

BRIDGES

Fund Management

Sustainable sharing

Co-living and the path to Net Zero



Co-living offers clear sustainability benefits for both planners and occupiers – creating attractive growth fundamentals for specialist investors



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Residential buildings are a significant contributor to human carbon emissions.

In the UK, for example, which has some of the oldest and least efficient housing stock in the developed world, they account for about one-sixth of all emissions. And this figure only includes the operational, day-to-day carbon; it excludes the substantial amount of 'embodied carbon' involved in the construction of new homes (and the demolition of old ones).

Since the UK alone needs to be producing at least 300,000 new homes per year just to keep up with demand, it's clear that the residential sector represents a significant barrier to our Net Zero ambitions. In fact, according to Science-Based Targets estimates, we need to reduce residential carbon emissions by up to 97% relative to 2020 levels if we are to achieve Net Zero by 2050. On the current trajectory, housing-related emissions in 2050 are forecast to be higher than the UK's entire available carbon budget.

In this short paper, we summarise how Bridges is trying to tackle this pressing challenge through our emerging co-living portfolio.

For each development, our team conducts a detailed Assessment that helps us understand the building's 'Whole Life Carbon' – its total emissions from conception, to operation, to demolition and re-use/recycle – in relation to science-based benchmarks. Without this holistic view, it's impossible to judge whether a building is truly sustainable, and thus whether it is supporting our climate goals.

But a focus on sustainability isn't just good for the planet. It also has clear commercial benefits. Planners are increasingly interested in models that support the decarbonisation of the built environment. Residents increasingly want sustainable buildings that are better for the planet and cheaper to run. This creates strong fundamentals for long-term market growth in sectors like co-living that are responding to these drivers. At Bridges, we are already seeing that buildings with stronger sustainability credentials are starting to achieve higher capital values and rents.

This is still a nascent field, so we are continually looking to learn from and build on best practice, in order to improve our sustainability performance. If you can help, please get in touch.

APPROACH

Assessing Whole Life Carbon

A Whole Life Carbon assessment helps to capture the likely emissions of a building throughout its entire lifecycle – not just its operational phase

For every Bridges investment, our diligence begins with a Whole Life Carbon assessment, covering the two key areas (see graphic):

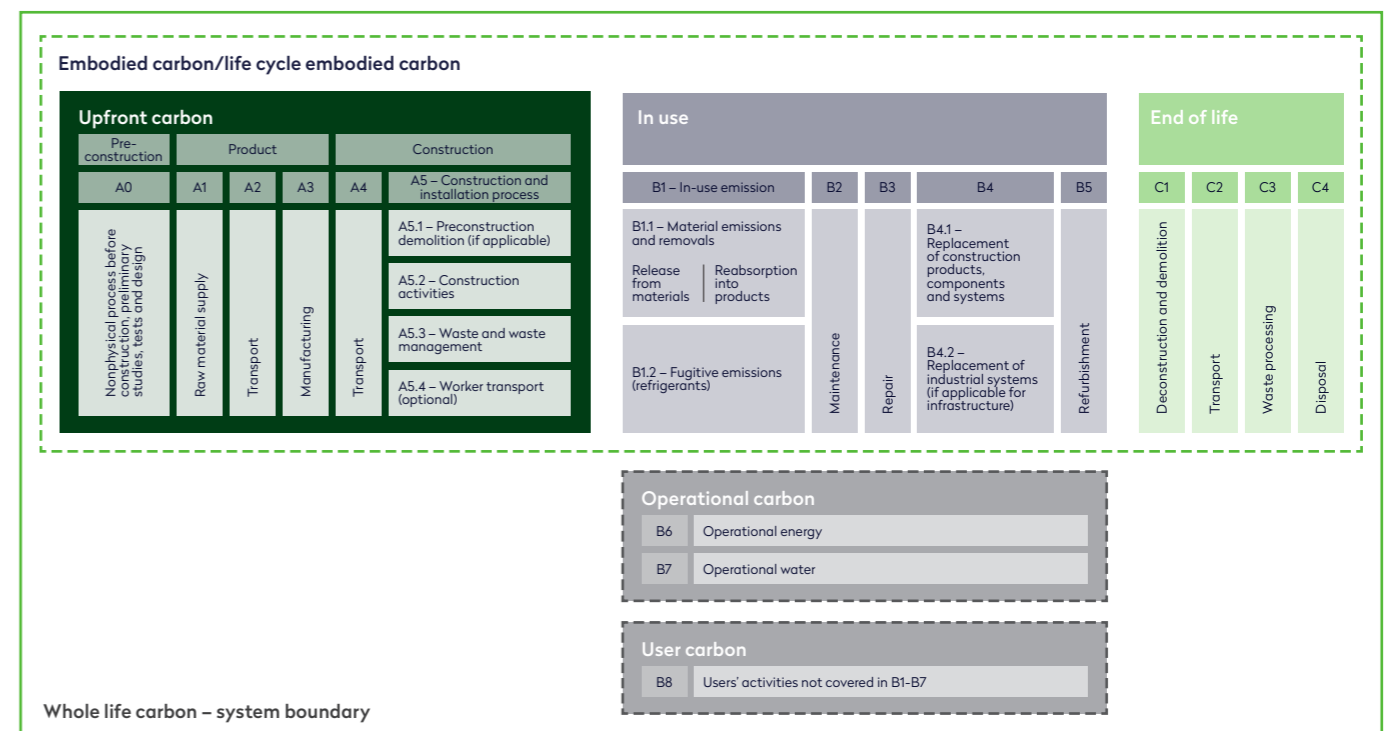
- > **Embodied carbon:** The emissions involved in creating the building, maintaining it through its use phase, and ultimately disposing of it.
- > **Operational carbon:** The emissions produced by the ongoing operation and use of the building.

This assessment will look at the embodied carbon of the existing structure (including the substructure, frame, roof, walls, windows etc.), while also building a model for operational energy and water use. This allows us to analyse and appraise the Whole Life Carbon implications of various development options for the building at early design stage – from different levels of refurbishment, to demolition and re-build.

In some cases, this 'carbon optioneering' process will show that the best way to reduce the building's whole life carbon emissions is to retrofit or modify the existing building, as with Bridges' proposed 'Cornerstone' co-living development with HUB at Beech Street in London.

For other buildings, however, it may show that modifying the existing structure is not the best option in terms of future carbon or operational performance. In these cases, it may be preferable to opt for a new-build that can target the highest possible sustainability credentials, thereby achieving a lower Whole Life Carbon.

Retaining the existing building should arguably be the default option. But a Whole Life Carbon assessment enables investors to make an informed decision about the best strategy in each case – and then identify ways to reduce embodied carbon further during construction or refurbishment.



Co-living can support our Net Zero ambitions in two important ways:



1

By reducing the 'embodied carbon' involved in new housebuilding



2

By creating smaller, low-carbon homes that are future-proofed for a Net Zero pathway

Mitigating embodied carbon

Embodied carbon in the residential sector is a significant barrier to our Net Zero aspirations. Co-living can help address this

Historically, discussions about carbon emissions in the residential sector have focused on operational carbon: the emissions we produce in heating, ventilating, lighting and powering our homes.

But the process of building, maintaining and demolishing housing also generates substantial emissions. This 'embodied carbon' already accounts for a significant proportion of a building's Whole Life Carbon – and as the supply of clean energy continues to reduce operational emissions, this proportion will only increase.

Yet embodied carbon remains largely absent from the policy debate. There are currently no legal restrictions on it, and reporting remains voluntary.

Given the number of new homes that must be developed in the period between now and 2050, tackling this challenge is crucial if we are to have any hope of building a more sustainable residential sector and achieving Net Zero.

With our co-living developments, we are looking to mitigate embodied carbon in two key ways:



1 By taking a 'retrofit-first' approach:

- > Retrofitting inefficient old buildings is a critical part of the path to Net Zero (since 80% of the buildings in existence today will still be here in 2050). Vacant or under-used buildings – such as city-centre offices affected by the move towards hybrid working – can be repurposed to create these developments.
- > This generally involves less embodied carbon than knocking down an existing structure and building a new one, particularly if the existing structure requires relatively little modification.



2 Through progressive construction methods:

- > Using lower-carbon materials (such as low-carbon cement)
- > Sourcing locally and/or transporting materials with low-carbon vehicles
- > Minimising waste, and reusing or recycling products wherever possible
- > Designing the building to be as flexible as possible, to minimise future refit needs



Our estimates suggest these measures can reduce embodied carbon by up to 50% compared to a standard residential new-build.



'Cornerstone'
Beech St
London EC2

CASE STUDY

Co-living: a sustainable solution for the City?

More than 70% of carbon emissions in London come from existing buildings, most of which will still be here in 2050.

In the City, the main business district, Government data suggests that 70% of office space has an EPC rating lower than B. And with occupancy down an estimated 20% post-Covid, making these leaky buildings more sustainable is going to be a significant challenge for planners, developers and investors over the next decade.

Retrofitting these buildings can potentially cut operational carbon emissions by up to 7.7 MtCO₂ per year; that's equivalent to 5%

of the UK's entire carbon emissions in 2019. And if these retrofits create sustainable low-carbon co-living space, helping to address the urgent need for more quality housing, that is a double benefit for all stakeholders.

Bridges and HUB have recently acquired two part-vacant office buildings in the City, with a view to repurposing them as co-living communities. Both of these buildings are old (dating from the 1950s and 1960s respectively) and inefficient. Our goal is to support the City's planning goals by delivering over 300 housing units, while upgrading the buildings to EPC A – reducing their 'whole life' emissions.

Targeting zero carbon in operation

Co-living developments can be designed and built to target zero operational carbon

Co-living is inherently a lower-carbon living model, because of its focus on smaller living spaces (which require less energy) and shared amenities (which encourage more efficient use of resources).

Bridges' proposed schemes look to supplement this through a combination of smart design and clean energy provision, with the goal of making these buildings low- or zero carbon in operation.

This is in line not only with Bridges' own climate goals, but also with the regulatory direction of travel: current Government policy states that from 2025, all new residential homes will have to be 'zero carbon ready', i.e. energy-efficient and electrified, so they decarbonise as the grid decarbonises. (Albeit this target has already been pushed back nearly a decade from its original date of 2016).

To achieve this, our investment and sustainability teams work closely with our development and JV partners, who are required to commission an operational energy modelling study that forecasts the energy and energy-related costs required by the building, while also using a science-based methodology to determine alignment with the Paris 1.5°C scenario. This can then feed into the building design, alongside well-being and biodiversity considerations.

Design:

- > Passive design
- > Fabric-first principles
- > Plans to minimise water usage and waste

Shared amenities:

- > Extensive common areas with a full range of services, including a lounge, gym, coworking space, communal kitchen, private dining room, multi-media / cinema rooms, and roof terrace
- > External landscaped gardens

Good health and well-being:

- > Improved public and resident cycle provisions
- > Outdoor planted spaces
- > Opening windows for natural ventilation
- > Initiatives to improve biodiversity

Clean energy:

- > Fully electric
- > Utilising on-site renewables (air source heat pumps, photovoltaics)
- > Supplied by providers that only use renewable energy, like Ecotricity or Good Energy
- > LED lighting, mechanical ventilation heat recovery, connection to district heating schemes, etc.



Bridges typically seeks the following accreditations:

Operational Net Zero Carbon

Energy Performance Certificate (EPC) A

- > Puts the scheme within the top 2.5% of non-domestic buildings in England in terms of energy efficiency

BREEAM Outstanding (Minimum Excellent)

- > BREEAM sets environmental sustainability benchmarks based on energy, land use and ecology, water, health and wellbeing, pollution, transport, materials, waste, management and innovation
- > Only 1% or less of the BREEAM certified buildings receive a BREEAM Outstanding certification

Fitwel 3 Stars

- > Standard for features of the built environment that impact human health, safety and well-being (e.g. indoor environment, water supply, shared spaces, work spaces, outdoor space, emergency procedures, etc.)
- > 3 Stars represents the best possible outcome for building occupants in terms of well-being – and data indicates that occupant well-being drives higher real estate values.

Bridges' co-living investments

To date, the Bridges Property Funds have invested into three co-living developments in central London, alongside our long-time partner HUB.



150 Minories, EC3

Seeking a retrofit and extension of this redundant City office building to create high-quality living space, reducing embodied carbon and aiming for Net Zero operational carbon



Beech Street, EC2

Planning sought to repurpose a part-vacant office building to build 175 sustainable, low-carbon co-living units on a prime site at the edge of the iconic Barbican Estate



Wood Lane, W2

Redeveloping the existing site in Hammersmith, West London, to create high-quality co-living space plus specialist accommodation for vulnerable women

GET IN TOUCH!

Bridges invests exclusively in the transition to a more sustainable and inclusive economy.

The Bridges Property Funds support real estate solutions in sectors that are well-placed to benefit from this transition, including lower-cost living, healthcare and sustainable logistics.

To discuss our approach to co-living, or our sustainability-driven approach to real estate investment more broadly, please drop us a line via maggie@bridgesfundmanagement.com.

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Cover picture shows Bridges & HUB's Queen's Quarter development in Croydon