



Energy/Sustainability Framework Report

Land off Bosworth Lane, Newbold Verdon

Introduction

Cerda Planning Limited has been instructed by Bloor Homes (East Midlands) to prepare a Framework Energy/Sustainability Note which demonstrates compliance with local energy and sustainability standards for the outline application submission.

The development proposals seek outline planning permission (access only) for erection of up to 200 dwellings, a community health and well-being hub (Use Class E(e)) or community shop (Use Class E(a)) of up to 108 sqm gross external area and provision of up to 0.5 hectares of school playing fields and sport pitches, together with landscaping, open space, infrastructure and other associated, on Land off Bosworth Lane, Newbold Verdon.

Planning Policy Context

The Development Plan for Hinckley and Bosworth Borough Council comprises:

- Core Strategy (Adopted December 2009)
- Site Allocations and Development Management Policies DPD (adopted July 2016)
- 'Made' Neighbourhood Plans
- Leicestershire Minerals and Waste Plan (Adopted 2019)

In this instance, there is no 'made' Neighbourhood Plan applicable.

The relevant policies of the above documents are identified below.

- Core Strategy

Policy 24: Sustainable Design and Technology

'The council will require all development (as detailed below) in Hinckley, Burbage, Barwell and Earl Shilton to meet the following requirements, unless it would make the development unviable:

Residential developments to meet the Code for Sustainable Homes at the following levels:

- Minimum of Code Level 3 to 2013
- Minimum of Code Level 4 from 2013 - 2016
- Code level 6 from 2016 onwards

Residential developments in Key Rural Centres and Rural Villages will be expected to meet the sustainability targets set out in Building a Greener Future.

Schools, hospitals and offices developments to meet, at a minimum, BREEAM (or equivalent) assessment rating of 'very good'. From 2016 they will be required to meet, at a minimum, BREEAM (or equivalent) assessment rating of 'excellent'.

The Code/BREEAM level to be met will be set at the time of determination of detailed planning permission or reserved matters unless other legislation/guidance requires a higher level at the time of construction.'

- Site Allocations and Development Management Policies DPD

DM10 Development and Design

'Developments will be permitted providing that the following requirements are met:

...

f) It maximises opportunities for the conservation of energy and resources through design, layout, orientation and construction in line with Core Strategy Policy 2024'

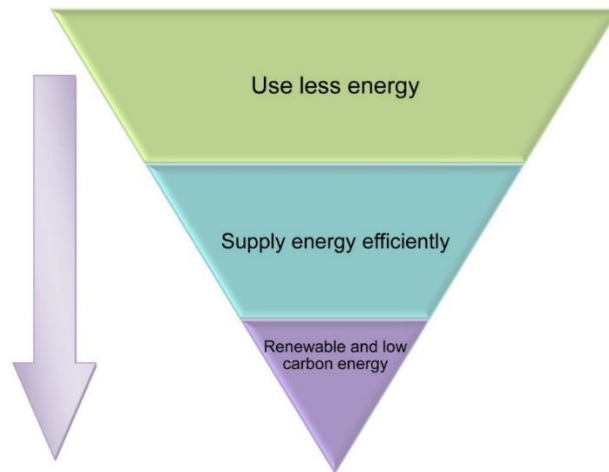
Approach

The site will be developed with the aim of reducing annual energy consumption, whilst providing energy in the most environmentally friendly way to reduce the annual CO₂ footprint.

As the planning application is in outline form, the exact energy strategy will be developed at the Reserved Matter/Detailed Design stage, however, the approach will be developed using established methodology (as recommended by CIBSE). It has three stages of priority, seeking to reduce energy use through the cleanest possible solutions.

- Be Lean - Reducing energy needs through improved design and construction.
- Be Clean - Supply energy efficiently through the use of decentralised energy where feasible.
- Be Green - Further reduce CO₂ emissions through the use of on-site renewable sources, where practical.

As this hierarchy demonstrates, designing out energy use is weighted more than the generation of low-carbon or renewable energy to offset unnecessary demand. Applied to the development of new housing, this approach is referred to as 'fabric first' and concentrates finance and efforts on improving U-values, reducing thermal bridging, improving airtightness and installing energy efficient ventilation and heating services. This approach has been widely supported by industry and government for some time.



Enhancing the thermal performance of a building is usually more cost effective than providing renewable energy, with more reliable CO₂ savings for the long-term life cycle of the building, without the cost of replacing mechanical or electrical components on a continual basis. Adding renewable technology will then maximise these carbon reductions, reducing the quantity required.

The proposed development will exceed the Part L 2023 Building Regulation fabric requirements, as follows:

Element type	Maximum U-value(1) W/(m ² K)
All roof types(2)	0.16
Wall(2)	0.26
Floor	0.18
Party wall	0.20
Window(4)(5)	1.6
Rooflight(6)(7)	2.2
Doors (including glazed doors)	1.6
Air permeability	8.0m ³ /(h·m ²) @ 50Pa 1.57m ³ /(h·m ²) @ 4Pa

Beyond the Fabric First approach, Low and Zero Carbon Technologies will be considered for inclusion where appropriate. At Reserved matters/Detailed Design stage, a detailed assessment of Low to zero carbon technologies will be carried out. Each energy efficiency measure will be considered to give a greater understanding of which solutions could be implemented at the development to provide energy and CO₂ savings beyond current building regulations. Feasibility will be based on location, cost, payback for both initial payment and ongoing maintenance and suitability. The below table sets out the potential

Low and Zero Carbon Technologies and a preliminary overview of their likely inclusion as part of the energy strategy (subject to change in due course).

Technology	Potential Inclusion
Solar hot water	No
Solar photovoltaic	Yes
Wind turbines	No
Air source heat pump	Yes
Ground source heat pump	No
Flue gas heat recovery	No
Waste water heat recovery	No
District heating (including biomass)	No

Further to the above, at Reserved Matters/Detailed Design stage, other steps towards achieving a low carbon solution will be explored, including:

- The incorporation of passive design solutions by considering the dwellings orientation and layout solutions;
- The incorporation of energy efficiency measures through the design of services and improved fabric performance;
- Calculation of the predicted design energy consumption rates and associated annual CO₂ emissions in comparison with a 'baseline' building (using Part L Regulations compliance standards) to include both regulated and un-regulated energy use;
- Assessment of the viability of incorporating low and zero carbon energy sources.

Compliance

The proposed development will follow the established Fabric First approach of Be Lean, Be Clean, Be Green, ensuring compliance with the latest Part L Building Regulations. Additionally, the proposal will include low and zero carbon technologies, likely to include solar photovoltaic panels and air source heat pumps.

The requirements set out within Core Strategy policy 24: Sustainable Design and Technology requires residential developments to meet identified standards. The standards set out within the policy are out-of-date and have been superseded by new building regulations as referred to above. With the proposals being designed to meet and/or exceed building regulations, the proposals will comply with Policy 24.

Policy DM10 of the Site Allocations and Development Management Policies DPD requires development to maximise opportunities for the conservation of energy and resources through design, layout, orientation and construction. The proposal is capable of complying with these requirements, as will be demonstrated at Reserved Matters/Detailed Design Stage.