



DESIGN NOTE

TO: Emma Davies – South Cambridgeshire Council
CC: Alison Wright - Bidwells
FROM: Fiona Batha
DATE: 20th September 2022
FILE REF:
PROJECT: 28629
SUBJECT: Addendum to Energy Strategy – Cambridge North

1. Addendum to Cambridge North Energy Strategy

This addendum is to address the comments by the South Cambridgeshire Energy Officer, with regards to the planning submission for Cambridge North, this should be read in accordance with the Energy Statement and Low Emissions Strategy.

This document provides some additional details regarding

- Overheating
- Mobility Hub
- Operational Energy Target

1.1. Overheating:

We note your concerns regarding overheating. We will be designing the development in line with Building Regulations Part O, and will be looking towards meeting CIBSE TM59 for the residential element of the development using a 2050s high emissions weather file in line with the draft Greater Cambridge Policy aspirations.

1.2. Mobility Hub

We have undertaken some initial energy analysis on the mobility hub. The mobility hub will be an all-electric system, with no heating or cooling. We will be using high efficiency LED lighting with sensors throughout the development, with lighting remaining on only in areas with safety concerns. Any ventilation will be designed with high efficiency fans with low specific fan powers.

Any lifts within the mobility hub, will be designed to be energy efficient in line with BREEAM guidance on Lifts.

1.3. Operational Energy

The development will be targeting a baseline operational energy target for the development inline with LETI targets and aspiring towards net zero. The development will be committing to 60kWh/m² (NLA) /year with aspirations to achieve 55 kWh/m².yr (NLA) for the base load for the building in line with office targets for net zero . The energy consumption commitments as noted above can be secured by condition as highlighted by the Cambridge Sustainability Officer.

The following image identifies the split of loads.

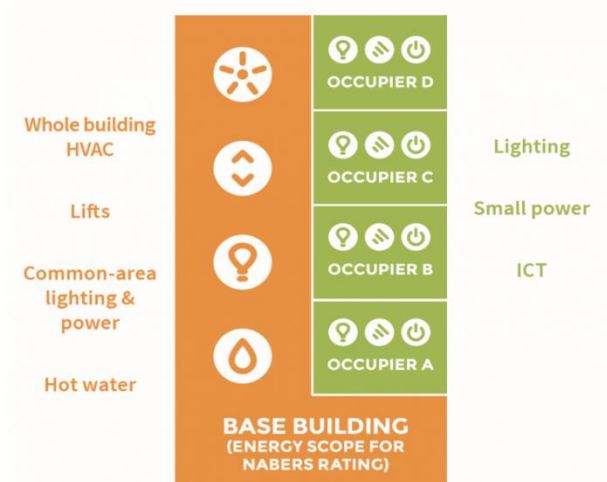


Figure 1 Whole building energy split base-build and tenant energy.

Targeting 5* NABERS with aspirations to achieve 5.5* This includes the loads that are feeding the baseload of the development, before the addition of loads that will support the tenant areas e.g. ventilation for labs.

Table 1: Energy performance targets for buildings targeting net zero carbon for operational energy

Scope	Metric	Interim Targets			Paris Proof Target
		2020-2025	2025-2030	2030-2035	2035-2050
Whole building energy	kWh _e /m ² (NLA) / year	160	115	90	70
	kWh _e /m ² (GIA) / year	130	90	70	55
	DEC rating	D90	C65	B50	B40
Base building energy	kWh _e /m ² (NLA) / year	90	70	55	35
	kWh _e /m ² (GIA) / year	70	55	45	30
	NABERS UK star rating	4.5	5	5.5	6
Tenant energy	kWh _e /m ² (NLA) / year	70	45	35	35

NLA = net lettable area GIA = gross internal area

Aspiration Commitment

Figure 2 UKGBC Net Zero Carbon : Energy Performance Targets for offices Table 1