



ENERGY STATEMENT

LOVEDEAN LANE, WATERLOOVILLE

JSP SUSTAINABILITY LTD
FEBRUARY 2021



CONTENTS

	Page
Executive Summary	2
1 Introduction	3
2 Energy Strategy	4
3 Evaluation	8

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



EXECUTIVE SUMMARY

- The proposed development at Lovedean Lane, Waterloooville includes the construction of 43 no. properties and associated works.
- Bargate Homes proposes to construct each home to an efficient construction specification and install roof mounted photovoltaic arrays on a number of homes. The installed arrays will generate 10% of the site's forecasted energy requirement.



1 INTRODUCTION

JSP Sustainability Ltd has been commissioned by Bargate Homes to prepare an Energy Statement to accompany the Reserved Matters planning application for the proposed residential development at Lovedean Lane, Waterloooville. The development proposals include the construction of 43 no. homes, landscaping and associated works. This Statement addresses condition 19 of the Outline Planning permission;

“No development shall commence on site until a scheme has been submitted to, and agreed in writing by the Local Planning Authority to demonstrate that the built development hereby permitted incorporates measures that provides at least 10% energy demand from decentralised and renewable or low carbon energy sources. Prior to first occupation of each dwelling, a verification report and completion certificate shall be submitted in writing to the Local Planning Authority confirming that the particular dwelling has been constructed in accordance with the approved scheme.”

This Statement will detail and assess the energy efficiency and renewable energy measures proposed by Bargate Homes to deliver 10% of the site’s forecasted energy supply from renewable technologies. A number of documents have been used to complete this report. 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.

East Hampshire Local Plan Joint Core Strategy includes policy CP24, Sustainable Construction, which requires new development to include on-site renewable or low carbon energy sources providing at least 10% of energy demand.



2 ENERGY STRATEGY

2.1 Proposed Strategy

In response to condition 19 of the Outline Planning Permission, Bargate Homes proposes to constructed every home at the application site to an efficient building fabric and services specification and install sufficient photovoltaic arrays on the roof slopes of a number of properties sufficient to generate 10% of the site's energy requirement.



2.2 Energy Efficiency Measures

Bargate 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 developer'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.
- The detailed house type designs will incorporate the thermal bridging guidance produced by the Constructive Details and others, thereby reducing a significant source of heat loss.
- An efficient condensing boiler will be installed in each property. The heating designs of each house type will include time and temperature controls including delayed start thermostatic controls.
- 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.
- The glazing specification will achieve a g-value or solar transmittance value of 0.71 or more. This will assist in each home benefiting from solar gain.
- 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 table overleaf provides a summary of the energy efficiency standards to be achieved in the design and construction of each home;

Table 1 – Specification Summary

Element	Part L	Specification
Wall	0.30W/m ² K	0.24W/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	0.12W/m ² K
Glazing	2.00W/m ² K	1.40W/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 Site Energy Requirement & Emission Rate

The specification on the previous page was modelled in SAP to determine the site's forecasted energy requirement. The table below summarises the results.

Table 2 – Lovedean Lane Energy Requirement

House Type	Target Emission Rate (kg/year)	Emission Rate (kg/year)	Energy Requirement (kWh/year)
A	6,666.6	5,950.23	21,303.15
B	5,910.84	5,338.71	18,933.81
C	8,633.80	7,830.20	27,760.20
C1 & C2	5,480.16	4,986.24	18,131.04
D	7,003.66	6,184.73	21,534.49
E	10,016.76	9,124.89	34,100.90
H	4,360.46	3,952.15	14,343.06
AD	2,971.558	2,664.29	9,388.18
22	8,148.07	7,355.33	26,222.28
3	4,776.48	4,277.07	14,960.13
FOG	3,374.13	3,107.64	11,755.20
Flats	4,672.87	4,333.85	15,676.82
TOTAL	72,015.47	65,105.32	234,109.26

The calculations confirm that the site has a forecasted energy requirement of 234,109.26kWh/year and associated CO₂ emission rate of 65,105.32kg/year.



2.4 Photovoltaic Arrays

Bargate Homes proposes to install photovoltaic arrays on the roof slopes of a number of properties, sufficient to generate 23,410.93kWh/year of electricity. This represents 10% of the site's energy requirement. The SAP Appendix M methodology estimates that PV arrays totalling 27kWp installed in a southerly orientation will generate this amount of electricity each year. Note however that the Microgeneration Certification Scheme method of calculation will determine a lower kWp figure for the same level of generation. The installed arrays will offset 12,150.27kg/year of CO₂.



3 EVALUATION

Bargate Homes is required by condition 19 of the Outline Planning Permission for the proposed residential development off Lovedean Lane to incorporate renewable technologies into the design and construction of the development sufficient to generate 10% of the site's energy requirement. JSP Sustainability was instructed by the Bargate Homes to review their proposals to address the condition. Following calculation, we can confirm the following;

- Each property will be designed and constructed to a specification which better the minimum standards of Part L of the Building Regulations and the Domestic Building Services Compliance Guide.
- The proposed energy efficiency measures will reduce CO₂ emissions by 6,910.15kg/year over the Building Regulations target for the application site and have an associated energy requirement of 234,109.26kWh/year.
- Photovoltaic arrays capable of generating 23,410.93kWh/year will be installed on the roof slopes of the development.
- The installed arrays will offset 12,150.27kg/year of CO₂ emissions.

In conclusion the proposals advanced by Bargate Homes comply with condition 19. We therefore recommend their approval by East Hampshire District Council.