



Sustainability & Energy Comments – Response

The information contained in this note are the responses to the sustainability and energy comments for the 247 Tottenham Court Road scheme set out in the Senior Sustainability Officer's email of 16th December 2020. For ease of reference the responses to the comments are set out in the same policy order as they are contained in the Senior Sustainability Officer's email.

Energy/CC1

The Senior Sustainability Officer's issue/further information request is repeated below:

Renewables – Non-residential

ASHPs SCOP, SEER

Issue/further information: Heat pump and system attributes to be confirmed

The proposed residential apartment air source heat pump (ASHP) efficiency information is embedded in the SAP worksheets included in the submitted energy strategy appendix document. To respond to the comment the information has been extracted and is set out and explained below:

Heating	For the heating operation the details of the proposed Panasonic ASHP are part of the SAP database. Hence, the unit is referenced directly into the SAP calculations from the SAP database. SCOPs etc. are therefore not inputted manually for this item. The database reference number for the ASHP is 102594
Cooling	For the cooling operation the energy efficiency ratio (EER) needs to be inputted. The applicable EER is 4.05.

Sustainability/CC2

There are three comments for policy CC2. These are dealt with separately in the text below.

The first issue/further information request is repeated below:

BREEAM

Issue/further information: The scheme should be recommended to target one more BREEAM Energy credit for the Retail parts. This would bring the whole development up to compliance with policy CC3.

The BREEAM retail pre-assessment energy section credit targets have been amended to include an increased target score for credit Ene 01. The energy section credit summary for the updated pre-assessment is as set out below:

	Max Credits	Target Achievable Credits
Ene 01: Reduction of Energy Use & Carbon Emissions	13	7
Ene 02: Energy Monitoring	2	2
Ene 03: External Lighting	1	1
Ene 04: Low Carbon Design	3	2
Energy Section Credit Total	19	12

The energy score is now targeted as 12 out of 19 credits i.e., 63.2%.



The second issue/further information request is repeated below:

Water Efficiency

Issue/further information: *I could not readily identify residential water calculations/efficiency proposals, nor adoption of the 105 (internal consumption + 5 external use) l/person/day policy target for residential schemes*

The water efficiency target for the residential scheme is confirmed as 105 litre per day per occupant. This is to be achieved using water efficient equipment, sanitary ware and brassware. The maximum limiting values for the equipment, sanitary ware and brassware to be incorporated into the scheme are as set out below. These limiting values are based on the metrics from the Code for Sustainable Homes water efficiency calculator.

Fitting	Limiting Value	
WC	Ful flush volume	4.5 litres
	Part flush volume	3.0 litres
Taps (excluding kitchen and external)	5.0 litres/minute	
Bath	156 litres capacity to overflow	
Shower	9.0 litres/minute	
Kitchen sink taps	3.8 litres/minute	
Washing machine	6.0 litres/kg	
Dishwasher	0.64 litres/place setting	

The third issue/further information request is repeated below:

Residential

Issue/further information: *The exercise has not satisfactorily demonstrated the criteria set out in the Local Plan 8.42 above. The cooling hierarchy includes mechanical ventilation (MV), which is to be preferred over mechanical cooling (the last and least passive option of the hierarchy). The most efficient version of MV (MV with heat recovery or MVHR) is actually proposed for all flats. However, it has not been shown to me that the MVHR was fully incorporated into the modelling exercise in particular with regard to scenario of the results presented.*

It is confirmed that the results presented in the submitted residential overheating analysis contain the whole house mechanical ventilation rates for each dwelling.

The mechanical ventilation, included in the assessment does not include heat recovery. The dynamic thermal modelling software utilised for the assessment is EDSL TAS. EDSL have confirmed that for residential overheating compliance calculations using their software that heat recovery should not be included in the mechanical ventilation as this would give unstable results. Hence, based on the technical advice from EDSL heat recovery is not included in the simulation.

For clarity, the heat recovery element of an MVHR system only reduces energy consumption when the treating the incoming fresh air when the internal air temperature is of a greater than the incoming air temperature for heating mode or when the internal air is cooler that the incoming air for cooling mode. As the overheating assessment does not include comfort cooling then the heat recovery element of an MVHR system will not be of any benefit to the overheating assessment as the internal air cannot be cooler than the outside air as no mechanical cooling is included in the assessment.

Therefore, the conclusions of the submitted residential overheating strategy remain unchanged i.e., parts of the residential development are at risk of overheating.