Sustainability/Energy statement review (for internal use only)

Site name: 293 Lower Richmond Road, Richmond, TW9 4LU
Planning ref number: 09/2104/FUL
Reviewed by: K. Mecz

Applicant: Notting Hill Housing Ownership
Planning Stage: Detailed
Review Date: 27/10/2009

Redevelopment to provide mixed use scheme comprising 52 No. residential units, 1018m^2 (gross internal area), commercial floor-space in 3No. 3-4 storey blocks, with new access and associate landscaping and parking. Residential units comprise: 7No. 3-bed, 30No. 2bed, and 15No. 1-bed flats.

Target	Achieved?	Comments
20% CO_2 emissions reduction through the use of renewable technologies	✓	• Solar thermal (3m^2 per dwelling) and Solar PV (2m^2 per dwelling) systems proposed • In addition, ASHP proposed for commercial units
Code Level 3	✓	• Pre-assessment predicts score of 64%
BREEAM Offices 'Excellent' rating	✓	• Pre-assessment predicts score of 71%
Sustainable Construction Checklist	✓	• All items completed

Detailed notes[1]

Priority	Location in Document	Statement	Observation	Policy	Actions Required
			Energy Report R3		
Low	4.0 Solar Hot Water	$3m^2$/flat... [results in] some 10% of CO_2 emissions will be offset.	$3m^2$/flat requires roof area of $156m^2$.	London Plan (LP) 4A.7; CP1; CP2	None
Low	5.0 Ground Source Heat Pumps	Heat pumps are also reversible therefore there is the potential for provision of space cooling, which may be a negative feature.	Unclear what is meant by this. Provision of cooling is likely to be favourable in modern apartments and commercial units where residents/occupiers could expect some form of cooling in summer. However this will negatively impact system efficiency.	LP 4A.7; CP1; CP2	None
Low	5.0 Ground Source Heat Pumps	It is proposed that the units will be air soured with the evaporator coil within the designated commercial plant area on the rear lower roof of Block A and a new plant room within the secure cycle store for block D.	The use of ASHP has not been discussed in above paragraph. It is not expected that emissions reductions achieved would be equal to those of a GSHP system. Calculations in Annex clarify the offset potential of this technology.	LP 4A.7; CP1; CP2	None
Low	8.0 Photovoltaic cells	A $2m^2$ PV panel per dwelling will reduce CO_2 emission by approximately 10%.	This would require approximately $100m^2$ of roof space. There is sufficient space for these installations.	LP 4A.7; CP1; CP2	None

[1] Comments are made where considered necessary. Where no comments are given, information provided in report is deemed sufficient. This includes basic details of: site; policy requirements; energy efficiency measures including materials, and with reference to Building Regulations; predicted site energy consumption (calculated either from SAP/SBEM data or from benchmarks); feasibility of communal or decentralised systems; feasibility of renewable energy technologies including life cycle and maintenance issues.

Priority	Location in Document	Statement	Observation	Policy	Actions Required
Low	10.0 Summary of available technologies	PV ($2m^2$/dwelling)	The figure also appears to assume PV only provided for the residential portion of development. Letter from Wessex Energy confirms that commercial units have not been specified for PV installation.	LP 4A.7; CP1; CP2	None
Low	10.0 Summary of available technologies	ASHP	Clarified with Roger Law that COP specified was 2.5 & 1.75	LP 4A.7; CP1; CP2	None
Low	10.0 Summary of available technologies	PV ($2m^2$/dwelling)	The offset calculated is 11,900kgCO_2. Using rule of thumb calculations for the quantity of PV proposed ($2m^2$ per dwelling), I would estimate a generation capacity of about 13,000kWh/yr, and associated offset of approximately 7,595kgCO_2/yr. This may, as I have stated above, take into account the size of the PV system serving commercial units, however the quantity of this has not been stated.	LP 4A.7; CP1; CP2	None
Low	11.0 Conclusions	Base line emissions: 107,234 Improved emissions (after application of energy efficiency): 13,940	Reduction of emissions as a result of energy efficiency creates a new baseline of 93,294kgCO_2/yr. The 20% offset target is therefore 18,659kgCO_2/yr.	LP 4A.7; CP1; CP2	None
			Plans		
Low	Roof Plans Drawing Number 06914/PL/07	[None]	118 solar panels are shown on the roof plans Roof plans show solar panels located on every block. Plant rooms at base of stairs in Block B and C may provide hot water storage. On Block A there appears to be no dedicated space which might serve for hot water storage tanks. It is	LP 4A.7; CP1 2	Developer to confirm form of solar thermal installation.

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			therefore assumed that individual systems are proposed, in which case the long pipe runs from the panel array to the flats (estimated 15-20m) may not be the most suitable system design.		