

9.10 ENERGY AND SUSTAINABILITY STRATEGY

Energy assessment summary

Silcock Dawson and Partners have been appointed by Notting Hill Home Ownership Ltd to provide an Energy Assessment for the proposed new development at St. Clare Business Park, Richmond. The Energy Assessment is submitted as part of an application for full planning consent.

The dwellings occupy the majority of the floor area and will be designed to be energy efficient and incorporate the following key features:

1. The annual heating demand will be reduced by using insulation values better than the Notional Building¹, internal walls and floor slabs between the conditioned spaces and unheated internal spaces such as the residential entrance lobbies and refuse stores will be insulated. The target air permeability is 3.0 m³/hr/m².
2. The dwellings will have a balanced ventilation system with heat recovery and automatic summer bypass.
3. The dwellings will be provided with 100% low energy luminaires.

The commercial units will also be provided with energy efficient LED lighting with daylight compensation controls where appropriate, in addition fabric U values will be better than the Notional Building values.

The London heat map has been consulted, and it is noted that the site is not close to an existing heat network and is over 700m away from the edge of the nearest heat map study area.

The site is within a developed sub urban area with a large number of terraced and semi detached houses. The London heat map identifies the site location within an area of low heat density, it is therefore unlikely that a district heating network will be extended to development.

However, a communal heating system is proposed for the apartments, comprising a roof mounted air source heat pump. The heat pump will be sized to ensure continuous operation and meet 100% of the annual heat demand.

As it is unlikely that a district wide heating system will be implemented, it would be more efficient to serve the houses from individual heat pump systems, because of the higher distribution losses that would be expected from the increased pipework necessary at smaller pipe sizes.

The commercial units will be heated via reverse cycle heat pumps that will also be used to provide comfort cooling.

A large PV array will be mounted on the roof of Block 1, with all power generated directed to the residential landlord supply. The total PV capacity for the development is predicted to be 53kWp.

The energy efficiency measures reduce the residential emissions by 13%, with a further 42% reduction from the heat pumps serving the dwellings plus a 8% reduction from the photovoltaic panel installations, resulting in a total CO₂ reduction of 55% or 61 tonnes when SAP 10 emission rates are applied.

The energy efficiency measures from the commercial units are greater at 24%, with a further 20% reduction from the air source heat pump installations.

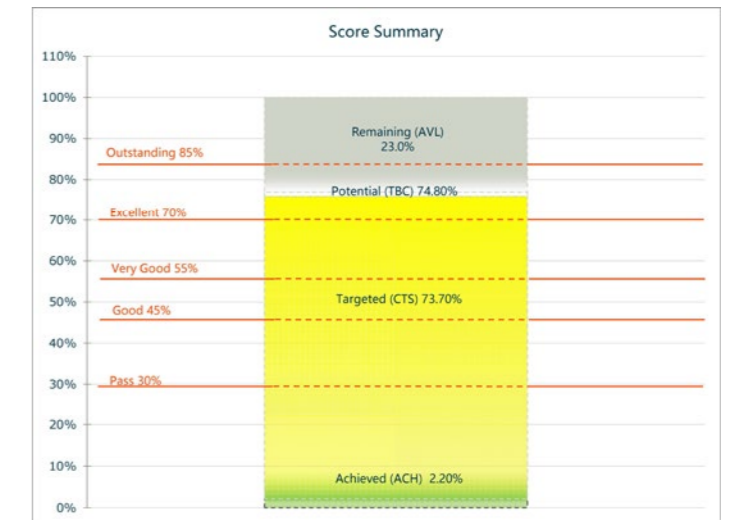
The total CO₂ reduction as a result of the energy efficiency measures across the whole development is predicted to be 19 tonnes CO₂ or 15% below the baseline model, with a total emissions reduction of 69 tonnes or 54% once renewable energy measures are incorporated.

Following a review of the relevant National and Local Planning Policies, the Energy Assessment proposes a strategy that positively responds to Policy 5.2 of the London Plan 2021, Policy SI2, SI3 of the London Plan 2021, and Policy LP22 Sustainable Design and Construction of the London Borough of Richmond upon Thames Local Plan (2017).

The zero carbon homes CO₂ offset payment is calculated to be £171,321 based on £95.00 / tonne over a 30 year period.

BREEAM pre-assessment summary

The project currently targets a score of 73.7% which equates to an EXCELLENT rating and the minimum standards to achieve this rating have been met.





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