

UK Green Business Council

Whole Life Carbon Net Zero Roadmap: A Pathway to Net Zero for the UK Built Environment

Draft Consultation Response by the UK Warehousing Association

5.3.1. Non-Domestic Sectoral Growth & Demolition Rates

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ Somewhat Agree ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

UKWA has evidence to suggest that the predicted warehouse growth trajectory of 1-2% pa is too low.

- UKWA recently commissioned a report from Savills which shows that in the six years from 2015 to 2021 UK Warehousing saw 32% growth to 566m sqft (i.e. 4-5% growth pa).
- Turleys research shows that in 2019 there was 69 sqft of warehouse floorspace for every home in England. Based on the UK Government's stated aim of building 300,000 new homes per year, 21 million sqft of additional warehousing would be required per year, simply to keep parity (i.e. 3-4% growth pa).
- Prologis research shows that for every extra £1bn spent online, 775,000sqft of additional warehouse space is needed. Statista reports that from 2012 to 2019 (i.e. pre-Covid) e-commerce spending grew by more than £6bn pa, so if ecommerce continues to grow at the same rate, this factor alone will drive 1% growth in warehousing.

5.3.2. Non-Domestic Existing Building Heating Technology Mix

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ Somewhat Agree ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

Heating is not always provided in warehouses in the UK, although it may be specified for labour intensive environments (e.g. mail sortation centres); to ensure the safe operation of sprinkler systems (if trace-heating is not present); or to avoid freezing of temperature sensitive goods (e.g. chocolate). If winter temperatures fall significantly because of Anthropogenic Climate Change, this may perversely drive an increase in demand for such systems.

Where present, such systems usually rely on gas or oil-fired boilers. There are a few examples of solar walls and ground-source heat-pumps being deployed for warehouse heating. Air-source heat-pumps are not common, but may become more prevalent as predicted.

5.3.5. Non-Domestic Cooling Technology Efficiencies

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ Somewhat Agree ➤ **Neutral** ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

We note that efficiency data has been derived from a variety of sources, including the *Non-Domestic Building Services Compliance Guide* and *ASHRAE HVAC Systems & Equipment (2020)*, both of which focus on comfort cooling. Very approximately 10% of UK Warehouses are temperature-controlled facilities which form part of the cold chain for food, pharmaceuticals and some chemicals. These are mainly either chilled or frozen and use energy-intensive, electrically-powered cooling technologies. The efficiency of cooling technologies in temperature-controlled warehouses is not well reflected in the roadmap and UKWA would welcome the opportunity to discuss this further.

5.3.6. Non-Domestic Existing Building Retrofit Measures – Performance

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ **Somewhat Agree** ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

U-values are especially relevant for temperature-controlled warehouses although EPC ratings are forcing landlords to consider retrofit improvements for all kinds of existing stock, or face the risk of stranded assets.

Glazing is of limited relevance for warehousing.

Decisions on Voltage Optimisation will need to take into account the drive towards electrification of fleets (both mechanical handling equipment and also road-going fleets of vans or even trucks).

Most warehouses already have LED lighting, but further improvements in energy intensity could be achieved by improving controls.

Green Finance would be a welcome policy initiative, to help SMEs fund retrofit measures.

5.3.7. Non-Domestic Existing Building Retrofit Measures – Replacement Cycles

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ Somewhat Agree ➤ Neutral ➤ **Somewhat Disagree** ➤ Disagree

Please provide any further questions / feedback.

The depreciation period for wall and roof insulation is more typically 25-30 years in warehousing (not 40 years as indicated). 10 years is a reasonable assumption for lighting, but subject to layout: changes in warehouse fit-out can be necessary when there is a change of contract (typically every 1 to 3 years) and lighting installations are often reconfigured (e.g. to align with a new layout of aisles in the warehouse).

5.3.8. Non-Domestic Existing Building – Resultant Energy Intensities (EUI) **[MISSED ONLINE – entered in 6.1]**

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ Somewhat Agree ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

More automation might drive up energy use in warehouses, although conversely both the buildings and the robots are increasingly efficient. Warehouse energy intensity varies significantly, subject to the operation, so macro-changes in the economic environment (such as the growth of ecommerce) will affect the energy demand.

We expect to see factors such as regulatory instruments (e.g. business rates) or market forces (e.g. energy prices) having an impact too.

5.3.9. Non-Domestic Buildings – Installed PV Capacity

Do you agree with the trajectory inputs described in this section?

➤ Agree ➤ Somewhat Agree ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

Warehouses are particularly well-suited to solar PV installation, as most have huge flat roofs. BREEAM ratings and PV efficiency improvements have jointly driven the market. Standards may be required to ensure the load-bearing capability of the roof is sufficient.

Some UKWA members have experience of PV installations producing excess energy which is wasted because it cannot be accepted by the National Grid and battery technology is not available to store it. Electrification of fleets and installation of solar PV could go hand-in-hand in warehouses, subject to development of battery systems that allow for meaningful storage and re-release of the energy.

6.1 UKGBC Scenario Trajectory (2 questions below) With reference to the inputs and results shown in Section 6, do you feel the draft trajectory is:

➤ Too ambitious ➤ Suitable ➤ Not ambitious enough

Please provide any further feedback / comment

See 5.3.8 above

9.1 NGOS / Trade Associations / Professional Institutions

Do you agree with the recommendations described in this section?

➤ Agree ➤ Somewhat Agree ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

Actions such as integrating retrofit competency requirements within professional qualification criteria or supporting the uptake of BIM-based building passports seem very specific to organisations dedicated to the built environment. It is difficult to see how these could be made relevant to UKWA.

However, UKWA could certainly contribute to some aspects of the action plan, including updating our CPD requirements for net-zero skills. We have already factored carbon performance into our judging criteria and one of our nine industry awards is the “Environment Award”.

9.5 Occupiers

Do you agree with the recommendations described in this section?

➤ Agree ➤ **Somewhat Agree** ➤ Neutral ➤ Somewhat Disagree ➤ Disagree

Please provide any further questions / feedback.

Aspirations are bold across the UK Warehousing sector and many of UKWA’s members have made public commitments about the route to a net zero carbon economy. UKWA has chosen to respond to this public consultation because we recognise that sustainability is an important focus for everyone, including our members. There is, however, the potential for objectives to conflict. Three points about context are important:

1. Many warehousing companies also operate commercial fleets of vans or trucks. When selecting where to invest their limited resources for a low-carbon economy, it may be logical to prioritise transport (which accounts for about 25% of CO2e emissions in Europe) as the payback is often better than in warehousing.
2. Occupiers always aim to fit out their warehouses with efficient storage and/or handling systems which meet their customers’ needs. Being ‘ahead of your time’ sometimes comes with a productivity penalty (real or perceived). The safe and efficient storage and handling of goods directly affects the economic sustainability of warehousing businesses and may deter early adoption of new ideas, however ‘green’ they are. UKWA will continue facilitating shared best practice to help overcome such challenges.
3. Location can critically affect the carbon footprint of warehousing. There are both economic and environmental disadvantages for operations relying upon sub-optimally located warehouses. UKWA would welcome changes in the UK’s Planning System as part of the roadmap.

Any further feedback or comments on the overall Roadmap?

We are keen to discuss the relative merits of a voluntary approach, economic drivers and regulatory measures. The car manufacturing industry is an interesting case-study in simplification of the matrix of regulations for emission controls and whole life carbon, which perhaps the built environment sector could learn from.

We also note the shift away from focussing on carbon (or greenhouse gases) to the concept of “natural capital impact”. Although it is a valid starting point, it may not always be appropriate to look at CO2e in isolation.

In its current form, will the Roadmap assist you in your net zero journey?

Yes, but it could be even better. UKWA welcomes the opportunity for further follow-up.