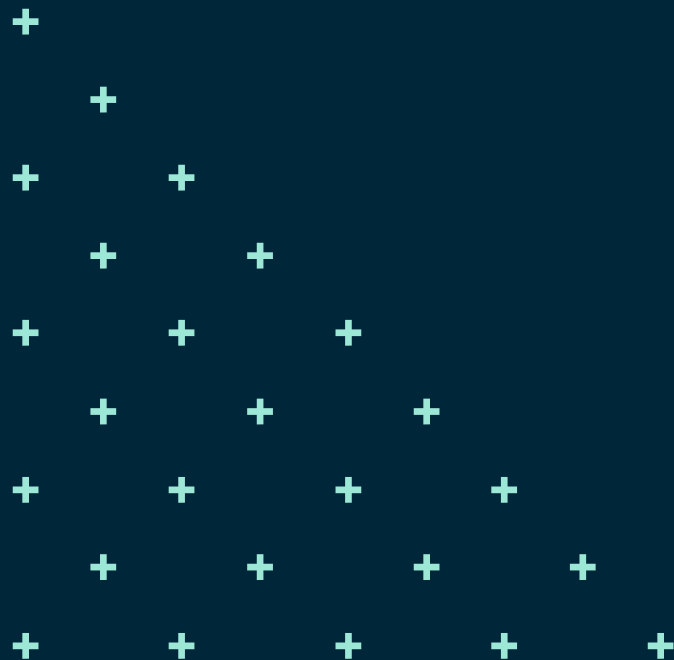


# Decarbonising our business to become net zero by 2040

Our Roadmap to Net Zero v2.0



Our Sustainability Statement of Intent is based on four key pillars:

Integrating climate resilience across our business

Decarbonising our business to become net zero by 2040

Putting health and wellbeing front and centre

Creating a lasting, positive social impact in our communities

## The time is now

In May 2023 we repositioned our approach to climate resilience and released our updated Statement of Intent, **The Time is Now v2.0**. We are now evolving our approach to decarbonising our business in this updated Roadmap to Net Zero v2.0.

With increasing evidence of the global impact of climate change and the carbon reductions necessary to decarbonise the built environment, we are changing the scope, ambition and timescales of our Roadmap.

Launched in November 2020, Our Roadmap to Net Zero, set out our plans to decarbonise our business. Since that time, we have made substantial progress and:

- **Achieved** our first science-based target in March 2023.
- **Reduced** our energy intensity by 36% from our 2016 baseline.
- **Reduced** our embodied carbon by 44% from our 2020 baseline.

This progress puts us approximately 4–5 years ahead of our expected trajectory. See our performance here [www.gpe.co.uk/sustainability](http://www.gpe.co.uk/sustainability)

Knowledge on the measurement of carbon emissions has substantially advanced since 2020, particularly in connection with Scope 3 emissions. The acceptability and transparency of net zero carbon concepts and approaches to offsetting, at corporate and asset level, have also moved at pace.

With a Board mandate to challenge market norms and drive sustainability performance, this Roadmap responds to evolving standards, whilst taking our commitments to the next level both in the short-term, with more ambitious 2030 targets and in the long-term reducing our emissions by 90% by 2040.

## Decarbonise our business to reach net zero by 2040

Our updated Roadmap aligns our approach more closely with the Science Based Targets initiative (SBTi) Corporate Net-Zero Standard and the Carbon Risk Real Estate Monitor (CRREM) trajectories for commercial buildings and includes:

- **More challenging** absolute emissions targets for our Scope 1, 2 and 3 emissions.
- **Increased ambition** for our embodied carbon and energy intensity reduction targets to 2030 and an increased Internal Carbon Price moving from £95 to £150 per tonne.
- **New targets** on sustainability-focused customer engagement to support faster progress in our customer-orientated business, with additional targets for wider, deeper engagement across our supply chain.
- **A new commitment** for our energy consumption to be fossil fuel free by 2030. We have also removed our target to generate 600MWh of renewable energy across our portfolio. The level of retrofit and structural intervention needed to achieve this is often impractical with minimal impact on emissions reductions due to limitations on the availability of roof space.
- **A complete review** of our energy procurement processes.
- **Extended commitments to 2040** by which time we will have reduced Scope 1, 2 and 3 emissions by 90% before treating our residual emissions to reach net zero.

We will continue to keep our approach under review. For more on alignment with the BBP Climate Commitment see Appendix 1.

# Our changing carbon footprint

**Our carbon footprint has changed since we set out our first Roadmap to Net Zero. Progress on reducing our Scope 1 and 2 emissions is evident however emissions from our operations are rising.**

In this updated Roadmap, we have used our carbon footprint for the year ended 31 March 2024 to illustrate the extent and type of emissions for our business. Our total emissions footprint for the year was 31,106 tCO<sub>2</sub>e, 26.7% lower than the 42,442 tCO<sub>2</sub>e set out in v1.0 of our Roadmap.

In line with most property companies and developers, the majority of our carbon footprint comes from our indirect greenhouse gas emissions (Scope 3) and lies within our value chain.

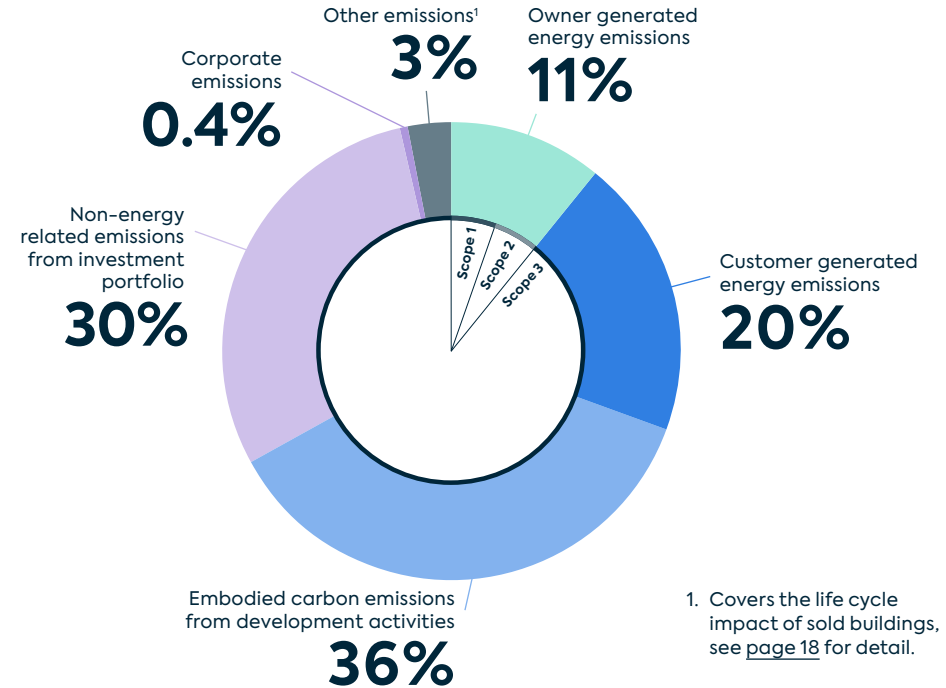
Since we first launched our Roadmap in 2020, we have made good progress reducing our Scope 1 and 2 emissions. These emissions now equate to 10.7% of our carbon footprint.

The quality of our Scope 3 data, both in connection to the spaces our customers occupy and the embodied carbon generated from our developments, has improved significantly since we first launched our Roadmap. We now have greater clarity on the huge challenge ahead to reduce these emissions by 90% to reach net zero by 2040.

The non-energy related emissions from our buildings have become a significantly larger element of our footprint as the business has become more operational. There is also a much higher level of estimation in the calculation of emissions from the services we buy.

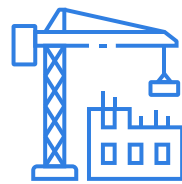
In this Roadmap update we have therefore included new targets to engage with our supply chain partners to support improvements in the data quality of this aspect of our carbon footprint.

## Our Carbon Footprint as at March 2024



### Acquire

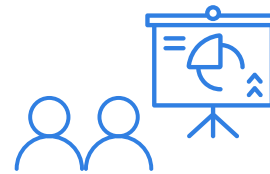
- Assess the impact of building acquisitions on our plans to decarbonise our business.
- Utilise our Internal Carbon Price to support improved understanding of potential asset plans on embodied carbon and energy efficiency targets prior to acquisition.



### Reposition

- Develop net zero carbon HQ and fully managed buildings.
- Ensure embodied carbon and energy intensity targets are met in our refurbishments.
- Engage and collaborate with our supply chain partners on design, procurement and construction to reduce Scope 3 emissions.

↑ Deliver climate resilience throughout the pipeline.



### Manage

- Support our customers to improve their energy efficiency, drive sustainability performance and reduce Scope 3 emissions.
- Provide transparent, real time consumption data for our customers.
- Use technology to support more proactive management of energy consumption.



### Recycle

- Drive efficiency in the assets we reposition, manage and in turn recycle.
- Create a legacy of high quality, sustainable, climate resilient buildings and communities.
- Ensure opportunities for building circularity are embedded in disposal and dismantling process.

# Putting our Roadmap into practice

## Seeding the Decarbonisation Fund

### 50 Finsbury Square, EC2

Our 50 Finsbury Square development, completed in early 2023 was externally verified as net zero in construction against the UKGBC Net Zero Framework. The project supported learning on embodied carbon within GPE and across our supply chain partners who were integral to the delivery of the development.

The project helped shape our Carbon Measurement Framework, highlighting the need for consistent calculation methodologies as well as independent oversight. The building was the largest contributor to our Decarbonisation Fund to date, although, the contribution made at practical completion was significantly lower than the £600K envisaged at underwrite, demonstrating the emissions reductions made by the team.

Through collaboration between our design team and contractor partners we delivered a low carbon refurbishment utilising the principles of the circular economy. Emissions of over 4.5K tCO<sub>2</sub>e resulted in a payment of £360K into our Fund, which has been invested in our portfolio wide metering improvement project.



Since the launch of our first Roadmap to Net Zero we have made good progress putting our plans into practice, most notably in connection with embodied carbon and energy intensity reductions.

## Defining net zero

When we first set out our Roadmap, net zero was defined as the point when all emissions released into the atmosphere were equal to the amount removed. Whilst this still stands, legislative frameworks are converging on a science-based approach to achieving net zero carbon. Our verified science-based target to reduce our Scope 1 and 2 emissions by 50% from our 2018 baseline was achieved in 2023. This Roadmap now aligns our approach with the current SBTi Corporate Net-Zero Standard.

## Reducing embodied carbon

Significant progress on embodied carbon reductions have been made. The consistency of our approach and independent monitoring across projects has driven that success. Chasing marginal gains is integral to our approach along with early collaboration with our supply chain partners.

Design stage embodied carbon calculations indicate that we are five years ahead of our

expected reduction trajectory. However, materials availability and changing carbon accounting methodologies will impact performance at practical completion, we therefore remain completely focused on delivering those aspirations in reality.

Our Internal Carbon Price (ICP) set in 2020 at £95 per tonne has driven behavioural change, putting the cost of carbon alongside commercial and programme. The ICP, also levied on our Scope 1 and 2 emission, seeds our Decarbonisation Fund, which supports emissions reductions across our portfolio. Our ICP has increased to £150 per tonne.

## Improving energy efficiency

Supported by our Decarbonisation Fund, we have made good progress reducing our Scope 1 and 2 emissions. Better data obtained through improved metering and investment in energy efficiency projects has supported a reduction of 36% in energy intensity from our 2016 baseline.

## Decarbonising energy supplies

Although 100% of our procured energy is REGO and RGGO backed (which from a market-based approach means emissions from procured energy are net zero), there are transparency and availability issues with

this aspect of the energy market. We have also installed renewable energy sources on-site, but due to space availability issues we are removing our target to generate 600MWh of on-site renewable energy from our updated Roadmap to focus on the more impactful removal of gas from our portfolio.

## Managing residual emissions

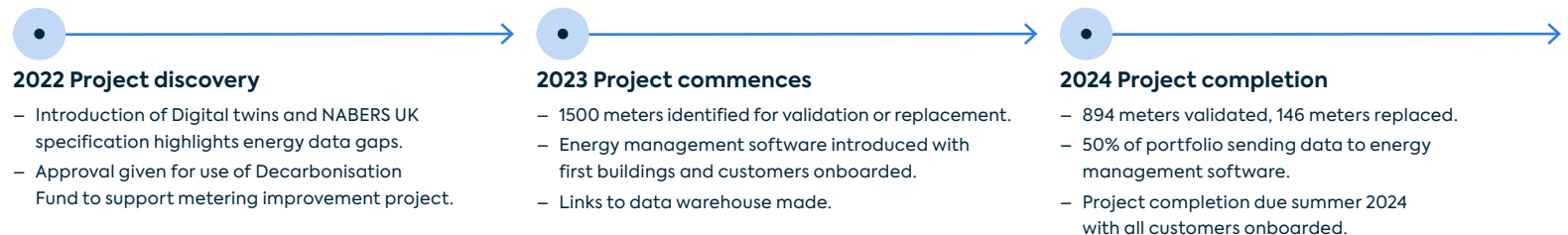
Since we set out our Roadmap we have limited offsetting to asset-level net zero frameworks (see 50 Finsbury Square case study). This is likely to continue, however, there are numerous concerns regarding voluntary carbon offset schemes, this revised Roadmap therefore sets out our plans to reduce our Scope 1, 2 and 3 emissions by 90% by 2040 before offsetting to net zero.

## Challenging ourselves and industry





Our innovative circular economy projects at 50 Finsbury Square, 2 Aldermanbury Square and French Railway's House & 50 Jermyn Street, are supporting embodied carbon reduction, whilst rapid digitisation is driving improvements in portfolio energy intensity.

This updated Roadmap sets out how we plan to build on this approach to meet our very challenging carbon emissions reductions targets by 2040.

## Decarbonisation Fund in action – portfolio metering improvement project



# Roadmap to Net Zero by 2040

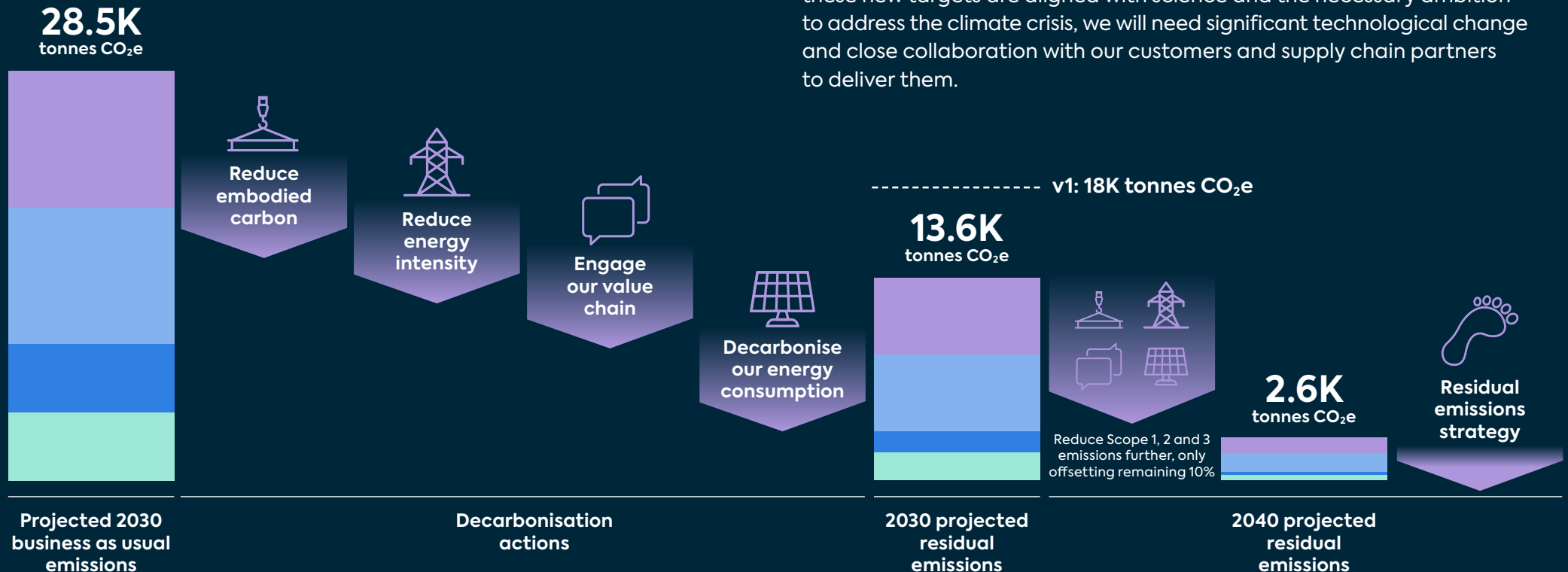
-  **Operational carbon** – Purchased goods and services, waste and water
-  **Embodied carbon** – Developments, refurbishments and fit-outs
-  **Operational carbon** – Customer energy usage
-  **Operational carbon** – Owner energy usage

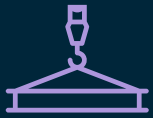
**This graph shows that, in a business as usual situation where we do no more than we have already done, our carbon emissions are projected to be 28,500 tonnes in 2030, 23% less than in v1.0, due to progress made.**

Our original Roadmap set out our plans to reduce our projected emissions by 50% by 2030 and then offset to a net zero position. In v2.0 of our Roadmap we have updated our targets to 2030 – increasing ambition, incorporating value chain engagement targets and committing to the decarbonisation of our energy supplies by transitioning away from fossil fuels.

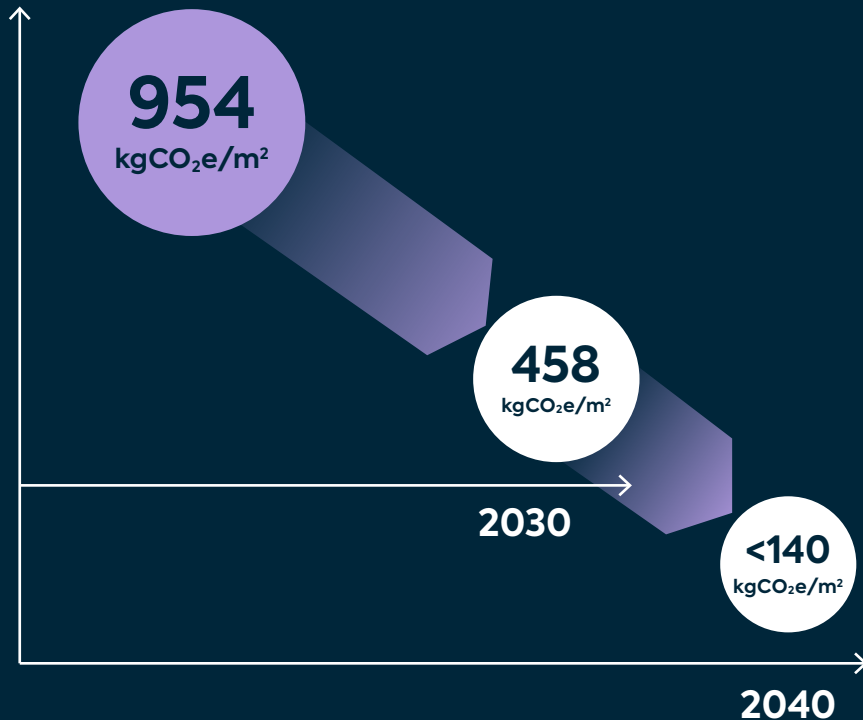
Recognising governance issues with offsetting schemes, our new longer term targets to 2040 require a 90% reduction in our Scope 1, 2 and 3 emissions before offsetting to net zero. This is a huge challenge and whilst these new targets are aligned with science and the necessary ambition to address the climate crisis, we will need significant technological change and close collaboration with our customers and supply chain partners to deliver them.

----- v1: 37K tonnes CO<sub>2</sub>e





# Reduce embodied carbon



## What is embodied carbon?

Embodied carbon is emitted through the life cycle stages of the development and operation of a building. These include building material extraction, processing and transportation, construction, maintenance, and final deconstruction of a building.

## How do we measure it?

Our project teams measure the expected upfront, and whole life, embodied carbon of our developments by following the RICS Whole Life Carbon Assessment professional standard. This is independently reviewed through design, construction and most importantly at project completion.

## What is our goal?

Reduce the embodied carbon (kgCO<sub>2</sub>e/m<sup>2</sup> Gross Internal Area) of our new developments and major refurbishments 52% by 2030, from 954kgCO<sub>2</sub>e/m<sup>2</sup>, our 2020 baseline, to 458kgCO<sub>2</sub>e/m<sup>2</sup>. Reduce the embodied carbon of our minor refurbishments in line with our previous target of 204kgCO<sub>2</sub>e by 2030.

By 2040 it is envisaged this will need to be less than 140kgCO<sub>2</sub>e/m<sup>2</sup>, which is a huge challenge and will require significant technological advances and the industry fully embracing the circular economy.



# Reduce embodied carbon

## Deep dive

**52%**

embodied carbon intensity reduction by 2030

**458**

**kgCO<sub>2</sub>e/m<sup>2</sup>**  
embodied carbon targeted for new build and deep refurbishment by 2030

**<140**

**kgCO<sub>2</sub>e/m<sup>2</sup>**  
estimated embodied carbon target for 2040

**204**

**kgCO<sub>2</sub>e/m<sup>2</sup>**  
embodied carbon targeted for minor refurbishments by 2030

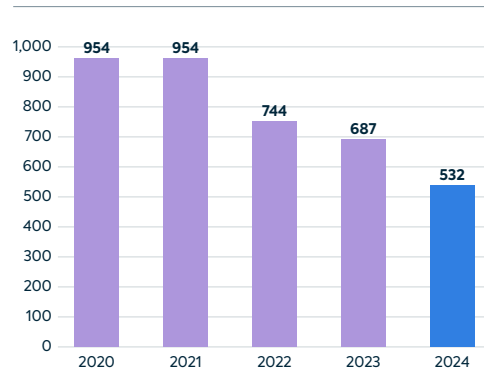
### Why it's important

- Embodied carbon, the total greenhouse gas emissions emitted to construct and maintain a building, remains a significant source of our Scope 3 carbon emissions.
- Whilst a significant amount of embodied carbon is emitted during the construction phase of a property, it is also emitted throughout the building life cycle including during refurbishment and fit-out.
- As the development pipeline evolves to include more fully fitted spaces, it becomes even more important to expand the scope and granularity of our embodied carbon modelling.

### What we've done

- Introduced a more challenging reduction target, aiming to reduce embodied carbon 52% by 2030 and included this within our ESG-linked debt facilities.
- Updated our Brief for Creating Sustainable Spaces, providing new guidance on building life cycle embodied carbon.
- Reduced embodied carbon at design stage by 44% across the normalised development portfolio.
- Worked with our supply chain to gain a more granular understanding of our embodied carbon emissions, identifying Cat B (fit-out emissions) where applicable.
- Developed a carbon reporting framework to support consistent disclosure and introduced independent embodied carbon reviews at key stages of the design process.
- Worked with our design teams to identify alternative materials and innovations to minimise materials use.
- Prioritised the implementation of circular economy principles by reusing and retaining materials, particularly structures and façades.
- Improved the communication of lessons learned through our Development Sustainability Sub-Committee and Quarterly Supply Chain Roundtables.
- Provided responses to consultations on the Net Zero Carbon Building Standard, RICS Whole Life Carbon Professional Statement, as well as proposed Westminster City Council embodied carbon limits.

Embodied Carbon Intensity (kgCO<sub>2</sub>e/m<sup>2</sup>)\*



\* Our embodied carbon reductions are currently against projects 'In Design' and are likely to change as development progresses and we are able to update this performance data with 'As Built' numbers.

### Near-term ambition to 2030

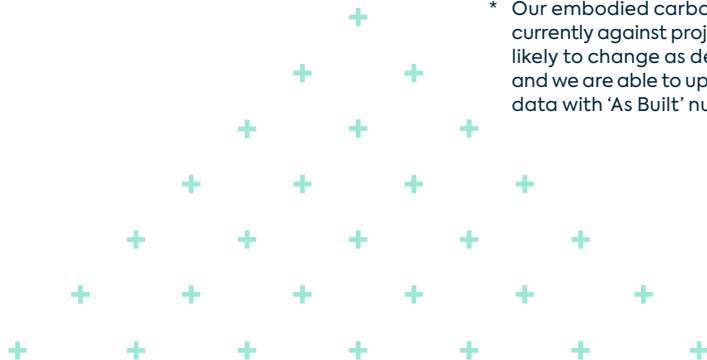
By 2030 we will need to have reduced our embodied carbon by 52%. To support our progress we will:

- Use less materials wherever practicable and support prefabrication as an approach to reducing embodied carbon.
- Continue to embrace circular economy principles, increasing the percentage of materials reused and repurposed.
- Continue to identify and pilot alternative materials such as bio-based materials and concrete substitutes.
- Improve monitoring and management of the embodied carbon of maintenance and refurbishment activities.
- Improve embodied carbon measurement, monitoring and management of our fit-out.
- Work with the industry to support upskilling of the supply chain projects to support steady reductions in carbon impact of the fit-out process.

### Long-term ambition to 2040

By 2040 it is envisaged that the embodied carbon of our buildings will need to be less than 140kgCO<sub>2</sub>e/m<sup>2</sup>; this will require extensive industry upskilling, technological advances and close collaboration. We aim to:

- Radically increase our adoption of circular economy principles whilst drastically reducing the use of virgin materials.
- Significantly upscale the use of technology to improve the efficiency of design, construction and fit-out processes.
- Invest in research projects to support further innovation in our supply chain.





# Reduce energy intensity

## What is energy intensity?

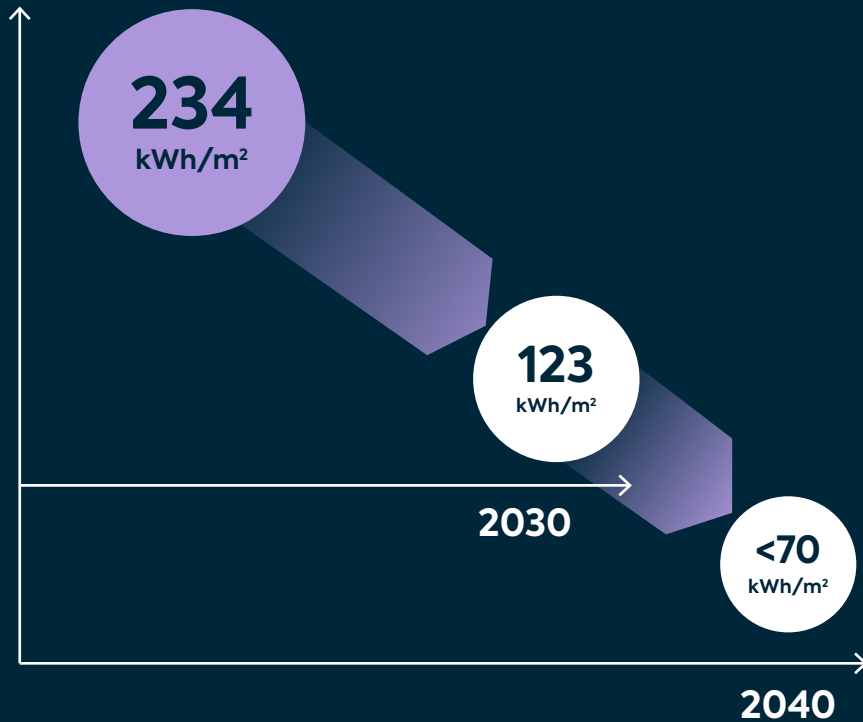
Energy Intensity is defined as the quantity of energy consumed per m<sup>2</sup> of each building.

## How do we measure it?

We average our energy consumption across our portfolio with figures adjusted to normalise for properties entering development, disposals, and acquisitions. This includes emissions associated with space occupied by our customers.

## What is our goal?

Reduce the energy intensity (kWh/m<sup>2</sup> Net Lettable Area) of our buildings by 47% by 2030 (from our 2016 baseline) by addressing operational energy use.







# Reduce energy intensity

## Deep dive

**47%**  
energy intensity reduction by 2030

**100%**  
of our properties MEES compliant

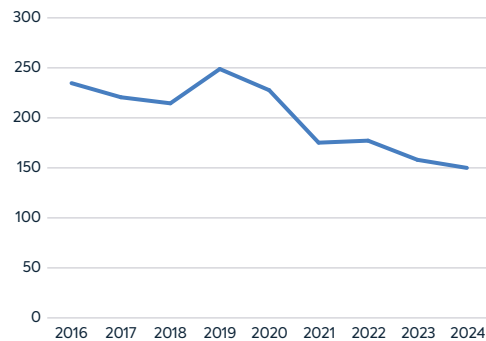
**90 kWh/m<sup>2</sup>**  
target energy intensity for new developments by 2030

**70 kWh/m<sup>2</sup>**  
target energy use intensity by 2040

### Why it's important

- When we include the energy consumption from areas let to our customers our emissions from energy consumption accounts for 30% of our total carbon footprint.
- Customer expectations, legislation such as the Minimum Energy Efficiency Standards and the widespread adoption of CRREM pathways by our investors, makes action on the energy intensity of our existing investment portfolio of critical importance.
- Demands on the national electricity grid increase as fossil fuel free technology is adopted, therefore reducing our energy intensity must be central to our net zero carbon strategy.

Energy Use Intensity (kWh/m<sup>2</sup>)



### What we've done

- Set a target to reduce the operational energy intensity of our investment portfolio by 47% by 2030 as compared to our 2016 baseline. This will equate to a reduction from 234kWh per m<sup>2</sup> to 123kWh per m<sup>2</sup>, across the investment portfolio.
- Set a 90kWh target energy use intensity for all new build developments and major refurbishments.
- Created a working group focused on energy efficiency and innovation in our investment portfolio.
- Deployed our Decarbonisation Fund to support improved energy efficiency at our highest energy consuming buildings.
- Undertaken a portfolio wide metering improvement project and digitised our energy consumption verification and management capabilities to support further optimisation of building operations and better information for our customers.
- Completed a full roll out of an LED lighting programme.
- Undertaken surveys to understand how to upgrade our buildings to EPC A and B and incorporated findings into asset plans.
- Reached full MEES compliance with no F or G rated buildings within the portfolio.
- Mandated NABERS UK – Design for Performance across our new developments and major refurbishments to ensure that our buildings perform as efficiently as designed, once in use.

### Near-term ambition to 2030

By 2030 our average energy intensity will be 123kWh/m<sup>2</sup>. To deliver this we will:

- Continue our programme of light-touch, moderate or deep energy efficiency retrofit through refurbishment.
- Continue to digitise our processes and further implement technology such as AI and machine learning to support improved building optimisation solutions across our portfolio.
- Further integrate energy efficiencies into planned maintenance and refurbishment strategies.
- Roll out green leases where applicable to support improved conversations on energy with our customers at the earliest stages of our relationship.
- Implement initiatives to support increased uptake of battery technology to improve energy storage on site.

### Long-term ambition to 2040

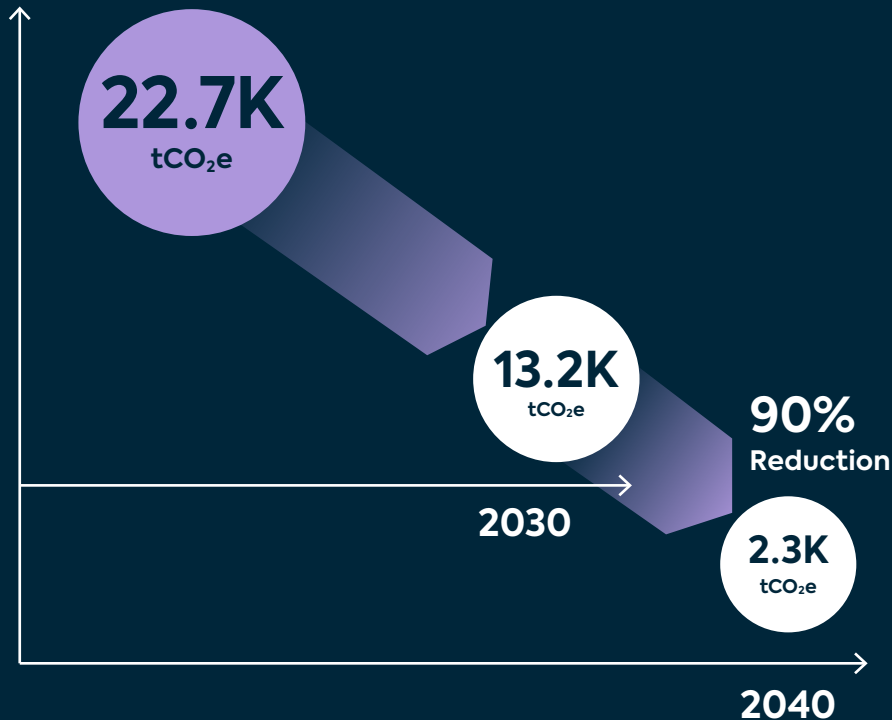
By 2040 the energy use intensity of our buildings will need to be less than 70kwh/m<sup>2</sup> this is a huge challenge and will need significant industry upskilling, technological advances and close collaboration with our customers and supply chain. We aim to:

- Reach a steady energy intensity of 90kWh/m<sup>2</sup> by 2035 and less than 70kWh/m<sup>2</sup> by 2040.
- Work with our customers and supply chain, ensuring that our buildings that have been redeveloped or refurbished perform at optimum efficiency in use.
- Invest in research projects which support continued innovation in the energy efficiency of buildings.





# Engage with our value chain



## Who makes up our value chain?

Our customers and supply chain partners make up our value chain. The majority of emissions from our value chain come from our purchased goods and services and customer energy consumption in our spaces.


## How do we measure engagement with our value chain?

We measure engagement with our customers and suppliers by recording tangible and impactful instances of sustainability-related collaboration.

As we embed our Customer First approach, and deliver more fully managed properties, the nature of our carbon footprint is changing, with the proportion of our carbon emissions attributable to the purchase of goods and services increasing. More granular data on this aspect of our footprint is a key aspect of measuring the impact of our engagement with our customers and supply chain partners.

## What is our goal?

By 2027 we will have engaged with 80% of our customers by energy consumption and 80% of our suppliers by spend. We will continue to keep this under review as our customer base and supply chain partners evolve over time.



# Engage with our value chain

## Deep dive

**6,090**  
tCO<sub>2</sub>e

emissions from customer electricity consumption in FY24

**7,674**  
tCO<sub>2</sub>e

emissions from purchased goods and services in FY24

**80%**

of Customers – by energy consumed – engaged with by 2027

**80%**

of Supply Chain Partners – by spend – engaged with by 2027

### Value Chain

#### 2 Aldermanbury Square, EC2

Working with our partners Arup, Elliott Wood, Keltbray and Lendlease, our project at 2 Aldermanbury Square, EC2, demonstrates our commitment to sustainability in deconstruction. By employing the principles of the circular economy we have identified over 2,100 tonnes of steel for reuse, 75% of that within the GPE development pipeline.

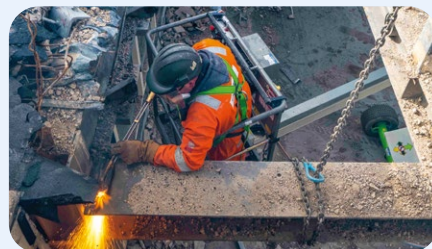
A significant portion of this has been allocated for reuse within our development at French Railways House and 50 Jermyn Street, W1, where it is anticipated that at least 70% of the steel frame of the new development will be steel from 2 Aldermanbury Square. The intent is that any surplus will be returned to the market for reuse on other projects.

### Why it's important

- Scope 3 emissions emitted from our value chain amount to 79% of our total footprint.
- Supporting our customers to reduce the carbon they emit from the space they occupy will help us reduce our Scope 3 emissions.
- The more products and services we buy, the more our absolute Scope 3 emissions increase. Engagement with our supply chain partners to understand the carbon emissions associated with the production of their goods and services is therefore critical to get as close to zero as possible.

This will save over 1,000 tonnes of embodied carbon across our London portfolio.

With programme risk and cost a factor, without a collaborative relationship with our value chain partners – from architects to engineers, and contractors to customers – we would not have been able to attempt something at this scale. Importantly the project has provided an opportunity for collective innovation.



### What we've done

- Set a target to engage with the customers who consume the most energy in our portfolio.
- Set a target to provide real time energy data to 100% of our customers (where we procure the energy) by 2028 using the improved metering and data management processes now rolled out.
- Set a target to engage with 80% of our supply chain and service partners, excluding Principal Contractors.\*
- Benchmarked the % of our suppliers and customers who currently have validated science-based targets.
- Updated “Our Brief for Creating Sustainable Spaces” to ensure that all our spaces are developed with sustainability at the core of decision making.
- Included sustainability in the KPIs of the contracts of key service partners.
- Used the best available estimated data for our supply chain emissions where our partners have been unable to provide accurate data.
- Begun collaborating with the Responsibly platform to access carbon emissions, and other sustainability related supplier data, from public available sources.

\* Principal Contractors, and the wider construction supply chain, will still be engaged with but not formally counted towards this target to ensure separation from our embodied carbon targets.

### Near-term ambition to 2030

By 2030 we will:

- Improve our understanding of customer sustainability strategies.
- Provide our customers with real time energy data for the space they occupy.
- Make data available to our customers on the carbon associated with the services (in addition to energy, water and waste) provided in the buildings that they occupy.
- Increase our understanding of the sustainability strategies and targets of our supply chain partners.
- Adopt accurate carbon conversion factors, unique to each supplier based on granular information.
- Utilise a baseline and benchmarking tool to support the understanding of changing sustainability ambitions and progress made by both customers and suppliers.

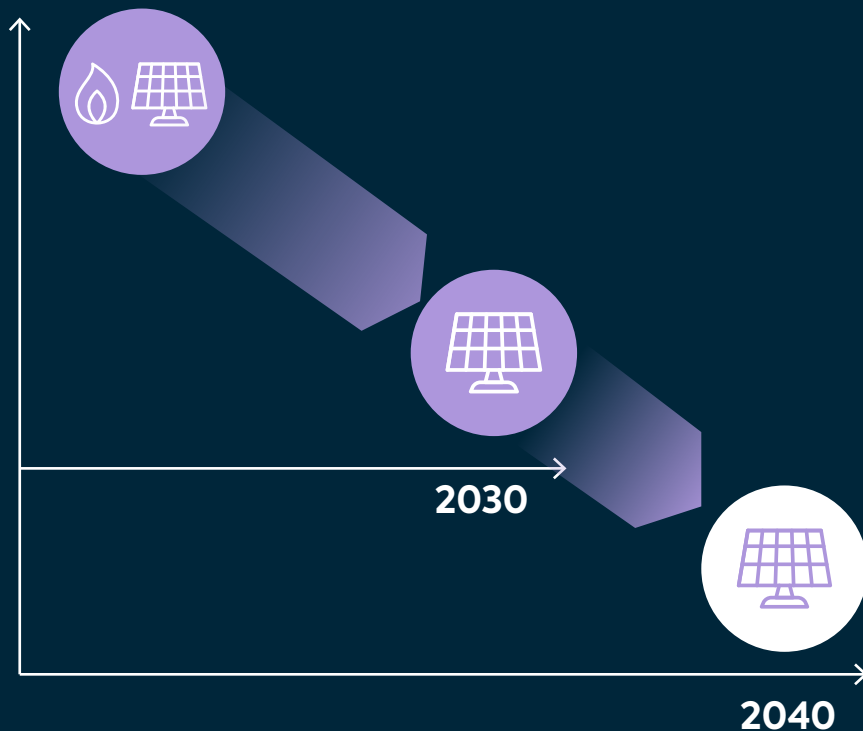
### Long-term ambition to 2040

By 2040 we aim to:

- Increase the % of our customers and suppliers who have validated targets through the Science Based Targets initiative.
- Roll-out regular forums with our supply chain partners to share best practice on sustainability.
- Use our Decarbonisation Fund to support research into new technology, materials and processes to support reductions in value chain carbon emissions.
- Routinely use carbon emissions data as a KPI in the selection and performance monitoring of our supply chain partners.



# Decarbonise our energy supplies



## What do we mean by decarbonising our energy supplies?

In the simplest of terms, we need to remove reliance on the burning of fossil fuels for the energy we consume and transition towards 100% of our electricity being produced through renewable technology.

This requires the removal of all fossil fuels connected with the energy that we use to power our buildings, either directly through on-site combustion or through the energy tariffs procured by the business.

## How do we measure that decarbonisation?

We can measure the effectiveness of this commitment through reductions in our Scope 1 and 2 emissions, and effective utilisation of location and market based greenhouse gas accounting.

The number of gas fired boilers removed; the energy generated by on-site renewable technology; and, the proportion of energy procured and matched on an hourly basis, will all be used to measure decarbonisation of energy supplies.

## What is our goal?

To fully decarbonise the energy supplies utilised within our buildings and by doing so, remove all emissions associated with Scope 1 and 2 energy generation by 2030.



# Decarbonise our energy supplies

## Deep dive

**100%**

of energy procured by us on REGO or RGGO tariffs since 2018

**60%+**

hourly matched procured energy by 2030

**90%+**

hourly matching by 2040

**875 tCO<sub>2</sub>e**

absolute gas emission reduction as compared with FY22

### Why it's important

- Moving away from the consumption of fossil fuels as soon as possible is necessary if we are to tackle climate change.
- To drive further investment in renewable energy technologies and increase the volume of renewable energy available through the national grid it is necessary to procure the highest quality renewable energy supplies practicable.
- Transparency on the origin of energy supplies is challenging. By changing our energy procurement processes to go beyond the annually certified REGO and RGGO approach, we can be part of driving industry best practice and reduce the risk of green washing.

### What we've done

- We have delivered an 875 tCO<sub>2</sub>e reduction in emissions related to gas consumption when compared with our FY22 reporting on a like-for-like basis.
- Included photovoltaic arrays and other low or zero carbon technologies at our new build developments.
- Procured REGO-backed electricity\* since 2014 across the entirety of our contracted supplies, and since 2018 worked with our gas suppliers to source RGGO-backed gas across the majority of our consumed supplies, making us one of the first UK REITs to do so.
- Recognised the limitations of the REGO regime in the UK, and instead focused on the reduction of location-based carbon emissions through energy efficiency.
- Set a target to remove all gas fired central heating and hot water systems from our buildings by 2030.
- Commenced a programme to retrofit heat pumps.
- Commenced a review of our energy procurement strategy to support a shift towards 24/7 Carbon Free Electricity through hourly matching of supplies.
- Commenced a further review of Power Purchase Agreements (PPAs) where electricity is purchased directly from the generator of a new energy source.

### Near-term ambition to 2030

By 2030 we will:

- Have removed fossil fuels from our buildings for energy generation.
- Further increase the generation of energy from on-site renewables at our new developments and major refurbishments where practicable.
- Incorporate local energy generation solutions including establishing and connecting to existing low or zero carbon district energy, heating, and cooling networks where appropriate.
- Have developed and delivered a comprehensive energy procurement strategy including the integration of an hourly renewable energy matching target looking to ensure that at least 60% of our supplies are hourly matched.
- Procure energy on the basis of a source hierarchy, using the highest quality of renewable energy available, ensuring carbon emissions reductions are at the forefront of our decision-making process.
- Be as close to zero as possible for Scope 1 and 2 energy emissions.

### Long-term ambition to 2040

By 2040 we aim to:

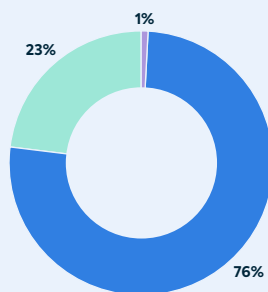
- Remove all diesel back up life safety systems for fossil fuel free alternatives.
- Further increase our hourly renewable energy matching target, looking to reach at least 90% hourly matched by 2040.
- Have demonstrable evidence of the transition of our supply chain partners to transparent renewable energy procurement.

\* Renewable Energy Guarantees of Origin.

### Increasing the transparency of our energy procurement

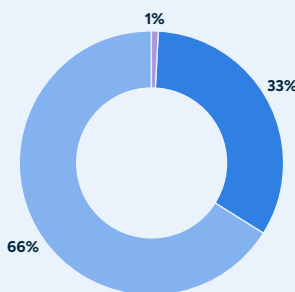
We are committed to working towards an energy mix where more than 60% of our energy is certified on an hour by hour basis, verifying the time, source and location of renewable energy generated.

Energy Mix 2023/24



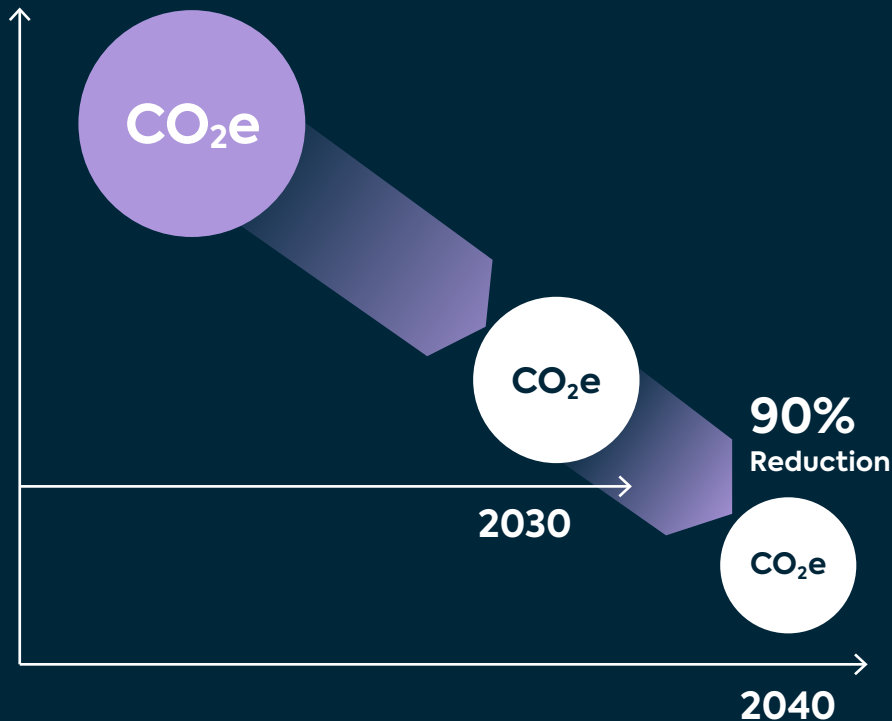
● On-site Renewables
 ● Annually Certified REGO Electricity
 ● REGO Gas
 ● Hourly Matched Electricity

Energy Mix 2029/30





# Residual emissions strategy



## What do we mean by residual emissions?

Whilst we are prioritising the reduction and avoidance of emissions and have incorporated the majority of our emissions into our updated reduction targets, there will be some residual emissions which we are unable to reduce.

## How do we measure our residual emissions?

Our residual emissions are the carbon footprint that remains after all reductions have been made to meet our targets. They are measured in line with the Greenhouse Gas Protocol.

## What is our goal?

Our goal by 2040 is to reduce our Scope 1, 2 and 3 emissions by 90%, from 2023.

Using our Internal Carbon Price of £150/tCO<sub>2</sub>e, and Decarbonisation Fund, we will report on the level of offset required and provide transparency on the quality and type of projects chosen.

When we do offset, we will select high quality offsets using a combination of carbon capture and carbon storage solutions as well as carbon credits with a demonstrable co-benefits, social impact, additionality and permanence.



# Residual emissions strategy

## Deep dive

**£95**  
per tonne  
v1.0 Internal Carbon Price

**£1.25m**  
Decarbonisation Fund utilised since April 2021

**£150**  
per tonne  
v2.0 Internal Carbon Price

**4,646**  
tCO<sub>2</sub>e  
offset using our Internal Carbon Price

### Residual emissions

The debate around carbon offsets, and their place in tackling the climate crisis, is a contentious one, at a global level the debate continues as to whether carbon offsets have a place in a science-based approach.

Where we have used carbon offsetting, we have followed best practice guidance produced by the UK Green Building Council. For the residual emissions associated with 50 Finsbury Square, EC2, as well as some operational and travel related emissions, we have used the Gold Standard Impact Registry to procure the credits required.

Projects have included: Reforestation in Nicaragua (GS4220), Timor-Leste (GS4210) and Panama (GS2940), and an Indian wind farm (GS492).

### Why it's important

- The offsetting of residual emissions has become an increasingly divisive topic. We believe that in the long term, offsetting outside of our value chain following clear and robust principles can support the global effort to reduce the effects of climate change.
- However, continuing issues over the governance and impact of certified carbon offsetting schemes remain, therefore, in the short to medium term we will not rely on offsetting at a corporate level as a means to reach our net zero carbon target.
- At an asset level, offsetting is a component part of net zero carbon accreditation methodologies and will be considered on a case by case basis.



### What we've done

- Responding to changes to external benchmarks, increased our Internal Carbon Price previously at £95, to £150 per tonne of carbon, to drive continued behavioural change within our business and support faster decarbonisation of our value chain.
- Managed our Decarbonisation Fund, active from April 2021, which has been seeded with the funds from our annual operational carbon emissions since 1 April 2020 and the embodied carbon emissions from our completed developments.
- Integrated our updated Internal Carbon Price into our new acquisitions process.
- Implemented our metering improvement project, in line with the NABERS UK Energy for Offices scheme requirements, using our Decarbonisation Fund to support investment. The project will deliver further emissions reductions. See [page 04](#) for more detail.
- Achieved net zero carbon status for our 50 Finsbury Square, EC2, development. The embodied carbon emissions of the project at practical completion were 4,646 tCO<sub>2</sub>e. This was subject to our £95 per tonne Internal Carbon Price, This resulted in the project contributing £441,370 to the Decarbonisation Fund. Following UKGBC net zero carbon guidance we used £75k of the total cost to purchase Gold Standard carbon credits to ensure that the building aligned with the UKGBC Net Zero Carbon Framework.
- Contributed to industry work on developing offsetting guidance through the UKGBC and ongoing BBP Offsetting Procurement group.

### Near-term ambition to 2030

By 2030 we expect to have a carbon footprint of 13,600 tCO<sub>2</sub>e. To ensure we achieve this we will:

- Continue investment into our Decarbonisation Fund by levying our Internal Carbon Price on our operational, location-based, carbon emissions and the embodied carbon of our developments at practical completion.
- Utilise our Decarbonisation Fund to facilitate energy efficiency projects and other initiatives to substantially reduce the carbon emissions associated with the operation of our buildings.
- Invest in the decarbonisation of our value chain using the wider scope of our Decarbonisation Fund to 'inset' through innovation and pilot projects.
- Extend our Internal Carbon Price to other Scope 3 categories that could be further reduced through a financial incentive, similar to embodied and operational emissions.

### Long-term ambition to 2040

By 2040 we aim to:

- Increase the Internal Carbon Price to a level commensurate with global action on climate change.
- Invest in Direct Air Capture and carbon neutralization technologies.
- Invest in voluntary carbon offsetting in line with relevant accepted standards where these support capture and storage through nature-based solutions.
- Invest in local offsetting projects where carbon credits can be used to deliver a positive social impact.



# The challenge ahead

Our first Roadmap envisaged that in 2030 we would roughly have 50% of our emissions to offset to net zero.

In this v2.0 we have significantly raised ambition, recognising the need to get as close to zero as practicable before focusing on our residual emissions.

We anticipate that the steps outlined in this Roadmap in the years to 2030 will get us to a point where our Scope 1 and 2 energy related emissions are virtually zero\*.

From 2030 we will still have a challenging task ahead, to further reduce our Scope 1, 2 and 3 emissions to reach our 90% reduction target by 2040.

We have used current estimates from the Science Based Targets initiative and CRREM to understand the necessary ambition for energy intensity and embodied carbon trajectories out to 2040. These estimate that energy intensity will need to be 70kWh/m<sup>2</sup> by 2040, whilst it is envisaged that the embodied carbon of our developments will need to be in the region of 140kgCO<sub>2</sub>e/m<sup>2</sup>.

This is hugely challenging given the additional context that climate change is likely to be causing more extreme weather events, driving additional demand for heating and cooling in our workspaces, whilst also potentially impacting our supply chain partners.

Our progress will be supported through focus in three main areas.



## Collaboration with our customers and supply chain

By 2030, we will have delivered our customer and supply chain engagement targets.

We will have engaged with all our customers and suppliers, to understand their sustainability goals and set up a supplier benchmarking tool to understand their progress as they work to reduce their direct carbon emissions and that of their supply chains.

We hope that through this engagement, we will also support an increased number of businesses within our value chain establish a science-based approach to carbon emissions reductions.

Through these shared goals we will be better able to understand our collective impact and drive mutually beneficial innovation to identify new cost effective ways to drive carbon emissions reductions and more sustainable outcomes.

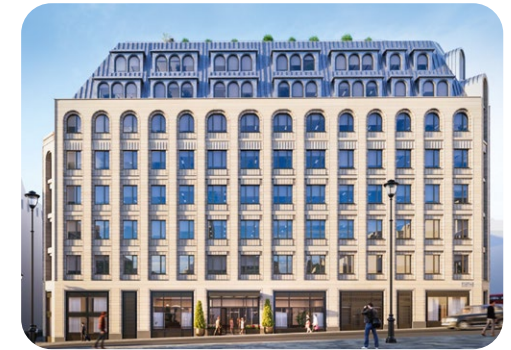


## Innovation

By 2030, the energy consumed within our buildings will be largely fossil fuel free, with much reduced greenhouse gas emissions from refrigerant leaks and minimal use of diesel powered life safety back up generators.

Increased use of nature-based solutions and climate-resilient design will be more effective at reducing cooling demand during the spring and autumn months. This, coupled with increasingly intelligent building management systems and more widely adopted battery technology will support reduced energy demand. Local, fossil fuel free, heat and power networks will be critical to support the resilience of London's power needs.

The embodied carbon from our developments and fit outs will be our greatest source of residual carbon emissions post 2030. Whilst low carbon, alternative materials and technology will support progress, arguably the single biggest factor to reduce these emissions will be to further embrace the principles of the circular economy.



## Circular Economy

By 2030, our current development pipeline will have been delivered with significant progress made on the quantity of reused materials used within our developments.

By 2030, materials passports will need to be in widespread use and easily updated to ensure that, where fit-outs are required, materials that are not at the end of their lifecycle can be easily reused. These will need to be supported by materials exchange platforms, backed by insurers and warranties.

We will also need to be taking advantage of product-as-a-service schemes for elements of buildings that are typically removed before they have reached the end of their functional life.

We will use our Decarbonisation Fund to invest in research that supports the construction industry as it works to reduce the quantity of virgin materials used in developments and refurbishments.

\* Based on removal of gas and HH matched electricity procurement. Some Scope 1 emissions will remain from fugitive refrigerant emissions.



# The detail



# Scope of our Net Zero Carbon Roadmap

The majority of our carbon footprint is comprised of our portfolio-related Scope 3 emissions – the indirect greenhouse gas emissions, generated through our supply chain and customers. At the time of writing, this comprises 89% of our carbon footprint.

In addition to our Scope 1 and 2 emissions, our footprint also includes our corporate emissions e.g. our head office energy use and business travel.

It is critical for us to reduce the emissions across our value chain, considering the full impact of our buildings during their life cycle, as opposed to focusing solely on the relatively small operational emissions (Scope 1 and 2) that sit within our direct control, i.e. the gas and electricity purchased by us to power our services. This version therefore includes increased ambition in relation to the reduction of our value chain emissions.

Our commitment is comprehensive and covers all major sources of emissions from our portfolio, along with our corporate emissions. We will review our scope regularly as our portfolio changes, i.e. when we acquire, sell or develop buildings, data quality improves, and best practice evolves, in the same way that we have done so with this updated Roadmap v2.0.

## Included in scope:

- Corporate emissions including employee commuting, business travel and purchased goods and services.
- All buildings within our operational control boundary, including 100% of emissions from our joint venture buildings – this means the whole building impact (common parts and customer demise) for all buildings directly managed by GPE, or a third party on our behalf, as well as buildings held on Fully Repairing and Insuring (FRI) leases.
- Emissions across all asset classes (offices, retail and residential) as we recognise that as the owner we always have a degree of influence, not least through building design and maintenance and lease structures.
- The embodied carbon emissions from the material product stage, construction stage and maintenance and operational stages.
- Material supply chain emissions.
- All buildings held for at least three years. Any buildings which are sold during the reporting year are excluded from the date of disposal, although life cycle emissions of sold assets are forward modelled and incorporated within the Scope 3 emissions of our carbon footprint.

Whilst emissions from sold assets are incorporated within our footprint and covered within our absolute reductions targets for 2040, our Roadmap v2.0 does not include explicit intensity reduction targets for the operational energy use of sold buildings and the demolition of sold buildings which, together, account for 3% of our 2024 total carbon footprint.

This exclusion aligns with the Better Building Partnership Climate Change Commitment due to a lack of consensus on how end of life carbon should be accounted for. However, with our targets on energy use intensity, and focus on ensuring that buildings are flexible, adaptable and deconstructable, we would anticipate intensity reductions with regards to these Scope 3 categories. We will review this position regularly.

It is still the case that as the granularity of data on carbon improves across the building life cycle and through our supply chain it is likely that in some areas, our carbon footprint may grow before it reduces. We remain confident that the steps included in this Roadmap v2.0 will continue to support the business as it aims to reduce its carbon emissions by 90% by 2040.

# Appendix to Net Zero Carbon Roadmap

## Pathway actions

The below summarises our pathway actions to allow comparisons to be made across the industry in line with the BBP Climate Change Commitment.

Area	Objective	Management strategy	Reporting metrics
<b>Embodied carbon</b>	<p>Reduce carbon intensity of developments and refurbishments during stages A1–A5 by 52% by 2030.</p> <p>Establish a fit-out baseline and reduction target by 25 March.</p>	<ul style="list-style-type: none"> <li>– Conduct whole life carbon assessments for all new developments and major refurbishments over £5 million.</li> <li>– Review opportunity for retention of existing building structure and retrofit.</li> <li>– Research further prefabrication and alternative carbon efficient materials.</li> <li>– Achieve 458kgCO<sub>2</sub>e per m<sup>2</sup> GIA for new developments and major refurbishments by 2030.</li> <li>– Achieve 204kgCO<sub>2</sub>e per m<sup>2</sup> GIA for minor refurbishments by 2030.</li> </ul>	<ul style="list-style-type: none"> <li>– Whole life carbon assessment.</li> <li>– Carbon intensity (kgCO<sub>2</sub>/m<sup>2</sup> GIA).</li> </ul>
<b>Operational (investment portfolio) energy and carbon</b>	<p>Reduce energy intensity by 47% by 2030 compared to our 2016 baseline.</p>	<ul style="list-style-type: none"> <li>– Further embed energy action plans and align buildings with CRREM pathway.</li> <li>– Improve data accuracy and measure actual customer procured energy.</li> <li>– Mandate Design for Performance for developments and major refurbishments.</li> <li>– Achieve 90 kWh/m<sup>2</sup> whole building energy intensity for developments by 2030.</li> </ul>	<ul style="list-style-type: none"> <li>– Investment in energy efficiency initiatives (£).</li> <li>– Energy intensity (kWh/m<sup>2</sup>/year).</li> <li>– Carbon intensity (kgCO<sub>2</sub>e/m<sup>2</sup>/year).</li> </ul>
<b>Renewable energy</b>	<p>Reduce reliance on electricity grid and invest directly in energy solutions which provide renewable additional capacity.</p>	<ul style="list-style-type: none"> <li>– Continue to procure REGO-backed electricity and certified Green Gas for 100% owner energy use.</li> <li>– New developments to have electric heating, cooling and hot water systems.</li> <li>– Explore opportunities to increase self-generation of renewable energy.</li> <li>– Increase proportion of owner directly procured utility supplies on customer behalf.</li> <li>– Ongoing feasibility review on the appropriateness of PPAs.</li> </ul>	<ul style="list-style-type: none"> <li>– MWh on-site capacity.</li> <li>– Location and market-based emissions (tCO<sub>2</sub>e/year).</li> <li>– Total investment (£ and MWh).</li> </ul>
<b>Residual emissions</b>	<p>Provide climate finance to support environmental and social causes.</p>	<ul style="list-style-type: none"> <li>– Increase and maintain Internal Carbon Price with proceeds used to seed our Decarbonisation Fund to reinvest to reduce emissions within our value chain.</li> <li>– Offset residual development related emissions at project completion.</li> <li>– Ensure any offsetting projects follow best practice principles.</li> </ul>	<ul style="list-style-type: none"> <li>– Total emissions offset (tCO<sub>2</sub>e).</li> <li>– Quantity and types of offsetting used.</li> </ul>
<b>Third-party verification</b>	<p>Demonstrate transparency and accuracy around reporting.</p>	<ul style="list-style-type: none"> <li>– Continue to instruct independent assurance of key ESG metrics, published annually, and progress against our ESG-linked RCF targets.</li> <li>– Continue to seek independent certification where relevant e.g. Science Based Targets Initiative and future Net Zero Carbon Buildings Standard.</li> </ul>	<ul style="list-style-type: none"> <li>– Independent Third Party Assurance statement ISAE3000.</li> </ul>
<b>Governance and oversight</b>	<p>Establish appropriate internal governance to ensure that targets are met.</p>	<ul style="list-style-type: none"> <li>– We have established two internal working groups (Portfolio and Development) that report into our Sustainability Committee which is chaired by our Chief Executive.</li> <li>– Our 2030 targets for energy use and embodied carbon are included within the remuneration scorecard for all GPE employees.</li> </ul>	<ul style="list-style-type: none"> <li>– Progress against targets report.</li> <li>– Annual Report and Accounts.</li> </ul>

# Appendix to Net Zero Carbon Roadmap

## Pathway actions

This table sets out the scope of the emissions included within our commitment, compared to the requirements of the BBP Climate Change Commitment and alignment with the Greenhouse Gas Protocol.

Business area	Sub-area	GHG Protocol	Carbon scope	BBP requirement	GPE scope
<b>Corporate</b>	Head office energy use	Company facilities	1 & 2	No	Yes
	Company vehicles	Company vehicles	1	No	No company vehicles.
	Business travel	Business travel	3	No	Yes
	Purchased goods & services	Purchased goods & services	3	No	Yes
	Operational waste	Waste generated in operations	3	No	Yes
	Operational water use	Purchased goods & services	3	No	Yes
	Employee commuting	Employee commuting	3	No	Yes
<b>Direct Real Estate Holdings (including JVs with management control)</b>	Owner purchased energy (electricity & fuels)	Purchased electricity, heat & steam	1, 2 & 3	Yes	Yes
	Occupier purchased energy (electricity & fuels)	Downstream leased assets	3	Yes	Yes
	Owner refrigerants	Fugitive emissions	1	Yes	Yes
	Occupier refrigerants	Occupier Scope 3	3	No	No
	Owner purchased water	Purchased goods & services	3	Yes	Yes
	Occupier purchased water	Occupier Scope 3	3	No	No
	Owner managed operational waste	Waste generated in operations	3	Yes	Yes
	Occupier managed operational waste	Downstream leased assets	3	No	No
	Occupier transport emissions	Occupier Scope 3	3	No	No
	Occupier supply chain emissions	Occupier Scope 3	3	No	No
Owner purchased capital goods & services	Purchased goods & services	3	Yes	Yes	
<b>Investments (Indirect Real Estate Holdings, e.g., where investments are managed by a third party such as JVs with no management control or investments in other real estate investment vehicles)</b>	Owner purchased energy (electricity & fuels)	Investments	3	Yes	Yes
	Occupier purchased energy (electricity & fuels)	Investments	3	Yes	Yes
	Owner refrigerants	Purchased goods & services	3	Yes	Yes
	Occupier refrigerants	Occupier Scope 3	3	No	No
	Owner purchased water	Investments (proportional to the investment)	3	Yes	Yes
	Occupier purchased water	Occupier Scope 3	3	No	No
	Owner managed operational waste	Investments (proportional to the investment)	3	Yes	Yes
	Occupier managed operational waste	Occupier Scope 3	3	No	No
	Visitors transport emissions	Occupier Scope 3	3	No	No
	Occupier supply chain emissions	Occupier Scope 3	3	No	No
Owner purchased capital goods & services	Purchased goods & services	3	Yes	Yes	
<b>Development</b>	New development (including those where funding is being provided)	Capital Goods	3	Yes	Yes
	Refurbishments	Capital Goods	3	Yes	Yes
	Fit-out (Owner controlled)	Purchased goods & services	3	Yes	Yes
	Fit-out (Occupier controlled)	Occupier Scope 3	3	Yes	No – currently lack full visibility of occupier fit-out.
	End of life	End of life treatment of sold products	3	No	No



# Glossary

## A1–A5

The life cycle of a building is split into modules. From A1–A5 they relate to the materials production, transport and construction stages of a building.

## Additionality

The provision of new electricity capacity to the grid that would not have happened without specific investment.

## Better Buildings Partnership (BBP)

Not-for-profit business collaborating with commercial property owners to improve the sustainability of existing buildings.

## Building Information Modelling (BIM)

The process of planning, designing, and building a dynamic 3D building model which can include all building elements from the superstructure to internal services pipework.

## Carbon dioxide equivalent (CO<sub>2</sub>e)

A measure of greenhouse gases (GHGs) that have a global warming impact. It converts the six gases with different global-warming potentials into a single metric.

## Circular economy

Ensures waste is designed out, materials are reused and natural systems are regenerated. Circular economy principles include designing for longevity, adaptability, standardisation etc.

## Customer emissions

The carbon impact of the electricity and gas used within a customer's leased demise e.g. lighting, computing and other small power. It does not include the emissions of their own business activities outside of the energy consumption of their leased space.

## Design for Performance

An industry initiative designed to address the energy in-use performance gap – where buildings do not perform as efficiently as intended in the design stage.

## Development and major refurbishments

New construction development over £10 million. The refurbishment of an asset affecting more than 50 per cent of the floor area.

## Environmental, social and governance (ESG)

Refers to the environmental, social and governance aspects of an organisation's responsible business practices. Takes into account impact on the natural environment, impact on relationships, and corporate governance processes.

## ESG-linked revolving credit facility (RCF)

A type of credit issued by banks to businesses in the form of a pre-agreed overdraft facility. Annual interest rates on the debt is linked to the achievement of three key ESG sustainability targets.

## Embodied carbon (emissions)

The greenhouse gas emissions emitted through the life cycle stages of a building. These include building material extraction and processing, transportation, construction, maintenance stages and final demolition of a building.

## Energy Performance Certificates (EPC)

An assessment of a building's potential energy efficiency graded from A to G. An EPC is required when buildings are built, sold or let.

## Fully Repairing and Insuring (FRI) leases

A lease that places all responsibility for maintaining the building with the customer.

## Grid decarbonisation

The ongoing movement towards powering the UK electricity grid from renewable energy sources and reducing the reliance on fossil fuels. This reduces the carbon intensity of the grid.

## Greenhouse Gas (GHG) Protocol

The GHG Protocol is an international accounting standard that provides a framework and methodology for organisations to calculate their carbon footprint.

## Hourly matching / 24/7 Carbon Free

A method of procuring renewable energy that matches the consumers consumption on an hourly basis to carbon free energy generation.

## Location-based emissions

An approach for calculating emissions from purchased electricity that reflects the average grid intensity.

## Market-based emissions

An approach for calculating emissions from purchased electricity that takes into account the tariff for the electricity purchased by an organisation e.g. a zero carbon tariff.

## Minimum Energy Efficiency Standards (MEES)

UK legislation that makes it illegal to let substandard properties (currently EPC rated 'F' or 'G', projected to rise to 'B' rating in 2030).

## Net zero carbon

When carbon emissions are balanced to be zero with the residual emissions either being offset or neutralized.

## Normalised

The process of adjusting values measured on different scales so that they can be reported, in alignment, on a common scale prior to averaging across the portfolio.

## Operational emissions

The emissions associated with the energy consumption of an occupied building when in use i.e. the energy used for heating, cooling, ventilation, lighting and IT equipment.

## Power Purchase Agreement (PPA)

A type of renewable energy procurement. A PPA is a contract between a buyer and a power producer to purchase electricity at a pre-agreed price for a pre-agreed period of time. It provides cost visibility and usually demonstrates additional renewable capacity to the grid.

## Renewable energy

The on-site self-generation or purchase of off-site renewable energy sourced from but not limited to, solar, wind, hydro and geothermal technology.

## REGO and RGGO-backed energy

A renewable energy contractual instrument either a Renewable Energy or Gas Guarantees of Origin certificate. One REGO certificate covers one megawatt hour of electricity and one RGGO covers one kilowatt hour of gas.

## Science-based targets

Targets that are based in science and meet the level of decarbonisation required to limit global warming to 1.5°C Paris Agreement. Science-based targets can be formally approved by the Science-based Targets Initiative (SBTi).

## Scope 1

Scope 1 emissions are direct emissions e.g. the combustion of gas for heat in buildings or fuel in cars and the fugitive emissions of refrigerant gas.

## Scope 2

Scope 2 emissions are the indirect emissions from the production of electricity, heat, steam and cooling.

## Scope 3

Scope 3 emissions are the indirect emissions from our value chain and covers our upstream emissions from our suppliers for the things we purchase and the downstream emissions from our customers.

## UK Green Building Council (UKGBC)

Charitable member organisation that campaigns for sustainable built environments.

## Whole life carbon

The carbon emitted throughout a building's life cycle, from the materials sourced and used during construction, the operational energy use and maintenance and the end-of-life demolition of the building.