.

Where large developments designed prior to 2020, have submitted a planning application and haven't met the 35% reduction in Building Regulations Part L energy performance planning requirement, we have committed to contribute to the local council's carbon offset fund.

In addition, we are considering an internal carbon price using the UN Global Compact's Business Leadership on Carbon Pricing. The primary focus of a carbon price would be to encourage innovation and drive behavioural change within our business. We want to ensure teams are incentivised to minimise emissions across our value chain prior to carbon offsetting. However, we are also assessing the value of an internal price as we have already committed £90m to our retrofitting our existing buildings.

Our emerging strategy is to:

1

2

Offset emissions using high quality verified offsets,

and regularly revise offsetting strategy as we work with our peers to develop best practice for the industry and ensure net zero aligned offsetting.

Shift to carbon removal offsetting ('negative emissions').

This is due to substantial negative emissions required to meet the Paris Agreement targets, owing to the difficulty of fully decarbonising the global energy system. However, short term, it makes sense to also use carbon reduction offsets (e.g. energy efficiency) to prevent GHG emissions entering the atmosphere in the first place.

2 J

Ensure long-term carbon storage. Carbon removal projects will be ineffective if the carbon returns to the atmosphere before global GHG concentrations have been stabilised (e.g. through fire or land use change). The permanence of carbon storage will be an important consideration in our offsetting strategy.

2. Delivery









Enablers



2. Delivery

3. Enablers

Pathway timeline

Appendices



Think Zero

Governance & culture

Whilst we have clear targets and delivery plans, our Pathway requires business-wide transformation, improved data capture, appropriate governance structure and ongoing collaboration with our partners and peers. We have already begun embedding sustainability in our business but there is significant work still to do if we are to reach net zero by 2030.

To ensure that sustainability is at the heart of how we operate, we appointed an Executive Director of Sustainability and Innovation in 2020 to sit on the Executive Committee ensuring that sustainability remains at the heart of key decision making for the business.

Our Board also has a strong focus on environmental issues including our current Chairman who previously sat on the board of companies such as Ecover/Method household products. This will ensure that sustainability is embedded in Board decision-making and discussions.

Our Sustainability Steering Group, with senior representatives from every area of our organisation, oversees our sustainability activities and the delivery of this Pathway. This provides a sounding board for our environmental initiatives and ensures that key projects are quickly rolled out and embedded throughout our business.

The business is also supported by a dedicated sustainability team that acts as a centre of excellence and expertise. We have deliberately chosen not to create a large team to ensure that responsibility for making GBI a more sustainable business remains devolved to the business and that everyone takes responsibility.



Sustainability governance

Board

Chairman sits on other sustainable company boards. Strong support for sustainability from CEO

Executive Committee

Executive Director for Sustainability and Innovation

Senior Sustainability Steering Group

Representatives from all business area

Sustainability and Innovation Team

Centre of expertise and support for wider business

Encouraging sustainable behaviours

To drive internal performance, we have selected key performance indicators (KPIs) at a business level that are reported against on a quarterly basis and form a core part of our annual bonus. All staff are measured on the commercial, social and environmental performance of the business which forms 50% of the annual remuneration, alongside individual goals.

To ensure ownership and clear targets for the business, our Net Zero Carbon Pathway has been translated into Roadmaps for each business unit setting out what they need to achieve by 2021, 2025 and 2030, along with the key levers and tools available to support them. Each Roadmap has an Executive Director accountable for progress, and an owner for each activity linked to individual annual goals.









CASE STUDY

A tree planted for every new GBI employee

GBI marks the arrival of every new employee and employee baby by planting a tree. Trees and the soils they stand in are a valuable carbon store and remove atmospheric carbon as they grow. No matter what part of the business our staff work in they can contribute to our carbon and biodiversity goals.





Culture

Embedding sustainability within GBI is essential for delivering our Net Zero Carbon Pathway. Whilst the governance and KPIs of the organisation play an important role, transforming our business culture is essential in delivering long-term change in how we operate. To deliver this we have set four core areas of focus:

- ightarrow Developing a clear vision for the business. With four green goals and a series of clear targets for every area of the business. Our Net Zero Carbon Pathway forms a key part of this.
- ightarrow Embedding sustainability into our processes and systems. Sustainability forms a core pillar of our business strategy and is incorporated into our processes.
- ightarrow Encouraging and supporting a culture of innovation. We need to be bold and innovative in our approach, coming up with creative solutions to reduce our carbon impact.
- ightarrow Measuring and monitoring our environmental **impact.** To drive action, we need to show how the actions of our staff translate to progress in our Net Zero Carbon Pathway.







Sustainability academy

The achievement of our sustainability goals is the responsibility of every employee.

To aid the business' transformation and develop the skills and capabilities of our staff, a Sustainability Academy has been set up empowering and enabling employees to

- \rightarrow understand their role in achieving zero carbon, zero waste, valuing nature and in bringing our partners with us
- $ightarrow\,$ provide technical training and skills relevant to specific roles

A February 2020 activation event for all staff ignited action around our 2030 vision and our green goals. 98% of staff were able to attend these sessions in person.

The Academy now runs as a virtual learning programme tailored to specific functions and designed to help staff learn how to transform themselves, their teams and their projects.

Our latest staff survey revealed almost 80% of staff feel empowered to deliver GBI's green goals and over 90% of feel that we have a genuine commitment to sustainability.











1. Ba

Data and verification

Environmental data collection is typically challenging for many large landlords, and especially so given the historic nature of our estate. However, we need to collect this data if we are to measure, monitor and act on energy use and carbon emissions.

efficiency. As our access to data expands, We are working to improve our access to relevant data. As well as our programme to install smart meters across so will these opportunities. our estate we are also working closely with occupiers, Verification enabled by green leases, to share data and information We commit to reporting on our Net Zero Carbon Pathway so that we can work together to improve operational annually over the next 10 years to ensure we are energy use across our portfolio. We are also already transparent in our progress and are held to account collating voluntarily-disclosed environmental for delivering the Pathway. We will set a Science Based information from a number of our key suppliers Target in 2021 to verify that our carbon reductions align throughour Supply Chain Charter. with the Paris Agreement and to ensure GBI is contributing to limiting global temperatures below 1.5°C.

Implications for delivery strategy

We have established EUI (kWh/m²) targets for our We will also be reporting internally against our annual buildings that reflect the nature of our building stock business performance indicators to support performance based on relevant industry benchmarks (see appendix). management, as well creating data dashboards to This will allow us to track how the £90m programme to encourage engagement and drive action. Ultimately, retrofit our estate is contributing to our overall energy our delivery and progress against these targets will use intensity goal and will ensure minimising energy be linked to employee compensation. use is addressed before offsetting is implemented for any residual emissions. As our access to meter data improves, we will transition to targets based on actual energy performance.

We will also be able to use actual energy data to prioritise energy saving works on the worst performing assets. Our Facilities management team is already using the actual energy data to identify and implement opportunities for improving building energy

line

Appendices









Collaboration & partnerships

We cannot achieve our climate ambitions without collaboration and collective action. We are therefore working to develop partnerships with five key stakeholder groups so that we can work together to share knowledge, innovate and deliver real change within the built environment.

Industry collaboration

GBI is currently involved with a range of industry bodies focussed on delivering environmental chan in the built environment. We want to continue work closely with these convening groups to ensure we share learnings and approaches to tackle net zero together.

Within each of these memberships we are active participants with multiple individuals from across of business sitting on various sub-committees and working groups. We are also working closely with broader partners within the sector to showcase an share learnings from the projects we are undertaki An example of this is the work we have been doing green leases. Using BBP's existing green lease clauses we have amended them to align with our or business and have been rolling them out to our est We are currently collaborating with other landlords share learnings from this initial implementation and hope to improve our clauses and approach based on these discussions.

Baseline	2. Delivery	3. Enable	ers	Pathway t	imeline	Appendices	
ige king	Our o BB	P BETTER BUILDINGS PARTNERSHIP	ships GBC	2	WILD WEST END	Stander RESTAURANT ARG	
	Bette Pa	er Buildings rtnership	UK Green Bui Council	lding	Wild West End	Sustainable Restaurant Association	
our		A B E R S	°CLIMATE GR STEELZE	ROUP	The West End.	UNIVERSITY C CAMBRIDG INSTITUTE FOR SUSTAINABILITY LEADERS)F E
ing. g on own	N	IABERs	SteelZero Forum	D	West End Partnership	Cambridge Institute for Sustainable Leadership	
tate. s to d	SUPPLY C		Westminster Property Ass	sociation	LETI		
	Sur	oply Chain School	Westminst Property Associatio	ter / on	London Energy Transformation Initiative	/ 1	







CASE STUDY

Aligning Policy and Goals

23% of domestic building stock in the UK pre-dates 1919 and we have 500,000 listed buildings in this country as well as over 10,000 conservation areas. But Government policy on the issue of energy efficiency in heritage buildings is incoherent and incompatible with Britain's zero carbon objectives.

In 2020 GBI has brought together specialists in the fields of heritage, design and sustainability ightarrow from councils, universities and public bodies \rightarrow to see how we can help resolve this.

The problems have been easy to identify. Policy and regulations are inconsistent, and inconsistently applied. Practical guidance is disjointed and hard to access. And there is a culture of seeing physical interventions to historic fabric as harmful and unjustified.

GBI believes the Government should give much greater legal weight to changes to heritage buildings aimed at carbon reduction and recognise energy efficiency itself as a public benefit.

Planning reform presents an immediate opportunity to make these statutory and policy changes.

We will continue working with colleagues at every level of national and local government to achieve a consensus that will intelligently protect and adapt historic buildings within a timescale that genuinely reflects the climate emergency.





Local government

Achieving net zero carbon depends on partnership working, not least with local and city-wide government. Our relationship with Westminster City Council, for example, is critical to the delivery of our targets. Councils interpret policy and make decisions that strongly influence behaviour and practice in each Borough as well as representing residents in the debate about how we address the climate emergency at a local level.

Joint ventures (JVs) and green financing

We will partner with businesses that are willing to adhere to our goals and aspirations around sustainability and net zero. Therefore, we are developing JV guidelines to attract partners that share our ambitions.

We are also exploring green financing opportunities. Borrowers' sustainability credentials are becoming increasingly important in the competition for attractively priced debt. GBI's investment and development activity is closely aligned with the requirements of sustainable debt lenders. We are looking at how we can develop a Sustainable Finance Framework that would allow a consistent approach to raising sustainable debt finance within GBI.







Accelerating Innovation

External partnerships accelerate innovation and capacity in our industry:

- \rightarrow During 2021 we will be working with **UKGBC** to assess the impact of delivering net zero for a new large-scale housing led community of approximately 750 homes.
- \rightarrow GBI is the only client organisation in the **Timber Research & Development Association's** Advisory Committee promoting the use of timber structures in the UK.
- \rightarrow We are a founding partner of **SteelZero** the first global multi-stakeholder standard and certification process for the responsible sourcing, production, use and recycling of low embodied carbon steel.
- → Our **Design for Performance** Pioneer Project is implementing a new approach to office design and delivery providing the real-life evidence of how the performance gap between design intent and in use operations of commercial buildings can be achieved.
- → First and only private sector organisation to join **London Air Quality Network**, Europe's largest and most sophisticated urban air quality monitoring network, run by Imperial College London.
- \rightarrow We are a supporter of the Architect Journal's **RetroFirst campaign**, which promotes the prioritisation of retrofit over demolition and rebuild.





Working within Grosvenor Group

GBI is one operating company within Grosvenor Group. Each of the other operating companies cover different geographical areas with unique property portfolios and business models of their own.

Despite the differences between the operating companies there is a lot we can learn from each other to support our overall carbon reduction as a group. We will continue to share learnings and progress to ensure we can all accelerate our sustainability ambitions.

Grosvenor Europe is also publishing its Net Zero Carbon Pathway this year and we are working on sharing learnings and approaches to ensure both companies can deliver on their commitments.

Sustainability pioneers and collaborators

As a sector, real estate has a long way to go in delivering net zero. There is a lot we can learn from other sectors as well as innovative and forward-thinking organisations such as universities. We want to partner closely with these institutions to undertake research, test our ideas and better understand the actions we need to take to deliver net zero and become a climate positive organisation.





Pathway timeline

3. Enablers

Pathway timeline

Appendices









Pathway timeline

	SHORT TERM (BY END OF 2021)	MEDIUM TERM ACTIVITIES (BY END OF 2025)	LONG TERM (BY END OF 2030)
SUPPLY CHAIN	 → Continue rollout of Supply Chain Charter with key suppliers to develop action plans and share data on environmental impact. We will prioritise onboarding suppliers with largest emissions and repairs & maintenance suppliers → Begin discussions with key suppliers on setting Science Based Targets (SBTs) 	 → Work with direct suppliers who work on our London estate to ensure they are using electric vehicles to reduce pollution and carbon emissions. We will ensure EV infrastructure is in place to deliver this → Work with top 40% of suppliers by emissions to develop actions plans around environmental targets → Work with suppliers to develop a construction material register 	 → Ensure all suppliers signed up to Supply Chain Charter and are workin to reduce their environmental impact → Support top 40% of suppliers by emissions to set up their own SBTs
OUR BUILDINGS	 → Undertake energy audits (on a representative typology sample basis) of our buildings to refine energy use intensity targets for each asset → Continue retrofitting existing historic portfolio to improve energy efficiency whilst minimising the embodied carbon from the refurbishment process. Prioritise those buildings where occupants are at risk of fuel poverty, have the largest emissions and the lowest energy performance. → Continue delivery of gas replacement programme → Undertake NZC audit for Liverpool ONE to confirm requirements to bring to 2030 standards and build decarbonisation measures into asset plan → Introduce green leases to Liverpool ONE → Continue rollout of green leases and smart meters → Set-up sustainability forum for occupiers to collaborate more closely → Explore additional opportunities for energy reduction for occupiers e.g. free energy audits for occupiers 	 → Ongoing delivery of the £90m programme to retrofit our estate → Continue delivery of gas replacement programme → Develop reporting systems to allow occupiers and landlords to see energy use data and act on it together → Set embodied carbon targets for repairs & maintenance programme → Consider incorporating provision for Post Occupancy Evaluation within the lease → Strengthen green lease clauses to include energy intensity targets for new occupiers and additional conditions on how they operate their units. → Work with other landlords to share learnings from occupier engagement around sustainability 	→ Ensure that all properties in London estate portfolio reach our EUI targets set in 2021
DEVELOPMENT	 → Continue peer review at key project stages of inflight projects and unlock remaining opportunities to improve environmental performance → Continue pioneering DfP and share learnings with peers and wider industry → Finalise EUIs for development brief → Ensure all developments from 2020 onwards achieve targets set out in Sustainable Development Brief using our environmental scorecard to monitor process 	 → Market the sustainability credentials of developments and individual assets and promote sustainable living/working → Ongoing monitoring or developments to ensure they adhere to our brief → Continue to drive material and delivery innovation 	→ Net zero developments

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$





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Pathway timeline

	SHORT TERM (BY END OF 2021)	MEDIUM TERM ACTIVITIES (BY END OF 2025)	LONG TERM (BY END OF 2030)
INCREASE RENEWABLES	 → Maximise performance of existing renewable energy sources through expansion of the automated energy data capture system to capture the output of all PV systems with metering → A GIS study of remaining renewable potential locations across the London estate alongside a review of the potential for energy storage and energy sharing → Continue to offer occupiers a REGO certified green tariff from the same supplier as GBI → Explore the possibility of corporate Power Purchase Agreements, ensuring they are from new renewable energy capacity meeting high standards of additionality → Explore possibility of supporting renewable energy projects within our own business 	 → Explore additional renewable energy generation on major development sites → Explore installation of further renewable energy generation on London estate → Fuel switch under the gas replacement programme replacing our largest 55 gas boilers by 2030 	→ Switch 75% of occupiers to green energy tariffs either through green leases or side letters
OFFSET RESIDUAL	 → Calculate embodied carbon emissions at practical completion of all developments → Develop offset strategy 	\rightarrow Update offset strategy in line with emerging best practice as necessary	→ Offset residual emissions
ENABLERS	 → Set Science Based Target → Develop interim targets for 2025 → Develop data collection and reporting systems for all emissions and energy use intensity → Develop updated JV guidelines 	→ Annual disclosure of SBT progress	→ Annual disclosure of SBT progress

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$







Carbon modelling assumptions

Emissions source	2019 baseline (tCO ₂ e)	BAU scer
S1: Direct combustion	2,093	Where we
S2: Electricity	1,559	of our occ
S3: Energy use by occupiers	15,104	a method in develop
		In calcula (those spe as it incer energy su
S3: Embodied carbon of materials used in developments	4,845	Emissions Tool', devo data for a Emissions developm
S3: Third-party procured goods and services (embodied emissions from CAPEX in existing assets)	35,091	Calculate with the L
S3: Transmission distribution of energy and water to landlord areas	34	Calculate
S3: Business travel	160	Calculate
S3: Waste	94	Calculate
S3: Employee commuting	21	Calculate
S3: Refrigerants	66	Calculate

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\langle \leftarrow \rangle$

nario key assumptions

e have whole building energy consumption, but it is known that consumption is split between landlord and occupiers, we have estimated ective shares based on typical extent of common parts and shared services by space type. Where energy is procured by GBI on behalf cupiers and not sub-metered to occupiers, we have counted this within our Scope 1 and 2 emissions.

hole building energy consumption was not available, we have estimated the consumption of the building using industry benchmarks, and lology and set of analytical tools developed by the UK energy and carbon advisory company Verco. Their approach is based on their work ping the UK Government's evidence base for non-domestic building energy usage – the Building Energy Efficiency Survey (BEES).

ating carbon emissions from energy use in buildings we have used location-based carbon factors rather than market-based carbon factors becific to the suppliers from whom we procure the energy). We believe that this method is in keeping with the principle of the energy hierarchy ntivises energy reduction over offsetting in the form of procuring green tariff energy. There are questions around the additionality of such upplies.

s from development activity have been calculated using floor area-based carbon intensity factors from the 'Construction Carbon Assessment reloped by the Scottish Futures Trust, Construction Scotland Innovation Centre and Circular Ecology. This provides embodied carbon footprint a sample of more than 400 construction projects across a range of building types including offices, retail and residential.

is from refurbishment activity have been calculated using factors based on our own experience of competed projects and current nents.

ed using supplier spend converted into carbon using spend-based emission factors (CO₂e/\$) from the Quantis Scope 3 Evaluator. This is in line JKGBC's 'Guide to Scope 3 Reporting in Commercial Real Estate'.

ed using Defra factors.

ed using travel expense data converted to carbon using Defra conversion factors

ed using construction and operational waste tonnages converted to carbon using Defra conversion factors.

ed estimates of modes of transport to our offices and Defra conversion factors

ed using refrigerant asset data, applying an annual loss factor of 6% and converted to carbon using standard Defra factor for each refrigerant









Better Buildings Partnership Climate Change Commitment Carbon Boundaries

Business Area	Sub-area	GHG Protocol Reporting Category	Carbon Scope	BBP inclusion ¹	GBI inclusion
	Head office energy use	Company facilities	1&2	•	\checkmark
	Company vehicles	Company Vehicles	1	•	N/A
	Business travel (excluding commuting)	Business travel	3	•	\checkmark
Corporate ²	Purchased Goods and Services	Purchased goods & services	3	•	\checkmark
	Operational waste generated	Waste generated in operations	3	•	\checkmark
	Operational water use	Purchased goods & services	3	•	\checkmark
	Employee commuting	Employee commuting	3	•	\checkmark
	New development (including those where funding is being provided)	Purchased goods and services	3	\checkmark	\checkmark
	Refurbishments	Purchased goods and services	3	\checkmark	\checkmark
Development	Fit-out (landlord controlled)	Purchased goods and services	3	\checkmark	\checkmark
Development	Fit-out (occupier controlled)	Occupier Scope 3	3	✓	No – we are seeking to influer through our green fit out guid but out of scope for the pathy due to limited control
	End of life	End of life treatment of sold Products	3		

1 End of life carbon and Use of sold products have not been included within the scope of the BBP Climate Change Commitment due to lack of industry consensus on how it should be accounted for. As industry understanding improves and an agreed approach adopted, this position will be reviewed.

2 Whilst corporate emissions are not included within the scope as the focus of the BBP Climate Change Commitment we have voluntarily elected to include them in our target scope.

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$







Foreword and introduction

Better Buildings Partnership Climate Change Commitment Carbon Boundaries

Business Area	Sub-area	GHG Protocol Reporting Category	Carbon Scope	BBP inclusion ¹	GBI inclusion
	Landlord purchased energy (electricity & fuels)	Purchased electricity, heat and steam	1,2 & 3	\checkmark	\checkmark
	Occupier purchased energy (electricity & fuels)	Downstream leased assets	3	\checkmark	\checkmark
	Landlord refrigerants	Purchased goods and services	1	\checkmark	\checkmark
	Occupier refrigerants	Occupier Scope 3	3		
	Landlord purchased water	Purchased goods and services	3	\checkmark	\checkmark
Direct Real Estate Holdings (including JVs with management control)	Occupier purchased water	Occupier Scope 3	3		
	Landlord managed operational waste	Waste generated in operations	3	\checkmark	\checkmark
	Occupier managed operational waste	Occupier Scope 3	3		
	Occupier transport emissions	Occupier Scope 3	3		
	Occupier supply chain emissions	Occupier Scope 3	3		
	Landlord purchased capital goods & services (M&E & property management services)	Purchased goods and services	3	\checkmark	\checkmark
Investments (Indirect Real Estate Holdings, e.g., where					N/A

investments are managed by a third party such as JVs with no management control or investments in other real estate investment vehicles)

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$









Grosvenor Britain & Ireland ThinkZero: Our net zero carbon pathwa	ау	Foreword and introduction	Net zero carbon Pathway approach	1. Baseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\langle \leftarrow \rangle$
Better Buildings P	Partnership Strategy '	Гable							
Торіс	Target	Delivery strategy							Reporting metric
Operational carbon	Achieve net zero pathway compliant Energy Use Intensity targets by 2030 for all property types	 Improve energy Improve data acc installed in all dir Continue deliver Replace largest \$ Implement Desig 	 Improve energy efficiency of buildings prioritising the largest assets and those at greatest risk of fuel poverty Improve data accuracy and shift from tracking theoretical energy performance to actual operational performance using tools such as smart meters which will be installed in all directly managed areas by 2022 Continue delivery of occupier engagement programme to collaborate with occupiers to reduce their energy use Replace largest 55 gas boilers in existing buildings by 2030 (representing over 70% of annual gas consumption) Implement Design for Performance on all developments >1,000m² 						 EUI (kWhe/m²) Carbon intens (kgCO₂e/m²/y)
On-site generation	Maximise renewable energy generation and ensure all developments powered from renewable sources, prioritising those highest in the renewables' hierarchy	 Install electric he Drive onsite rene Expand the auto Review the perfo Undertake a GIS 	 Install electric heating within our buildings focusing on our largest properties in tandem with fabric improvements Drive onsite renewables in developments and as part of planned maintenance Expand the automated energy data capture system to monitor the output of all PV systems Review the performance of existing onsite systems, and integrate the lessons learnt into future installations Undertake a GIS study of remaining renewable potential locations across the London estate 						 MWh on-site capacity
Renewables procurement	 40% of suppliers by emissions to procure their energy from renewable sources by 2030 75% of occupiers by floorspace to use energy sourced from renewables by 2030 	 Continue to proc to procure renew Explore the poss Ensure all new de Tools: Green leases 	ure REGO certified renew vable energy through GB ibility of corporate Powe evelopments are fully ele , Sustainable Developm	wable energy for GBI e I. er Purchase Agreement ectric and procure energ ent Brief	nergy use and offer oc ts, ensuring they are fro gy from renewable sou	cupiers a green tariff from th om new renewable energy ca irces	ne same supplier. All new a	tenants will be required	 Location and market-based emissions (tCO₂e/year) Total investme (£ and MWh)









Grosvenor Britain & Ireland ThinkZero: Our net zero carbon pathwa	ау	Foreword and introduction	Net zero carbon Pathway approach	1. Baseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	
Better Buildings F	Partnership Strategy '	Table							
Embodied carbon associated with capital goods, services and capital works	40% of suppliers by emissions to set a Science Based Target by 2030 All developments must be low embodied carbon (less than 500kgCO ₂ e/m ² from 2025)	 Conduct whole line Continue investion Continue investion Ensure all direct Support construin Engaging with or of their fit-out us Tools: Sustainable I	 Conduct whole life carbon assessment for all new developments including evaluation of carbon impact from retention of existing building structure vs. impact of full redevelopment Continue investigating and trialling innovative, low carbon construction materials and methods Ensure all direct supply chain vehicles serving our London estate are electric by 2025 Support construction and repairs/maintenance suppliers to report their emissions and set a plan to reduce them Engaging with occupiers to support measurement of carbon footprint of their fitout. Work with them to highlight opportunities to reduce embodied carbon of their fit-out using the Green fitout guide. 						 Whole life car assessment Carbon intens (kgCO₂e/m² G
Offsetting & innovation	By 2021 implement a transparent offsetting strategy	 Reduce emission and ensure net z Evaluate benefit Tools: A recognised 	ns, using high quality off ero aligned offsetting. E of implementing interna framework for offsett	fsets, and regularly re Ensure offset measur al carbon price to sup ting	evise offsetting strategy as res demonstrate additiona oport decision making	s we work with our peers t lity	o develop best practice for	the industry	 Total emission offset (tCO₂e) Quantity and roof offsetting up
Third-party verification, industry standards and certification	Publish SBT in 2021 Annual reporting against pathway to ensure ongoing transparency	 Continue to cond Continue to seek Establish annual Tools: Science Base	luct third party assuran independent certificat reporting on progress a ed Target Initiative, Des	ice of environmental i tion where relevant against targets sign for Performance	metrics within Grosvenor a e, BREEAM, UKGBC EUI f	annual report rameworks, Display Ener	gy Certificates		 Annual report







Energy Use Intensity table

All EUI targets are correct as of published date of pathway. However, we will continue to review and update in line with industry best practice.

The energy use intensity values represent the net import of energy (i.e. net of on-site renewables) and assume all electric buildings. For buildings where other fuel types are used, the weighting factors in BBP's Real Estate Environmental Benchmark for be applied to convert to kWh electricity equivalent (kWhe) - currently 0.4 for gas (i.e. gas consumption is multiplied by 0.4).

			Developments		
Sector	Scope	Metric	2020-2025	2025-2030	Source
Offices >1,000m ²	Base building energy	NABERS UK star rating	4.5	5	
Offices	Base building energy	kWhe/m² (GIA)	70	55	LIKCDC Net zere eerben, energy nerfermenee tergete fer efficee
Offices >1,000m ²	Whole building energy	DEC	D90	C65	UKGBC Net zero carbon: energy performance targets for offices
Offices	Whole building energy	kWhe/m² (GIA)	130	90	
Other non-residential >1,000 m ²	Whole building energy	DEC	D90	C650	GBI bespoke target (matching UKGBC office trajectory)
Residential	Whole building energy	kWh/m² (GIA)	81	81	CRREM 1.5°C degrees

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\langle \leftarrow \rangle$





Energy Use Intensity table

			Our Existing Buildings			
Sector	Scope	Metric	2020-2025	2025-2030	Source	
Offices >1,000m ²	Base building energy	NABERS UK star rating	4.5	5	UKGBC	
Retail >250m ² and other non-residential >1000m ²	Whole building energy	DEC	D90	C65	GBI bespoke target (matching UKGBC office trajectory)	
Retail<250m ² and other non-residential <1000m ²						
– Cafes	Whole building energy	kWhe/m² (GIA)	389	280		
– Clubs	Whole building energy	kWhe/m² (GIA)	140	100		
 Fitness club/Gym 	Whole building energy	kWhe/m² (GIA)	165	119	Derived from DEIC, DEEC benchmark and LIKDCC trainstant	
 Hairdressers & beauty salons 	Whole building energy	kWhe/m² (GIA)	289	208	Derived from BEIS, BEES benchmark and UKBGC trajectory	
- Hotels	Whole building energy	kWhe/m² (GIA)	213	153		
 Large non-food shops 	Whole building energy	kWhe/m² (GIA)	132	95		
– Offices	Whole building energy	kWhe/m² (GIA)	130	90	UKGBC	
– Pubs	Whole building energy	kWhe/m² (GIA)	242	174		
 Restaurants & takeaways 	Whole building energy	kWhe/m² (GIA)	771	554		
– Showrooms	Whole building energy	kWhe/m² (GIA)	105	75	Derived from BEIS, BEES benchmark and UKBGC trajectory	
 Small non-food shops 	Whole building energy	kWhe/m² (GIA)	82	59		
Residential	Whole building energy	kWhe/m² (GIA)	101	91		

aseline	2. Delivery	3. Enablers	Pathway timeline	Appendices	$\left(\leftarrow\right)$







Glossary

Net Zero Carbon (NZC): Definitions for Net Zero Carbon can be generic or relate to specific industries or activities. The World Green Building Council definition of a net zero carbon building is one that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources.

Energy Use Intensity (EUI): A building's energy use per unit size, typically expressed as energy consumption in kWh per square metre per year. The measurement of floor area can be expressed in terms of Net Lettable Area (NLA) or Gross Internal Area (GIA). EUIs are commonly expressed in terms of **Electricity** equivalent (kWhe).

Operational carbon: The term used to describe the emissions of carbon dioxide and other greenhouse gases during the in-use operation of a building, most materially from energy use and refrigerants.

Embodied carbon: Carbon emissions associated with energy consumption and chemical processes during the extraction, manufacture, transportation, assembly, replacement and deconstruction of construction materials or products.

Offsets: An action or activity to reduce emissions of CO₂ or other GHG gases made in order to compensate for emissions made elsewhere. A company can buy carbon credits equivalent to their carbon impact.

Better Buildings Partnership (BBP): The BBP is a collaboration Electricity equivalent (kWhe): kWh of electricity equivalent. of the UK's leading commercial property owners who are Electricity 'equivalence' is calculated as means to convert working together to improve the sustainability of existing different energy sources (e.g. electricity, fossil fuels, district commercial building stock. heating and potentially hydrogen) into a single metric for use within energy ratings and benchmarking. This is to reflect the **Carbon dioxide equivalent (CO₂e):** CO₂e is a unit for measuring approximate thermodynamic differences between electricity, carbon footprints. It allows for the expression of the impact of fuels and heat. We have referred to the BBP factors of electricity different greenhouse gases in terms of the amount of CO₂ that = 1, fuels = 0.4 and thermal energy = 0.5 in setting our EUI would lead to an equivalent amount of global warming impact. targets, however an update to these factors is expected in 2021 As a result, the total impact of all these gases can be expressed to reflect the significant increase in renewable energy on the UK as a single number in a same unit. grid in recent years.

DEC: Display Energy Certificates are records of the actual energy usage of public buildings.

Design for Performance (DfP): Developed by the Building Better partnership, this is an industry backed project established to tackle the performance gap and provide an approach, based on measurable performance outcomes, to ensure new developments deliver on their design intent.

Greenhouse Gas (GHG) Protocol Corporate Accounting Standard: Provides standards and guidance for companies and other types of organisations to prepare a GHG inventory. The standard and guidance were designed to help companies prepare a GHG inventory that represents a true and fair account of their emissions, through the use of standardised approaches and principles. This provides a company with the information that can be used to build a strategy to reduce GHG emissions.

ase	line
ase	me

2. Delivery

3. Enablers

Appendices



Net Zero pathway compliant Energy Use Intensity (EUI): EUIs targets that are aligned with the levels of building energy efficiency needed to achieve the Paris Agreement. In the absence of regulation, several voluntary initiatives have proposed such EUIs targets, including the UKGBC, the EU CRREM project and LETI. A consensus view on all property types has yet to be established however and net zero pathway compliant EUIs are likely to be updated over time.

Renewable Energy Guarantees of Origin (REGO): The REGO scheme administered by Ofgem provides transparency to consumers about the proportion of electricity that supplier's source/provide from renewable generation. An equivalent term used in the EU are Guarantees of Origin, or EU GoOs.

The Science Based Targets Initiative (SBTi): is a collaboration between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the Worldwide Fund for Nature (WWF). The SBTi defines and promotes best practice in sciencebased target setting and independently assesses and approves companies' targets.

Scope 1 emissions: Direct emissions from the organisation's building, vehicles, plant, including the combustion of fuel etc.

Scope 2 emissions: Indirect emissions from electricity consumption or other energy generated by third parties

Scope 3 emissions: All other indirect emissions, e.g. business travel, deliveries, commuting, waste from a company supply chain.

NABERS: The National Australian Built Environment Rating System, is an initiative by the government of Australia to measure and compare the environmental performance of Australian buildings and tenancies.



