



ENERGY STATEMENT

YAPTON ROAD, BARNHAM

JSP SUSTAINABILITY LTD
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Report Completed By	JSP Sustainability Limited York Science Park, Innovation Centre, Innovation Way, Heslington, York. YO10 5DG	
Reviewed By	Gerard McGuigan BSc PGDipSurvey	
Signature		



EXECUTIVE SUMMARY

- The proposed Redrow Homes residential development off Yapton Road, Barnham includes the construction of 95 no. homes.
- The planning approval for the site requires the constructed development to include renewables capable of generating 10% of it's energy demand or achieve an equivalent energy saving from energy efficiency measures.
- Redrow Homes fabric first proposals will achieve a 14.18% saving in energy efficiency.



1 INTRODUCTION

JSP Sustainability Ltd has been commissioned by Redrow Homes to prepare an Energy Statement in response to the planning approval for the residential development off Yapton Road, Barnham. The development includes the construction of 95 no. dwellings, landscaping and associated highway works. For completeness the relevant condition is included below;

“At least 10% of the energy supply of the development shall be secured from decentralised and renewable or low-carbon energy sources or equivalent fabric first standards that would secure a 10% reduction in energy use. No development above damp proof course (DPC) level shall take place unless and until details and a timetable of how this is to be achieved, including details of physical works on site, have been submitted to and approved in writing by the Local Planning Authority. The approved details shall be implemented in accordance with the approved timetable and retained as operational thereafter, unless otherwise agreed in writing by the local planning authority.”

This Statement will detail the energy efficiency measures proposed by Redrow Homes to achieve a 10% reduction when compared to the Building Regulations Part L1A target. A number of documents have been used to complete this Statement. 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.

Arun Local Plan includes policy ECC SP2 which requires all new major development to produce 10% of the energy requirement onsite from renewable and low carbon energy sources.



2 ENERGY STRATEGY

2.1 Proposed Strategy

The condition allows for a fabric first strategy to achieve a 10% reduction in energy consumption instead of 10% generation from renewable technologies. As such Redrow Homes proposes to construct each home to a fabric first specification which will achieve an average saving of 10% when measured against the Fabric Energy Efficiency standard included in the Building Regulations Part L1A.



2.2 Energy Efficiency Measures

Redrow Homes exposure to the marketplace has confirmed that purchasers demand energy efficient homes with low operating costs and technologies. As such the Group's current construction specification 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.
- ✱ Each of the house types elevations has sufficient glazing provision to the principal living rooms to allow each home to benefit from solar gain. This reduces the space heating and lighting requirement of each home;
- ✱ The site plan confirms that many of the homes have a south easterly to south westerly facing elevation. This is not a universal provision;
- ✱ The detailed house type designs will incorporate the thermal bridging guidance produced by Constructive Details and 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. Occupants will have the ability to ventilate their home via openable windows during summer homes to prevent overheating (purge ventilation). As part of the Building Regulations assessment all of the proposed house types will show a low risk of summer overheating.
- ✱ 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 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	0.28W/m ² K
Party Walls	0.20W/m ² K	0.00W/m ² K
Cold Roof	0.20W/m ² K	0.11W/m ² K
Floor	0.25W/m ² K	0.12W/m ² K
Glazing	2.00W/m ² K	1.20W/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



2.3 Performance of the Energy Efficiency Measures

The specification summarised overleaf was modelled in SAP to determine the anticipated energy efficiency rating of the site and the reduction over Part L1A. The table below summarises the results calculated.

Table 2 – DFEE and TFEE

House Type	Target Fabric Energy Efficiency (kWh/year)	Fabric Energy Efficiency (kWh/year)
Henley	56,180.79	48,115.79
Harrogate	15,863.36	13,228.96
Shaftesbury	24,090.90	20,134.70
Cambridge	66,237.16	56,641.64
Marlow	79,922.20	71,004.00
Leamington	75,906.04	64,958.80
Oxford	89,059.32	77,282.98
Stratford	70,329.60	60,639.30
Buxton	13,067.52	10,677.12
Tavy	40,628.80	33,784.06
1B	19,812.00	15,756.00
Flats	27,771.76	24,548.24
TOTAL	578,869.45	496,771.59

The calculations confirm that the site will better the Target Fabric Energy Efficient rating for the site by 82,097.86kWh/year or 14.18%



3 EVALUATION

This Statement has been prepared in response to the planning approval for the proposed residential development off Yapton Road, Barnham. The relevant sustainable construction condition requires the completed development to achieve a 10% reduction in energy consumption. JSP Sustainability was instructed by the developer to review their proposed strategy and confirm compliance with the condition. Following a review and detailed calculation we can confirm;

- Each home will be constructed to an efficient fabric and building services specification.
- When assessed against the Fabric Energy Efficiency standard, the constructed site will better the Building Regulations by 14.18%.

In conclusion the strategy advanced by Redrow Homes will comply with the relevant condition. We therefore recommend the approval of these measures by Arun District Council.