



THE TIME IS NOW
TO DECARBONISE
OUR BUSINESS
TO BECOME NET
ZERO BY 2030.

Our roadmap to Net Zero

Great Portland Estates plc



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

DECARBONISE OUR BUSINESS TO BECOME NET ZERO BY 2030.

DESIGN CLIMATE CHANGE RESILIENT AND ADAPTABLE SPACES.

CREATE A LASTING POSITIVE SOCIAL IMPACT IN OUR COMMUNITIES.

PUT HEALTH AND WELLBEING FRONT AND CENTRE.

THE TIME IS NOW

Climate change is the biggest long-term challenge we face and, as the risk and need for urgent action increases, the climate crisis has become both a moral and an economic imperative.

With the built environment contributing approximately 40 per cent of global carbon emissions, our industry faces a huge challenge as it moves to decarbonising the whole building lifecycle.

In May 2020, we published our [Sustainability Statement of Intent](#) “The Time is Now” which sets out our ambitious sustainability vision and approach to decarbonising our business to become net zero carbon by 2030.

If we are to be successful, it is critical to reduce our emissions across our entire value chain, where the majority of our carbon impact is concentrated.

Some of our stakeholders are already seeing the opportunity in joining us on our journey to net zero. Forward-looking occupiers are demanding higher standards of sustainability and working with us to reduce carbon emissions.

Our investors are increasingly recognising the potential impact of climate change on investment and are engaging with us on environmental impact and wider sustainability issues as well as financial returns, whilst within our supply chain, contractors and suppliers are actively looking to collaborate with us to seek and implement solutions.

DECARBONISE OUR BUSINESS TO BECOME NET ZERO BY 2030

We have set out in this document our detailed roadmap to decarbonise our business to become net zero carbon by 2030.

As one of the founding signatories of the [Better Buildings Partnership Climate Change Commitment](#) (one of the few commitments in our industry that looks beyond directly controlled emissions), this document also addresses one of the requirements of that commitment – to set out our pathway to a net zero carbon portfolio (see page 4).

In line with our values, we are being open about some of the challenges we face to achieve our targets and the work that will be left to do beyond 2030, not least reducing the level of offsetting needed to address residual carbon. We have also signposted some of the opportunities that we see for the real estate industry as it decarbonises.

Progress will be publicly reported annually. We will also ensure that where updates are made to our roadmap, as best practice evolves and knowledge improves, these are highlighted to ensure complete transparency.

Our approach aligns with the United Nations Sustainable Development Goals, the relevant goals are signposted within the document.

UNDERSTANDING OUR CARBON FOOTPRINT

To plan our journey to net zero carbon, we first needed to understand our existing carbon footprint.

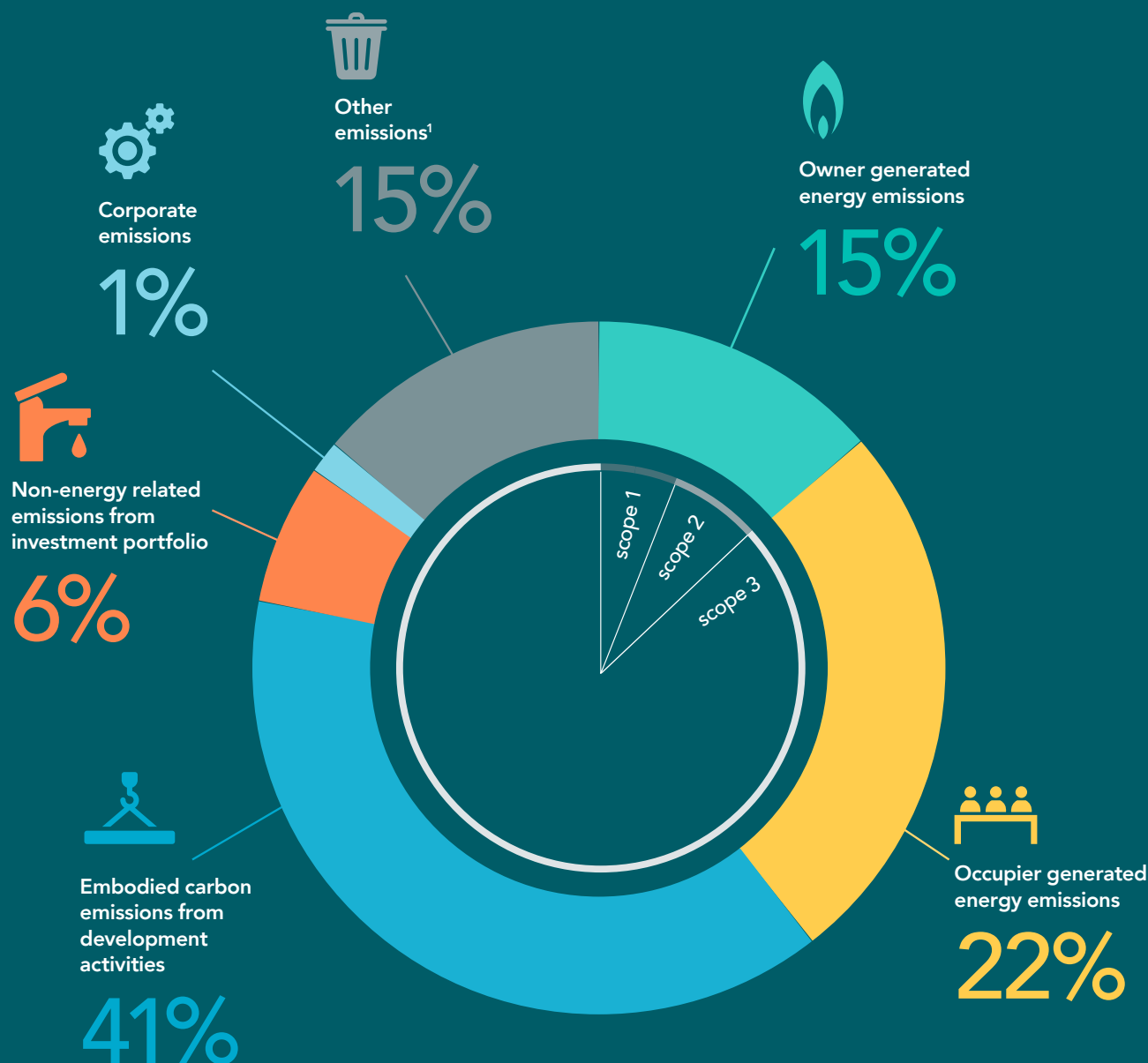
We have used our carbon footprint for the year ended 31 March 2019 to illustrate (opposite) the extent and type of emissions for our business. Our total emissions for the year was 42,000 tonnes of carbon (equivalent to approximately the energy use of 4800 homes for one year).

In line with most property companies and developers, the majority of our carbon footprint is in our indirect greenhouse gas emissions (scope 3) and lies in our value chain.

We are clear that in order to decarbonise our business, addressing our scope 3 emissions is critical. It is also where the biggest challenge lies as we must engage with our occupiers, suppliers and contractors to make the necessary carbon reductions in order to reach net zero carbon by 2030.

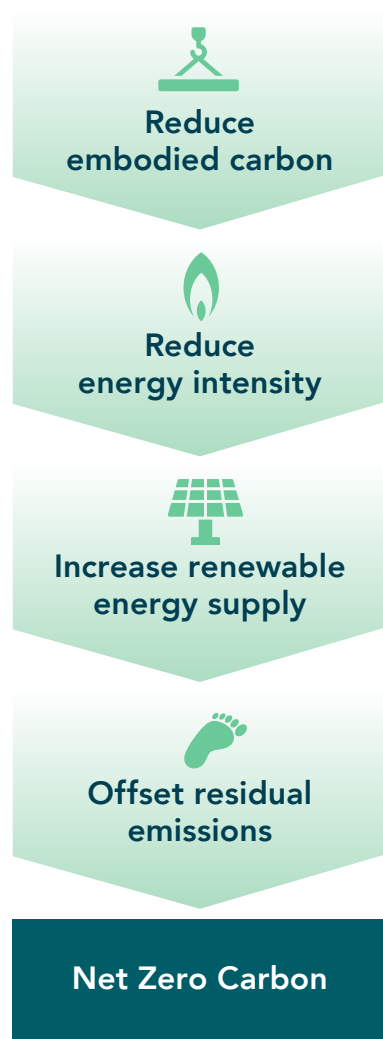
As knowledge increases on scope 3 emissions within our supply chain and improved data is available from refurbishment and maintenance activities it is possible that our carbon footprint will increase before it starts to decrease. It will also be impacted by the level and type of development being undertaken within our portfolio.

For those emissions that we directly control, the energy procured by us and used within our buildings (our scope 1 and 2 emissions), we are already purchasing 100 per cent from renewable tariffs (for electricity since 2014 and for gas since 2018). However, to ensure long term decarbonisation we must go further and drive energy efficiency improvements.



1. Covers the lifecycle impact of sold buildings, see page 15 for detail.

OUR APPROACH TO BECOMING A NET ZERO CARBON BUSINESS



Our approach

The concept of net zero carbon continues to evolve within our industry.

In its simplest form it is when all greenhouse gas emissions are balanced to achieve zero emissions through reduction, offsetting or sequestration.

Our actions are based in science² and are extensive in scope, in line with the level of ambition required by our industry, to limit warming to 1.5°C in line with the Paris Agreement, and cover two thirds of our indirect emissions.

Central to our approach to decarbonising our business is to first address our most material impacts.

Approximately 41 per cent of our 2019 carbon footprint baseline can be attributed to our developments. We have committed to ensuring that all new build developments are net zero carbon from 2030.

Reduce embodied carbon

We will reduce embodied carbon from the development and refurbishment process by 40 per cent by 2030, aiming to achieve a target of 572kgCO_{2e} per m² and 204kgCO_{2e} per m² respectively.

Reduce energy intensity

By 2030 our buildings will be highly energy efficient, achieving a minimum energy intensity target of 90kWh per m² (net lettable area) for completed developments. Our existing portfolio will be 40 per cent more energy efficient than in 2016.

Increase renewable energy supply

Whilst we will benefit from grid decarbonisation, we must also transition away from reliance on fossil fuels, particularly for hot water and heating.

We therefore need to increase our direct investment in renewable energy and have set a target to generate 600MWh from installations across our portfolio by 2030. Furthermore, we will continue to procure 100 per cent of our energy supplies from certified renewable tariffs.

Offset residual emissions to Net Zero Carbon

And then, after these actions have been taken, we will offset the residual emissions that we cannot yet feasibly eliminate.

To attach a meaningful financial impact to carbon emissions, we have set an internal carbon price of £95 per tonne of carbon. Our priority is to reduce emissions from embodied carbon and operational energy use, however, carbon offsetting can support the transition to a low carbon economy, driving investment in grid decarbonisation and clean technology. We will therefore create a Decarbonisation Fund and offset residual carbon from the embodied carbon of our completed development projects and our annual, location-based operational emissions into the Fund from April 2021.

The Fund will be used to facilitate the decarbonisation of our portfolio, supporting energy efficiency projects and other initiatives to substantially reduce the carbon emissions associated with our buildings.

The scale of the challenge

We estimate from our current trajectory, that if we hit our targets, and availability of technology and alternative materials stays constant with today, we are likely to be able to reduce our business carbon footprint by 50 per cent by 2030.

The residual 50 per cent (see roadmap on page 4 for detail) will need to be offset in 2030, through market recognised schemes, to reach a net zero carbon position in line with climate science. This emphasises the need for urgent innovation in our industry.

Residual emissions will mainly arise from our development and refurbishment activity, whole life carbon from the buildings that we sell, occupier energy consumption and the emissions associated with operating our business.

As we revisit this roadmap on an annual basis, we hope to be able to report a reduction in the expected carbon offsetting required. The deployment of our Decarbonisation Fund will drive energy efficiencies within our standing investments. We will also adopt circular economy principles to reduce whole life carbon.

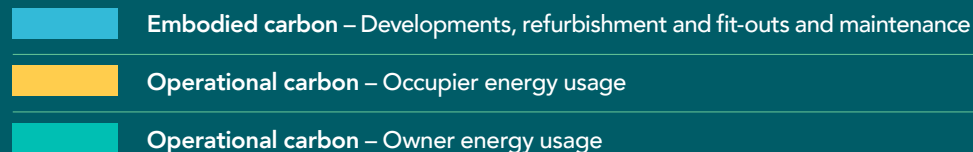
Collectively, working with our supply chain and occupiers, we will also pioneer new approaches and alternative building materials.

Towards 2050

Our decarbonisation journey does not end in 2030 and therefore, we are committed to reducing the quantity of carbon offsets required to compensate for residual emissions between 2030 and 2050.

2. Our targets have been validated by the Science Based Targets Initiative as aligned with a 1.5°C scenario.

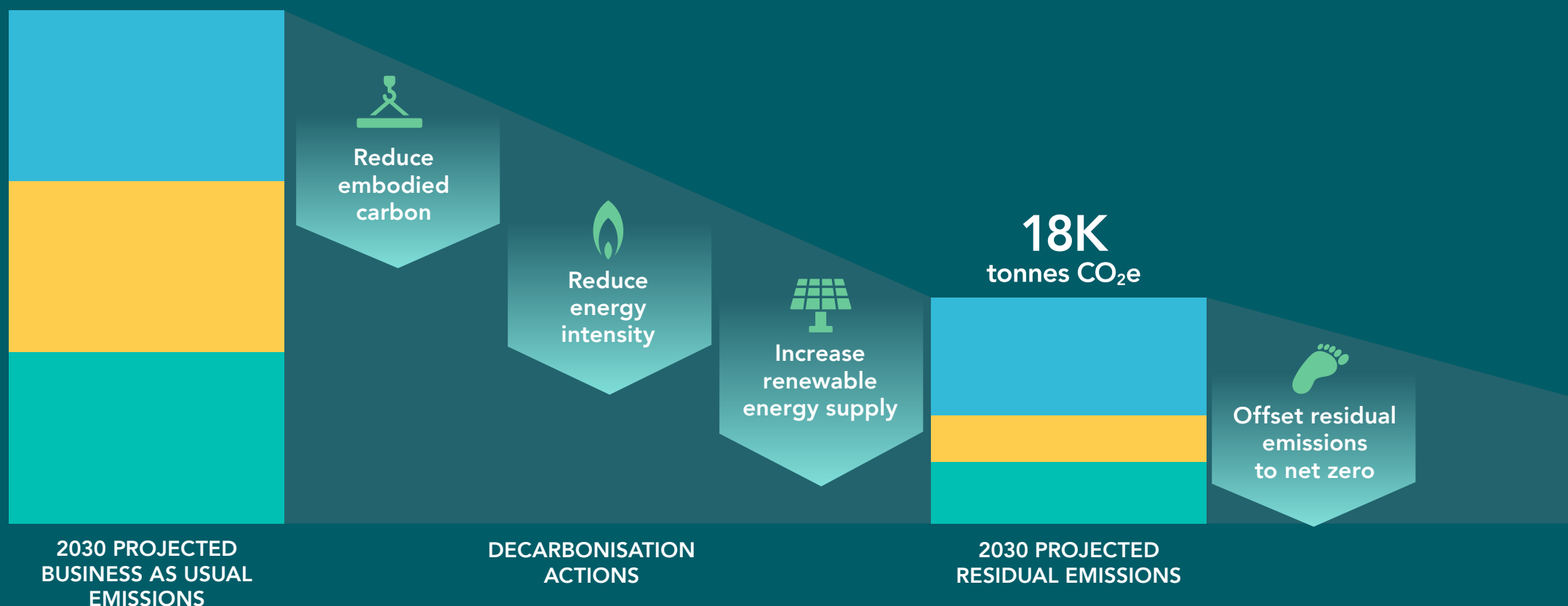
NET ZERO CARBON ROADMAP TO 2030



This graph shows that, in a business as usual situation, carbon emissions from our portfolio are projected to be 37,000 tonnes of carbon.

If we meet our energy and carbon targets, this will reduce to 18,000 tonnes of carbon. Our analysis assumes that technology and materials usage in 2030 is broadly in line with today. This highlights the pace of change needed in the industry to truly decarbonise.

We will continue to reduce our carbon emissions after 2030. As we report on progress we will more clearly map out how we plan to move towards a zero carbon or carbon negative position by 2050.





REDUCE EMBODIED CARBON

40% REDUCTION IN EMBODIED CARBON

Embodied carbon is emitted through the lifecycle stages of the development and maintenance of a building. These include building material extraction, processing and transportation, construction, maintenance and final demolition of a building.

Our approach to climate change adaptation and mitigation means we will ensure all of our new buildings achieve net zero carbon from 2030.

To support this we will reduce the embodied carbon (kg CO₂e per m² Gross Internal Area) of our new developments and major refurbishments by 40 per cent by 2030, from our baseline of 954kgCO₂e to 572kgCO₂e per m² for new build developments and from 340kgCO₂e to 204kgCO₂e per m² for refurbishments.



Reduce
embodied
carbon



REDUCE EMBODIED CARBON DEEP DIVE

40%

embodied carbon reduction by 2030

572kgCO₂e/m²

embodied carbon targeted for
new developments by 2030

204kgCO₂e/m²

embodied carbon targeted
for refurbishments by 2030

Why it's important?

- Embodied carbon, the total greenhouse gas emissions emitted to build and maintain a building, is our greatest source of scope 3 carbon emissions.
- Whilst the majority of embodied carbon is emitted during the construction phase of a property, embodied carbon is also emitted during the maintenance and fit-out cycles which is also included in our roadmap.

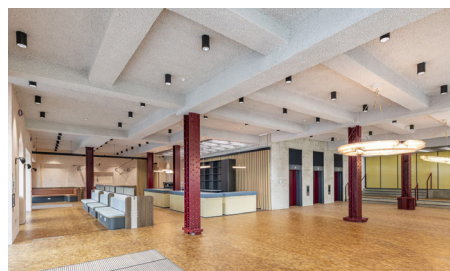
What we've done:

- Engaged with our supply chain to understand our embodied carbon baseline and identified what actions can be taken to reduce carbon through innovative design and alternative material selection.
- Established a net zero carbon development committee to increase the pace of innovation and to advance knowledge on the opportunities of net zero carbon development and refurbishment.
- Prioritised the retention of existing structures which typically can account for up to 60 per cent of embodied carbon in a new build development.
- Continued to look to refurbish existing facades to reduce embodied carbon on major refurbishment projects.
- Incorporated a target into our ESG-linked Revolving Credit Facility to reduce our embodied carbon by 40 per cent for our new build developments and refurbishments by 2030.
- Through creating our embodied carbon baselines we have set targets for all new build developments to be no more than 572kgCO₂e per m² and for refurbishments to be no more than 204kgCO₂e per m² by 2030.

How we'll deliver for 2030:

- Further understand the whole life carbon emissions of our buildings during their lifecycle (maintenance and refurbishment), once sold and at end of life.
- Further develop available data on embodied carbon using Building Information Modelling.
- Mandate Design for Performance for all new developments, and continue to undertake post occupancy evaluation.
- Through research and collaboration find further opportunities to use alternative materials and to prefabricate elements of our buildings.
- Review standards which over specify requirements for new buildings, for example structural loadings and air conditioning set points, to see where improvements can be made to reduce carbon impact.

Significant reductions in embodied carbon made at our refurbishment The Hickman, E1.



UN Sustainable Development Goals





REDUCE ENERGY INTENSITY

40% REDUCTION IN ENERGY INTENSITY

We aim to reduce the energy intensity (kWh per m² net lettable area) of our buildings by 40 per cent and carbon intensity by 69 per cent by 2030 by addressing operational energy use.

We define our energy intensity as the energy consumption per m² of each building with figures adjusted to normalise for properties entering development, disposals and acquisitions.





REDUCE ENERGY INTENSITY DEEP DIVE

37%

energy consumption
of our total footprint

40%

energy intensity reduction
targeted by 2030

0.1%

F or G EPC rated properties
with our portfolio

90 kWh/m²

energy intensity for new
developments by 2030

Why it's important?

- Our direct carbon emissions are largely derived from the energy consumption from the buildings we own and manage. When we include our occupier's footprint this accounts for 37 per cent of our total carbon footprint.
- Legislation such as Minimum Energy Efficiency Standards and the expected introduction of operational energy use ratings makes action on the energy intensity of our existing investment portfolio critical to our future ability to let buildings.
- Demands on the national electricity grid are forecast to continue to grow and therefore reducing our energy intensity must be central to our net zero carbon strategy.

160 Old Street, refurbished recently, achieving an EPC A rating and BREEAM Excellent.



What we've done:

- Set a target to reduce the operational energy intensity of our investment portfolio by 40 per cent by 2030 as compared to our 2016 baseline. This will equate to a reduction from 238kWh per m² to 144kWh per m², across the investment portfolio.
- Created a working group focused on energy efficiency and innovation in our investment portfolio to increase the speed of implementation of energy efficiency solutions in existing buildings.
- Categorised actions according to the level of intervention required to achieve our 2030 energy intensity target using investment grade energy audits and Energy Savings Opportunity Scheme compliant energy audits.
- Reduced our exposure to F and G rated Energy Performance Certificates to 0.1 per cent of our rated portfolio through refurbishment.
- Mandated Design for Performance across our new developments and major refurbishments to ensure that our buildings perform as efficiently as designed, once in use.
- Rolled out our occupier app "sesame," which once fully enabled provides real time energy data throughout our managed office portfolio to help engage our occupiers on sustainability performance.
- Set a target to increase biodiversity net gain by 25 per cent across our portfolio. Nature based solutions can contribute to improved energy performance of buildings through shading and by reducing the urban heat island effect which can contribute to demand for air conditioning.

How we'll deliver for 2030:

- Further integrate energy efficiencies into planned maintenance and refurbishment strategies.
- Transition from a reliance on fossil fuels towards electric based heating, cooling and hot water systems.
- Continue to target buildings for light-touch, moderate or deep energy efficiency retrofit through refurbishment.
- Achieve a whole-building energy performance of 90kWh per m² for new developments, aligned with the UK Green Building Council 2030 energy intensity target for offices.
- Increase collaboration with our occupiers on energy usage, engaging with them on energy reduction opportunities, continuing to roll out green leases where applicable to support change.
- Work with our supply partners to identify potential efficiencies and invest further in building optimisation solutions to reduce energy demand.

UN Sustainable Development Goals





**INCREASE
RENEWABLE
ENERGY
SUPPLY**

**GENERATE 600MWh
OF RENEWABLE
ENERGY ACROSS
OUR PORTFOLIO AND
SUPPORT UK GRID
DECARBONISATION**

Prioritising renewable energy technologies and zero carbon technologies will support us to further decarbonise our business and create climate change resilient and adaptable spaces.

Procuring energy on renewable tariffs from energy suppliers is important and UK grid decarbonisation is forecast to accelerate significantly during the next 10 years. However, we do not see this as an integral part of our Net Zero Carbon strategy, as it does not drive energy efficiencies in buildings or create additional renewable energy.

We will work to increase our renewable energy supply from installed on-site renewable energy.



Increase
renewable
energy supply



INCREASE RENEWABLE ENERGY SUPPLY DEEP DIVE

100%

of energy procured by us
on zero carbon tariffs

600MWh

energy generation targeted
from photovoltaic arrays

Why it's important?

- If we are to decarbonise our business in line with climate science, we must increase our on-site renewable energy generation, whilst also reducing our reliance on the national grid. This means investing directly in renewable energy on-site solutions. Adopting renewable energy technologies in our buildings will allow us to transition away from fossil fuels.

Driving improved energy efficiency at 160 Old Street, EC1 using a photovoltaic array.



What we've done:

- Included photovoltaic arrays and other low or zero carbon technologies at our new build developments.
- Procured REGO-backed electricity³ since 2014 and certified green gas (biogas) since 2018 across the entirety of our contracted supplies, making us one of the first UK REITs to do so. Whilst this contributes to overall grid decarbonisation, it is not creating additional renewable energy and therefore we have discounted it from our definition of a net zero carbon building. Focusing instead on location-based carbon emissions.
- In our calculations we have assumed decarbonisation of the grid (both electricity and gas) to have increased by 50 per cent by 2030.
- Reviewed the use of Power Purchase Agreements (PPAs) where electricity is purchased directly from the generator of a new energy source. Due to the size of our portfolio and scale of our emissions, this was not considered to be suitable for our decarbonisation strategy at this stage.

3. Renewable Energy Guarantees of Origin.
4. The provision of new electricity capacity to the grid that would not have happened without this investment.

How we'll deliver for 2030:

- Increase on-site renewable energy generation across the managed portfolio with fifteen assets targeted for photovoltaic array retro-installation to generate 600MWh of renewable energy, equal to the power requirement of 160 homes.
- Continue to install renewable energy at new developments where feasible.
- Conduct feasibility audits to replace fossil fuel systems, this is of critical importance to decarbonise our buildings.
- Consider local energy generation solutions including establishing and connecting to existing district energy, heating and cooling networks.
- Continue to review the role PPAs could play within our energy management strategy to ensure that investment in renewable energy contracts demonstrates additionality⁴ as the market evolves.

UN Sustainable Development Goals



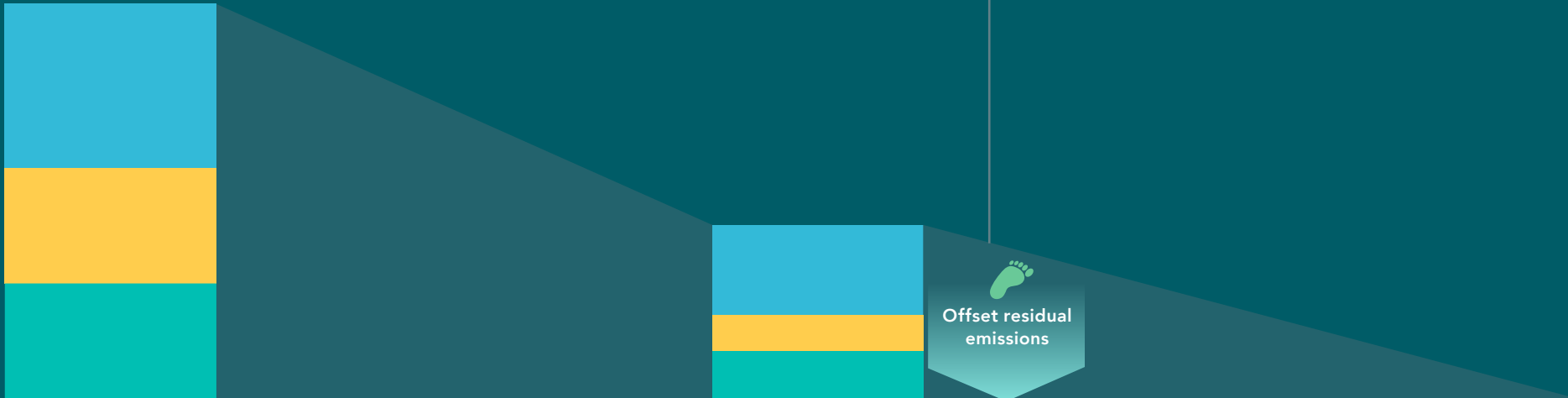


OFFSET RESIDUAL EMISSIONS

OFFSET RESIDUAL EMISSIONS AND IMPLEMENT INTERNAL CARBON PRICING

Prior to offsetting, we will follow our hierarchy of reducing embodied carbon, addressing energy efficiency and installing renewable energy. Using an internal carbon price of £95 per tonne, we will calculate the level of offset required and provide transparency on the quality and type of chosen offset.

To become a net zero carbon business we also need to reduce the carbon emissions associated with operating our business. Where we have been unable to reduce these to zero we will offset the residual emissions using the same methodology.





OFFSET RESIDUAL EMISSIONS DEEP DIVE

£95

per tonne Internal Carbon Price

April 2021

Decarbonisation Fund established

Why it's important?

- As we move towards 2030 there will be residual carbon emissions that we cannot eliminate due to limitations of technology and materials or because it will be prohibitively expensive to do so.
- In this context offsetting carbon is an appropriate way to compensate for residual emissions, whilst technology, materials and processes evolve.
- Forecasts show that by meeting our targets, we are likely to reduce our carbon footprint by 50 per cent by 2030. We anticipate offsetting the residual amount to reach net zero and therefore it is vital that our approach is clear and transparent.

What we've done:

- Set an internal carbon price of £95 per tonne of carbon. This ensures a meaningful financial impact is applied to projected carbon emissions.
- Considered how the carbon offset market will evolve to 2030 to ensure that we adopt a strategy aligned to our business goals.
- Retrospectively conducted appraisals on live development projects to ensure pricing was appropriate.
- Offset corporate emissions including employee business travel and the production of the Annual Report and Accounts.
- Put plans in place to create our Decarbonisation Fund, active from April 2021, which will be seeded with the funds from our carbon price from our annual operational carbon emissions (starting with the year 1 April 2020 to 31 March 2021) and the embodied carbon emissions from our developments.

How we'll deliver for 2030:

- Use our Decarbonisation Fund to facilitate the decarbonisation of our portfolio supporting energy efficiency projects and other initiatives to substantially reduce the carbon emissions associated with the operation of our buildings. This will further drive improved performance in our existing buildings and potentially reduce projected carbon offsetting required in 2030.
- Integrate an internal carbon price into development appraisals, offsetting embodied carbon from our development projects into our Decarbonisation Fund on reaching practical completion.
- Offset year on year operational emissions from our portfolio into a Decarbonisation Fund from April 2021 to incentivise improved performance.
- Supplement the Decarbonisation Fund with an offset fund to be used for community projects that align with our strategy. This will be developed with a third party provider and will demonstrate additionality and transparency. It is anticipated that this fund will initially be used to offset other emissions outside of our value chain.

The internal green wall within our refurbished reception space at 200 Gray's Inn Road.



Future offset projects will support local communities. Supporting the Southwark Community with our partners Groundwork London.



UN Sustainable Development Goals



BEYOND 2030

We will be a net zero carbon business by 2030, measured as reaching a level of decarbonisation across our value chain consistent with a 1.5°C pathway. We also recognise that, whilst the wider market may still be transitioning to reach net zero carbon, our journey will continue.

From 2030 we will continue to offset our residual emissions. However, we will also continue to reduce our carbon footprint and therefore the number of carbon offsets will decrease on a year on year basis.

The embodied carbon from our development activity is anticipated to be the greatest source of our residual carbon emissions, with concrete and steel responsible for a significant proportion of these.

There are significant opportunities in collaborating with our partners to unlock the potential of new materials and processes to reduce the carbon associated with construction.

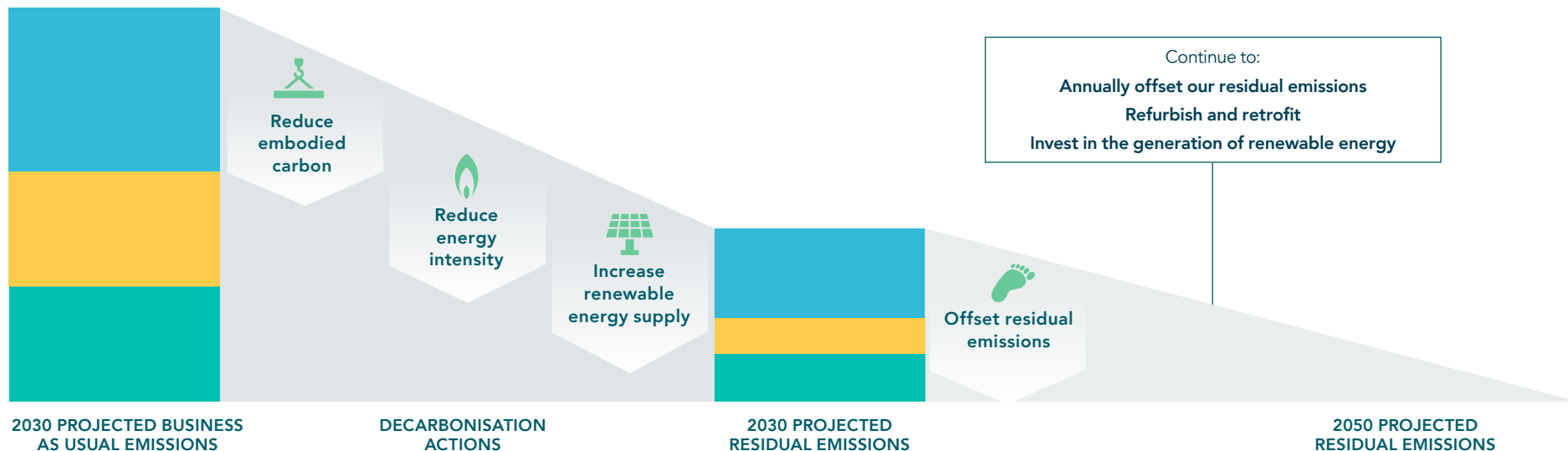
The greatest challenge will be in refurbishing and retrofitting existing buildings, with the use of circular economy principles key to reducing whole life carbon.

Whilst 2030 energy intensity targets can be achieved with existing technology, further reductions become increasingly challenging beyond 2030. The ability of our older buildings to meet these is not yet known, particularly where the deep retrofit required is not compatible with historic buildings.

Our Decarbonisation Fund will support the retrofitting of energy efficiency measures, substantially reducing the transitional risks to our portfolio (such as stranded assets), associated with climate change.

Grid decarbonisation will continue beyond 2030. There is still much uncertainty about how the gas network will decarbonise; we will therefore continue to transition away from fossil fuels across the portfolio moving to wholly electrified buildings, whilst continuing to invest in the generation of renewable energy.

Those who can move faster must do so and we believe there are opportunities ahead if we succeed. We are collaborating across our value chain, and combining expertise with an ambition to be zero carbon or carbon negative by 2050.



THE DETAIL

SCOPE OF OUR NET ZERO CARBON ROADMAP

The majority of our carbon footprint is comprised of our portfolio-related scope 3 emissions (85 per cent) – the indirect greenhouse gas emissions, generated through our supply chain and occupiers. 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 lifecycle, as opposed to focusing solely on the relatively small operational emissions that sit within our direct control, i.e. the gas and electricity purchased by us to power our services.

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.

Included in scope:

- Corporate emissions including employee commuting, business travel and purchased goods and services.
- All buildings within our operational control boundary, including 100 per cent of emissions from our joint venture buildings – this means the whole building impact (common parts and occupier 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 we have a degree of influence.
- All buildings held for at least three years. Any buildings which are sold during the reporting year are excluded from the date of disposal.
- The embodied carbon emissions from the material product stage, construction stage and maintenance and operational stages.
- Material supply chain emissions.

The scope of our roadmap does not currently include the emissions captured within the 'other' section of our carbon footprint on page 2. These emissions relate to the operational energy use of sold buildings and the demolition of sold buildings which, together, accounted for 15 per cent of our 2019 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. We will review this position regularly.

As data improves across the industry and knowledge in the sector on carbon accounting grows it is possible that our carbon footprint may grow before it reduces.

OUR TARGETS TO 2030

To ensure that we decarbonise our business, in May 2019, we set ourselves three ambitious targets that underpin our strategy.

Our targets commit us to:

- Reduce our energy intensity by 40 per cent across our investment portfolio by 2030, compared to a 2016 baseline.
- Reduce our carbon intensity by 69 per cent across our investment portfolio by 2030, compared to a 2016 baseline.
- Reduce the embodied carbon of our developments and major refurbishments by 40 per cent by 2030, compared to a 2019 baseline.

These targets are challenging due to their scope, in addition to the scale of reductions required. Set following a feasibility exercise undertaken to understand the potential scale of energy efficiency reductions in our existing portfolio, in addition to the current market ability to deliver embodied carbon reductions, these targets form the basis of our net zero carbon roadmap.

The targets include occupier emissions and embodied carbon from our developments and therefore include more than two thirds of our indirect emissions.

Targets are meaningless unless they are embedded throughout the organisation and shape behaviour. Accordingly, during the year we incorporated our targets into our ESG-linked Revolving Credit Facility, and included a target to improve biodiversity net gain across our portfolio by 25 per cent by 2030 to support nature-based solutions. Looking forward, the rate of interest we pay on this facility will depend on our performance against these targets.

Our targets are based in science and are aligned with the level of decarbonisation required to achieve the aims of the Paris Agreement and limit global temperature rise to 1.5°C, which we know is critical to limit the impact of climate change for hundreds of millions of people.

In line with best practice, we have also obtained validation of these targets as consistent with a 1.5°C scenario by the Science-based Targets Initiative.

40%

**reduction in energy intensity
across our investment portfolio**

69%

**reduction in carbon intensity
across our investment portfolio**

40%

**reduction in embodied
carbon of developments
and major refurbishments**

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 |
|---|--|--|---|
| Embodied carbon | Reduce carbon intensity of developments, refurbishments and fit-outs during stages A1-A5 by 40 per cent by 2030. | <ul style="list-style-type: none"> – Conduct whole life carbon assessments for all new developments and major refurbishments over £3 million. – Review opportunity for retention of existing building structure and retrofit. – Research further prefabrication and alternative carbon efficient materials. – Achieve 572kgCO₂e per m² GIA for new developments by 2030. – Achieve 204kgCO₂e per m² GIA for refurbishments by 2030. | <ul style="list-style-type: none"> – Whole life carbon assessment – Carbon intensity (kgCO₂/m² GIA) |
| Operational (investment portfolio) energy and carbon | Reduce energy intensity by 40 per cent and carbon intensity by 69 per cent by 2030 compared to our 2016 baseline. | <ul style="list-style-type: none"> – Further embed energy action plans and establish building level energy reduction trajectories. – Improve data accuracy and measure actual occupier procured energy. – Mandate Design for Performance for new developments. – Achieve 90 kWh/m² energy intensity by 2030. | <ul style="list-style-type: none"> – Investment in energy efficiency initiatives (£) – Energy intensity (kWh/m²/year) – Carbon intensity (kgCO₂e/m²/year) |
| Renewable energy | Reduce reliance on electricity grid and invest directly in energy solutions which provide renewable additional capacity. | <ul style="list-style-type: none"> – Continue to procure REGO-backed electricity and certified Green Gas for 100 per cent owner energy use. – New developments to have electric heating, cooling and hot water systems. – Explore opportunities for self-generation renewable energy at existing assets and new developments. – Increase proportion of occupier directly procured utility supplies. – Ongoing feasibility review on the appropriateness of PPAs. | <ul style="list-style-type: none"> – MWh on-site capacity – Location and market-based emissions (tCO₂e/year) – Total investment (£ and MWh) |
| Offsetting residual emissions | Provide climate finance to support environmental and social causes. | <ul style="list-style-type: none"> – Establish internal carbon price with proceeds used to establish a Decarbonisation Fund to reinvest to reduce emissions within our value chain. – Offset residual operational emissions annually and development related emissions at project completion. – Ensure any offsetting measures used demonstrate additionality. | <ul style="list-style-type: none"> – Total emissions offset (tCO₂e) – Quantity and types of offsetting used |
| Third-party verification | Demonstrate transparency and accuracy around reporting. | <ul style="list-style-type: none"> – Continue to instruct independent assurance of key ESG metrics, published annually, and progress against our ESG-linked RCF targets. – Continue to seek independent certification where relevant e.g. BREEAM and Science Based Targets Initiatives. | <ul style="list-style-type: none"> – Independent Third Party Assurance statement ISAE3000 |
| Governance and oversight | Establish appropriate internal governance to ensure that targets are met. | <ul style="list-style-type: none"> – We have established two internal working groups (Portfolio and Development) that will report into our Sustainability Committee which is chaired by our Chief Executive. – Our 2030 targets are included within the objectives of a number of our senior management team and will be used to assess levels of future remuneration. | <ul style="list-style-type: none"> – Progress against targets report – Annual Report and Accounts |

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 |
|---|---|--|--------------|-----------------|---|
| Corporate | Head office energy use | Company facilities | 1 & 2 | No | Yes |
| | Company vehicles | Company vehicles | 1 | No | Not relevant as no company vehicles. |
| | Business travel | Business travel | 3 | No | Yes – business travel accounts for 0.3 per cent of our carbon footprint and is already offset annually. |
| | Purchased goods & services | Purchased goods & services | 3 | No | Yes – accounts for 0.5 per cent of our carbon footprint. |
| | Operational waste | Waste generated in operations | 3 | No | Yes – all owner managed waste accounts for 0.03 per cent of our carbon footprint. |
| | Operational water use | Purchased goods & services | 3 | No | Yes – together, all water use accounts for 0.1 per cent of our carbon footprint. |
| | Employee commuting | Employee commuting | 3 | No | Yes – accounts for 0.1 per cent of our carbon footprint. |
| Direct Real Estate Holdings (including JVs with management control) | Owner purchased energy (electricity & fuels) | Purchased electricity, heat and steam | 1, 2 & 3 | Yes | Yes |
| | Occupier purchased energy (electricity & fuels) | Downstream leased assets | 3 | Yes | Yes |
| | Owner refrigerants | Purchased goods & services | 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 | 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 and services | 3 | Yes | Yes |
| 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) ^[1] | Owner purchased energy (electricity & fuels) | Investments | 3 | Yes | Yes |
| | Occupier purchased energy (electricity & fuels) | Investments | 3 | Yes | Yes |
| | Owner refrigerants | Purchased goods and 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 |
| | | | | | |
| Development | New development (including those where funding is being provided) | Purchased goods & services | 3 | Yes | Yes |
| | Refurbishments | Purchased goods & services | 3 | Yes | Yes |
| | Fit-out (Owner controlled) | Purchased goods & services | 3 | Yes | Yes |
| | Fit-out (Occupier controlled) | Occupier scope 3 | 3 | Yes | No – currently excluded due to lack of oversight. |
| | End of life | End of life treatment of sold products | 3 | No | No |

GLOSSARY

A1-A5

Lifecycle stages of a building are split into modules from A1-A5 stages relate to the materials production 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.

Biodiversity net gain (BNG)

Overall increase in habitat and/or quality of a natural environment. Provides targeted improvements of biodiversity and societal benefits.

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 (CO₂e)

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.

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 £3 million pounds. 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 lifecycle 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 occupier.

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 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.

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. eg a carbon neutral 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 or negative with the balance emissions that are either offset or sequestered. A building must be highly energy efficient, powered from on-site or off-site renewable energy, with any remaining balance offset.

Occupier emissions

The carbon impact of the electricity and gas used within an occupier'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.

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 at 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-backed electricity

A renewable energy contractual instrument with a Renewable Energy Guarantees of Origin (REGO) certificate. One REGO certificate covers one megawatt hour. Also referred to as a zero carbon tariff.

Science-based targets

Targets that are based in science and meet the level of decarbonisation required to limit global warming to well below 2°C meeting the aims of the 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 lifecycle, from the materials sourced and used during construction, the operational energy use and maintenance and the end-of-life demolition of the building.

United Nations Sustainable Development Goals

17 goals set by the United Nations in 2015 that address economic, environmental and societal challenges.