

# LBN draft Local Plan | Policies CE2 and CE3 | Additional summary

## Introduction

This note provides additional information and evidence for the emerging Newham Local Plan policies CE2 and C3 and specifically:

- the proposed Purpose-Built Student Accommodation (PBSA) building Energy Use Intensity (EUI) target;
- the proposed Purpose-Built Student Accommodation (PBSA) building renewable energy generation target (PV) and, by extension, the target for tall buildings;
- the propose upfront embodied carbon target.

## PBSA Energy Use Intensity (EUI) target

Policy CE2, as currently written, requires PBSA buildings to achieve an EUI of 35 kWh/m<sup>2</sup><sub>GIA</sub>.yr. .

Student residential building EUI targets from other key sources and publications are summarised below:

- The GLA's Energy Strategy Guidance 2022: **55 kWh/m<sup>2</sup><sub>GIA</sub>.yr\***
- UK NZCBS: **74 kWh/m<sup>2</sup><sub>GIA</sub>.yr**, reducing to **50 kWh/m<sup>2</sup><sub>GIA</sub>.yr** by 2050

\* Classified as an 'all other non-residential' building

Based on recent modelling of PBSA building typologies for other technical evidence bases and project experience working on student residential buildings targeting Passivhaus certification, it has been found that the best practice buildings can achieve an EUI of around 48 to 50 kWh/m<sup>2</sup>, with most being around 55 kWh/ m<sup>2</sup><sub>GIA</sub>.yr.

Based the above, we would recommend adopting a student residential building EUI target of **between 55 and 65 kWh/m<sup>2</sup><sub>GIA</sub>.yr**. This would encourage a high level of building energy performance without being overly constraining.

## Tall building renewable energy target

Policy CE2, as currently written, requires all buildings other than industrial buildings to achieve a renewable generation target of 80 kWh/m<sup>2</sup><sub>fp</sub>.yr. .

Student accommodation buildings require significant rooftop areas for mechanical plant and services (e.g. heat pumps), which reduces the net area available for PV arrays. This spatial conflict is the primary factor limiting generation potential compared to other building types and this constraint is generally applicable to all tall buildings.

Detailed modelling undertaken for other evidence bases over the last three years show that typical PV layouts on PBSA / tall building roofs can reasonably achieve generate 35 and 70 kWh/m<sup>2</sup><sub>fp</sub>.yr, with east/west concertina configurations significantly more effective than purely south facing arrays.

Based this analysis, we would recommend reducing the PV generation figure to **between 50 and 70 kWh/m<sup>2</sup><sub>fp</sub>.yr** for tall buildings.

## Upfront embodied carbon target

Policy CE3, as currently written, states that '*Major developments are expected to meet embodied carbon limits of less than 500 kgCO<sub>2</sub>e/m<sup>2</sup>*'.

More recent work and research undertaken on embodied carbon indicates that:

- around one third of residential schemes referable to the Mayor of London achieve 500 kgCO<sub>2</sub>e/m<sup>2</sup>.
- Performance varies mainly by building height and type.
- It is much easier to achieve low levels of upfront embodied carbon (i.e. 500 kgCO<sub>2</sub>e/m<sup>2</sup> or less) for low rise residential buildings (<11m)..

In light of recent evidence and recognising that it this is an area which requires additional evidence, we would recommend retaining the word 'limit' but using a single higher number (i.e. 700 kgCO<sub>2</sub>e/m<sup>2</sup>) for all major developments.