BRIDGES

The value of low-carbon logistics

Developing the next generation of sustainable buildings

THESIS

The case for green logistics

In the fast-growing urban logistics sector, improving the sustainability performance of buildings has clear commercial and environmental benefits

THE DECARBONISATION IMPERATIVE

There is growing consensus on the urgent need to decarbonise the built environment:

- Currently, the built environment is responsible for about **37% of all carbon emissions globally per annum[1], 34% of global energy demand, and about 50% of all extracted materials[2]**

The World Green Building Council proposes:

- **By 2030**, all new buildings should have 40% less embodied carbon and be **Net Zero Carbon in operation**
- **By 2050**, all buildings – new and existing – should be **Net Zero Carbon in construction and operation[3]**

Decarbonising commercial buildings will be a big part of this challenge:

- **Over 80% of non-domestic properties** in England & Wales are rated **below EPC B** (the likely minimum standard by 2030)[4]
- **61%** of Europe's warehouse stock is over 10 years old[5]

So in the next decade, reducing emissions from commercial buildings will be **a major focus of politicians and regulators.**

A GROWTH SECTOR

Urban and last-mile logistics is a sector with strong growth fundamentals.

E-commerce continues to grow, creating more and more demand for logistics buildings:

- In the UK, e-commerce accounted for **26.7% of all retail sales** in 2023, up from just 3.4% in 2007[6]
- E-commerce **revenue** is forecast **to grow 41%** between 2023 and 2028[7]
- Research has suggested that e-commerce can be **up to 36% less carbon-intensive** than traditional bricks-and-mortar retail[8]

The continued trend towards **re-shoring** is also helping to sustain industrial demand:

- Manufacturing has been **ticking up steadily** since mid-2023[9]
- 2022 was a **record year** for manufacturing-related leasing[10]
- In Q2 2024, take-up of industrial floor space in the UK was **9.5 million sq. ft.**, the strongest quarter for almost two years[11]
- But in major cities, **industrial space has been dwindling[12]** over the last 20 years (e.g. London ▼24%; West Midlands ▼19%)

80%
of commercial properties lag expected energy-efficiency standards

26.7%
online sales as a percentage of all UK retail sales in 2022

$350bn
potential global demand for green logistics by 2030

[1]United Nations Environment Programme (UNEP); [2]World Green Building Council (WGBC); [3]WGBC; [4]www.gov.uk; [5]JLL; [6]Office for National Statistics (ONS); [7]Statista.com; [8]MIT RE Innovation Lab/ Prologis; [9]Statista.com; [10]Savills; [11]Knight Frank; [12]Industrial Land Commission

SUPPLY VS DEMAND

Global **demand for green logistics** could reach **$350bn by 2030.[12]**

Although record investment in the sector post-Covid has boosted supply, **there is an under-supply of high-quality smaller units**

- Over the past five years, **73%** of take-up has been for new and **grade-A space[13]** – but almost half of the current vacant space is of lower quality than this
- In 2023, **construction** of units of <50k sq. ft. was **down 45%,** while **availability of to-let** units of <50k sq.ft. was **down 14%[14]**

For potential occupiers, sustainable building features have clear benefits:

- Reducing energy costs by **up to 60%** (via efficient design and on-site renewables)
- Improving energy security/ protecting against price volatility (cf. the 2022 spike)
- Future-proofing their business against incoming environmental regulation
- Achieving their own ESG/ Net Zero goals
- **63%** of European logistics occupiers would now be willing to **pay a rental premium** for a sustainable building[15]

Sustainable buildings are also more attractive to **onward investors and lenders**

- **Over 75%** of large real estate investors now have minimum environmental criteria[16]
- **85%** of investors will pay more for assets with sustainable features[17]

These fundamentals underpin a **strong investment outlook** for sustainable logistics buildings - and potentially a **green premium:**

- For 2024-28, average **rental growth** of UK logistics buildings is forecast at **3.3%** (4.2% in London)[18]
- BREEAM Excellent-rated UK logistics buildings have seen a **30bps 5-year median valuation premium** vs market Prime Net Yield[19]
- Assuming a rental premium of c. 10% (e.g. £1/sq. ft. premium on a £10/ sq. ft. rent), that implies **an overall valuation green premium of about 16.5%** vs. standard developments[20]

At the very least, units that do not meet these regulatory or investor standards may:

- become subject to **'brown discounts'**
- end up as **stranded assets**

Green logistics benefits from:

STRONG MACRO/ REGULATORY TAILWINDS

UNDER-SUPPLY OF QUALITY UNITS

ABILITY TO REDUCE OPERATING COSTS

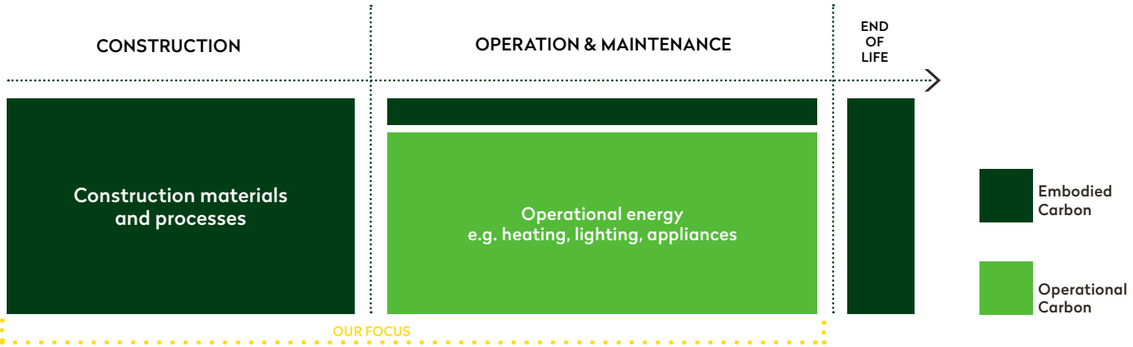
LARGER POOL OF ONWARD INVESTORS

[12]McKinsey; [13]Knight Frank; [14]JLL; [15]CBRE; [16]Knight Frank; [17]DTRE Industrial & Logistics Sustainability Handbook; [18]Capital Economics; [19]CBRE; [20]*Based on standard calculation of rental premium/ yield premium x 1.068*

APPROACH

Decarbonising logistics buildings

To develop truly sustainable logistics buildings, it is essential to think about emissions throughout the building's lifecyle



Conducting a **whole life carbon** analysis helps us understand how we can most effectively mitigate a building's emissions throughout its lifecycle.

In developing logistics assets with our partners, we focus particularly on the construction and operational phases. To date, the latter has been the main focus of building decarbonisation efforts. But as the grid electrifies and clean energy becomes more prevalent, embodied carbon is becoming a more significant portion of a building's total carbon footprint. So reducing construction impacts is becoming increasingly important.

Our process

When developing a sustainable logistics building, we take a 5-stage approach based on the UK Green Building Council framework

UK GBC

1 **Set ambitious targets** for the building's carbon performance (e.g. EPC A+, BREEAM Excellent, and zero operational carbon, i.e. without the need for offsets; wellbeing certifications may also be considered e.g. WELL, FITWEL)

BREEAM® EXCELLENT

2 **Reduce embodied carbon in construction** by using lean design to mitigate material usage, and working collaboratively with contractors

- The most significant way of reducing embodied carbon is typically through lean design: designing the building in such a way that it minimises material usage, reducing waste and costs.
- For logistics warehouses, steel and concrete are the two main sources of carbon emissions. A lean design might specify lower-carbon steel, cladding and ground-granulated blast-furnace slag, which reduces concrete's embodied carbon.
- We select contractors that share our ambitions on sustainability. We then work with the contractor throughout the build process to identify ways to reduce emissions ***without increasing build costs***, e.g.:
  - Using more efficient equipment/energy sources (e.g. smaller generators in cascade, instead of a larger generator); more efficient solar photovoltaic cells; changes in lighting and insulation specification; recycled aggregates; carbon neutral blocks; recycled raised floor system; metal cladding systems; recycled paint; etc.

3 **Reduce operational energy demand** by using a passive-first design approach and incorporating energy-efficient features (lighting, insulation etc)

4 **Increase renewable energy supply** using solar PV, on-site energy storage, and green energy procurement

5 **Offset any remaining carbon**, ideally via projects that remove carbon from the atmosphere

CASE STUDY

Verda Park, Wallingford OX2

At Verda Park in Oxfordshire, we delivered a best-in-class 154,000 sq. ft. sustainable logistics facility, using smart design to reduce embodied carbon by 40% and enabling zero operational carbon emissions.

Embodied carbon

The baseline embodied carbon for a development like this is ~700kg CO_2e/sqm[1]. At Verda Park, we were able to reduce this by over **40%**, via:

- **Lean design (30%):** Use of lower-carbon steel and concrete
- **Substructure (7%):** Use of specialist foundations such as vibro-compaction to reduced the concrete required for construction
- **Facade & roof (3%):** Use of lower-carbon materials e.g. non-combustible insulation
- **External works (2%):** Using low-carbon concrete with high recycled content and sustainable tarmac
- In addition, c. **95%** of excavation and construction waste was diverted from landfill

Verda Park's embodied carbon of ~400 kgCO_2e/sqm is already ahead of the proposed Science-Based Target (in line with a 1.5°C warming trajectory) of <500 kgCO_2e/sqm.

[1]Cundall, 2022

Operational carbon

Thanks to smart design, on-site renewables, and clean energy supply, Verda Park is **zero carbon in operation** (i.e. without the need for offsets).

Minimising energy demand

- 'Passive-first approach' to building design, focusing on good levels of insulation, optimal solid-to-glass ratios and minimal electric lighting
- Low air permeability design reducing air leakage by over 50% over the minimum required in Building Regulations.
- Roof lights occupy 10%-15% of the buildings' roof area, offering good daylight and thermal performance
- Water-efficient fittings, resulting in a 40% water reduction vs. BREEAM minimum standards

Using renewables

- c. 2,225m² of roof-mounted solar photovoltaics, supplying 100% of the buildings' energy requirements via renewable electricity and delivering cost savings to occupiers
- Air-source heat pumps that provide heating and cooling
- Any remaining energy requirement procured via a high-quality green tariff from a supplier that specialises in clean energy (Ecotricity), in line with the UK GBC Net Zero carbon framework

[2]2021 Q2-2024 Q1 www.gov.uk

40%
reduction in embodied carbon vs baseline

100%
of operational energy from renewables

EPC A+

BREEAM Excellent

At Verda Park, on-site renewables supply **100%** of the buildings' energy requirement, reducing consumption by **>400,000 KWh** annually.

Based on average electricity pricing over the last three years[2], that equates to an annual saving of **c. £100,000p/a.**

A leader in low-carbon logistics

Bridges' specialist property funds have delivered/ are delivering **almost 3m sq. ft**. of sustainable logistics facilities, with a total GDV of **over £750m**. Working with expert JV partners *(opposite)*, we are transforming redundant or under-used sites (including brown-to-green and change-of-use cases) into some of the UK's most sustainable commercial buildings. We typically target **EPC A+**, **BREEAM Excellent** and **zero operational carbon***.

With thanks to our brilliant development partners, for embracing our vision:

Chancerygate BEST PLACED FOR 25 YEARS · GRAFTONGATE · EQUATION PROPERTIES · BARWOOD CAPITAL · WRENBRIDGE · xlb · Kingsbridge Estates · OPUS NORTH

SAMPLE INVESTMENTS

Priestley Road, Basingstoke
(JV with Wrenbridge)

Redeveloping an empty office building on a 10-acre site to create 215,000 sq. ft. of logistics space, achieving EPC A+, BREEAM Excellent and designed to be zero operational carbon. The development, which is expected to provide c. 250 local jobs, was sold via forward-funding for a strong return.

Red Lion Road, Tolworth
(JV with Chancerygate)

Redevelopment of a 3-acre brownfield site on an industrial estate in south-west London, close to the A3. The scheme comprises nine industrial units ranging from 4,500 to 18,000 sq. ft., totalling 70,000 sq. ft. The building is designed to be EPC A+, BREEAM Excellent and zero operational carbon.

Nursling 135, Southampton
(JV with Graftongate)

Redeveloping a disused brownfield 6-acre site near Southampton to create a new 135,000 sq. ft. logistics development, which is targeting BREEAM Outstanding, EPC A+ and zero operational carbon. It is likely to support about 160 jobs, and has an expected value of ~£40m.

Frimley Business Park
(JV with XLB Property)

Redeveloping a vacant and derelict office building on a 9-acre site to deliver an industrial development of c. 100,000 sq. ft. over five units, ranging from c. 7,000 sq. ft. to c. 30,000 sq. ft. It is targeting BREEAM Excellent, EPC A+, and zero operational carbon.

Click Aylesford
(JV with Wrenbridge)

Redeveloping a vacant site adjacent to Junction 6 of the M20, with planning consent for 300,000 sq. ft. of industrial/ logistics development across six units. All units are designed to be BREEAM Excellent, EPC A+, and zero operational carbon. The site is expected to support over 400 jobs once it is fully operational.

New Lane, Havant
(JV with Kingsbridge Estates)

This 150,000 sq. ft. last-mile logistics facility – on the site of a disused factory – has charging provision for a fleet of over 700 electric vans. After completing in 2023, achieving BREEAM Excellent, it was pre-let to a global tech business on a 15-year lease at a rent of c. £4m per annum and pre-sold for a strong financial return.

*i.e. assuming typical levels of use, the building can be operated with zero carbon emissions without any need for offsets

See more: www.bridgesfundmanagement.com/investments/property/low-carbon-logistics

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