Energy and Carbon Proforma

Residential

Major development *(+10 homes)*

Version 1.0

Project Name: Alpha House, Wythenshawe > 125 flats

Application ref:

Date: 27/11/2025

		Ref. name	Alpha House										
		No. dwellings											
		Area (m^2 GIA)	6844										
		Target values	**Building 1**	**Building 2**	**Building 3**	**Building 4**	**Building 5**	**Building 6**	**Building 7**	**Building 8**	**Building 9**	**Building 10**	**+**
Minimise energy demand	**Space heating demand (kWh/m^2 GIA/yr)**	***≤ 15 (flats) ≤ 20 (houses)***	**6.93**										
	Calculation methodology used to calculate space heating demand and confirmation that this covers all homes/blocks	*Predictive energy model*	SAP 2B3P Flat										
	Form factor per building	*≤ 2*	1.33										
	Average external wall U-value (W/m^2K)	*≤ 0.15*	0.18										
	Average window U-value (W/m^2K)	*≤ 1 (triple)*	1.3										
	Air permeability rate (m^3/h/m^2 @ 50 Pa)	*≤ 1*	3										
Maximise energy efficiency	**Energy use intensity (kWh/m^2 GIA/yr)**	***≤ 35***	**35.09**										
	Calculation methodology used to calculate energy use intensity and confirmation that this covers all homes/blocks	*Predictive energy model*	SAP 2B3P Flat										
Use renewable energy	**PV footprint area (% of ground floor space)**	***≥ 40***	**>40**										
	Annual renewable energy generation (kWh/m^2 building footprint/yr)	-	included to meet planning requirements										
	Renewable energy balance (%)	-	TBC										
	Total energy used (kWh/yr)	-	TBC										
	Total energy generated on-site (kWh/yr)	-	TBC										
Use low carbon energy	**Fossil fuel free (yes/no)**	***Yes***											
	Heat source	*Electric*	Electric										
	Low Carbon Heat Appraisal completed	*Yes*	-										
	Heat network suitability	-	No										
	Exemption requested	-											
	Efficiency of heating system (SCOP)	*≥ 3.5*	N/A										
	Carbon content of heat (gCO_2/kWh)	*≤ 100*	136 (carbon factor of an electricity grid)										
Reduce overheating risk	**Have Part O overheating requirements been met without the use of mechanical cooling?**	**Yes**	**Yes**										
	If no, how many homes are cooled?	*Yes*	None										
	Has a CIBSE TM59 assessment been carried out using DSY2 and DSY3 weather files? Have any additional passive measures been included as a result?	*Yes*	DSY1 - typical worst summer										
Minimise embodied carbon	**Upfront embodied carbon ($kgCO_2e/m^2GIA$)**	***≤ 500-600***	**586**										
	List top three materials with the highest upfront embodied carbon emissions ($kgCO_2e/m^2GIA$): Material 1	-	Ready Mix Concrete										
	Material 2	-	Carbon Steel Reinforcing Bar										
	Material 3		Galvanised Steel										
	Lifecycle embodied carbon ($kgCO_2e/m^2GIA$) - *for large major developments only*	-	817										
Offsets	**Offset contribution (£)**	**-**											