



ENERGY STATEMENT



MOUNT VERNON ROAD, BARNSELY

JSP SUSTAINABILITY LTD
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EXECUTIVE SUMMARY

- The proposed residential development off Mount Vernon Road, Barnsley includes the construction of 65 no. homes.
- Orion Homes proposes the adoption of a strategy which incorporates energy efficiency measures into the construction of every home.
- The constructed development is forecasted to better Part L by 3.22%.



1 INTRODUCTION

JSP Sustainability Ltd has been commissioned by Orion Homes to prepare an Energy Statement to accompany the planning application for the proposed residential development off Mount Vernon Road, Barnsley. The application seeks approval for the construction of 65 no. properties, landscaping and associated highways works.

This statement will detail the energy efficiency measures included in the development proposals for the Mount Vernon scheme such that a sustainable development is delivered. These include;

[National Planning Policy Framework \(NPPF\)](#) includes a presumption in favour of sustainable development. The Framework expands upon the guiding principles and objectives of a successful planning system. These include the building of a strong and competitive economy, delivering high quality housing, requiring good design and meeting the challenges of climate change.

[Approved Document L1A](#) sets fabric efficiency standards and together with SAP, establishes a maximum CO₂ emission rate for new build residential properties. The Approved Document is the Government's sustainable design benchmark in England and was most recently amended in April 2014.

[Barnsley Metropolitan Borough Council's Core Strategy \(2011\)](#) includes policy CSP 5 which requires residential development of 10 or more homes to include renewable technologies capable of shrinking CO₂ emissions by 20%.



2 ENERGY STRATEGY

2.1 Proposed Strategy

Policy CSP 5 of Barnsley Metropolitan Borough Council's Core Strategy requires the inclusion of renewable technologies capable of shrinking CO₂ emissions by 20%. However, in separate correspondents with Orion Homes, the local planning authority has confirmed that CSP 5 is no longer applied to residential applications. Orion Homes is therefore directed by the NPPF to construct the development in line with the Government's building policy which is benchmarked to Part L1A of the Building Regulations.

2.2 Energy Efficiency Measures

Orion Home's exposure to the marketplace has confirmed that purchasers demand energy efficient homes with low operating costs and familiar user-friendly technologies. As such the proposed construction specification for Mount Vernon has been tailored to these demands and incorporates many of the lean and clean measures of the Energy Hierarchy. Listed below are some of the measures that will be incorporated into the detailed design of the scheme;

- The construction specification of every home will include high levels of insulation in the ground floor, external walls and roof spaces.
- The detailed house type designs will incorporate the thermal bridging guidance produced by the Government, thereby reducing a significant source of heat loss.
- An efficient gas condensing boiler will be installed in each property. The heating designs of each house type will include dual zone controls with delayed start thermostats.
- Energy efficient lamps will be installed in every light fitting.
- Each property will be naturally ventilated using efficient decentralised extract fans to ensure the internal living environment will be healthy and comfortable.
- Each entrance will be illuminated with an energy efficient external light or provision will be made for a purchaser to install such a fixture.
- The white goods installed in each property or offered to purchasers will be energy efficient with an A+/A rating.

The table overleaf provides a summary of the likely energy efficiency standards targeted in the design and construction of each home;



Table 1 – Specification Summary

Element	Part L	Enhanced Specification
Wall	0.30W/m ² K	0.27W/m ² K
Party Walls	0.20W/m ² K	0.00W/m ² K
Cold Roof	0.20W/m ² K	0.10W/m ² K
Floor	0.25W/m ² K	0.14W/m ² K
Glazing	2.00W/m ² K	1.30W/m ² K
Door	2.00W/m ² K	1.40W/m ² K
Air Permeability	10 m ³ /(h.m ²) @ 50 Pa	5.0 m ³ /(h.m ²) @ 50 Pa

The targeted u-values go significantly beyond the minimum standards of Part L. This will ensure the thermal envelope of every home will be energy efficient, thereby reducing energy consumption and CO₂ emissions.



2.3 Performance of the Energy Efficiency Measures

The specification summarised overleaf was modelled in SAP to determine the anticipated CO₂ emission rate of the site. The table below summarises the results calculated.

Table 2 – Mount Vernon Road Emission Rate

House Type	No	Target Emission Rate (kg/year)	Calculated Emission Rate (kg/year)
Exeter	2	4,770.85	4,767.84
Salisbury	8	16,384.19	15,941.38
Coniston	8	15,820.34	15,696.89
Patterdale	4	7,704.12	7,567.47
Chichester	12	2,298.87	22,246.98
Arundel	8	15,416.44	14,601.79
Dartmouth	10	20,397.08	19,598.88
Preston	13	18,623.23	17,081.98
TOTAL	65	121,415.12	117,503.21

The calculations above confirm that the site's CO₂ emission is forecasted to be 117,503.21kg/year. This represents a saving of 3,911.91kg/year or 3.22% over Part L of the Building Regulation. The Approved Document was amended in 2013 and includes a more stringent method of calculation for the target emission rate of a new home. Achieving a reduction over this difficult methodology is a validation of the energy efficiency measures proposed by the developer. They can therefore be described as sustainable as per the definition included in the NPPF.



3 EVALUATION

Orion Homes is required by local and national policy to construct the Mount Vernon Road, Barnsley development in line with Part L1A of the Building Regulations. Orion Homes construction specification incorporates many fabric and building services enhancements over the minimum standards in Part L1A such that energy efficient homes are delivered. [JSP Sustainability](#) was instructed by the developer to confirm that these same proposals will deliver a sustainable development at Mount Vernon Road. Following a review and detailed calculation we can confirm;

- The construction specification will achieve u-values which better the minimum standards of Part L, ensuring an energy efficient thermal envelope.
- The build services will exceed the minimum standards of the Domestic Compliance Guide.
- The constructed properties will better Part L of the Building Regulations by 3.22%.

In conclusion the strategy advanced by Orion Homes complies with local policy. We therefore recommend the adoption of the strategy by Orion Homes and its approval by Barnsley Metropolitan Borough Council.