Energy Statement

Land West of Bloxham Road, Banbury

On behalf of Barwood Development Securities Ltd. and Mr Mark Horgan

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Author: KG/KF

Document Management.

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1. Introduction

1.1. Pegasus Group have been instructed by Barwood Development Securities Ltd and Mr. Mark Horgan ('The Applicant') to prepare an initial energy statement for an outline planning application for the development of up to 65 homes, including open space provision, parking, landscaping, drainage and associated works, with all matters reserved (appearance, landscaping, layout and scale) except for access, to the land west of Bloxham Road, Banbury, (the 'Site').

1.2. In accordance with the Cherwell Local Plan 2011 – 2031 (Adopted 2015), supporting text to policy ESD 2 (paragraph B. 185) *'an energy statement is required for proposals for major residential developments (over 10 dwellings)…'*

1.3. The purpose of this statement is to provide a review of the energy policies outlined in The Cherwell Local Plan 2011 – 2031 (Adopted 2015) and address how the proposed development will meet the necessary requirements.

1.4. The Applicant is seeking outline planning permission for:

'Outline Planning Application for the development of up to 65 homes, including open space provision, parking, landscaping, drainage and associated works, with all matters reserved (appearance, landscaping, layout and scale) except for access.'

2. Background Information

2.1. The Site comprises a square shaped parcel of undeveloped grassland in the open countryside (arable field) extending to approximately 3.46ha, and is located on the south western edge of the town of Banbury. Vehicular access to the Site is proposed through the newly constructed residential development immediately to the north.

2.2. There is an existing footpath along the site's northern boundary which provides access to the Bloxham Road (A361) to the east. The Bloxham Road (A361) is one of the main strategic routes into and out of Banbury, and provides connections to Daventry to the North, and Chipping Norton to the South from Bloxham Road. Vehicular access to the Site is proposed through the newly constructed residential development immediately to the north.

2.3. The site is well related to the existing settlement of Banbury, located to the south-west of the well-established built-up residential area. The development would form a sustainable extension to the existing built form directly to the north. The immediate locality further to the north is primarily residential in nature.

2.4. The Site location and boundary is shown below in Figure 1

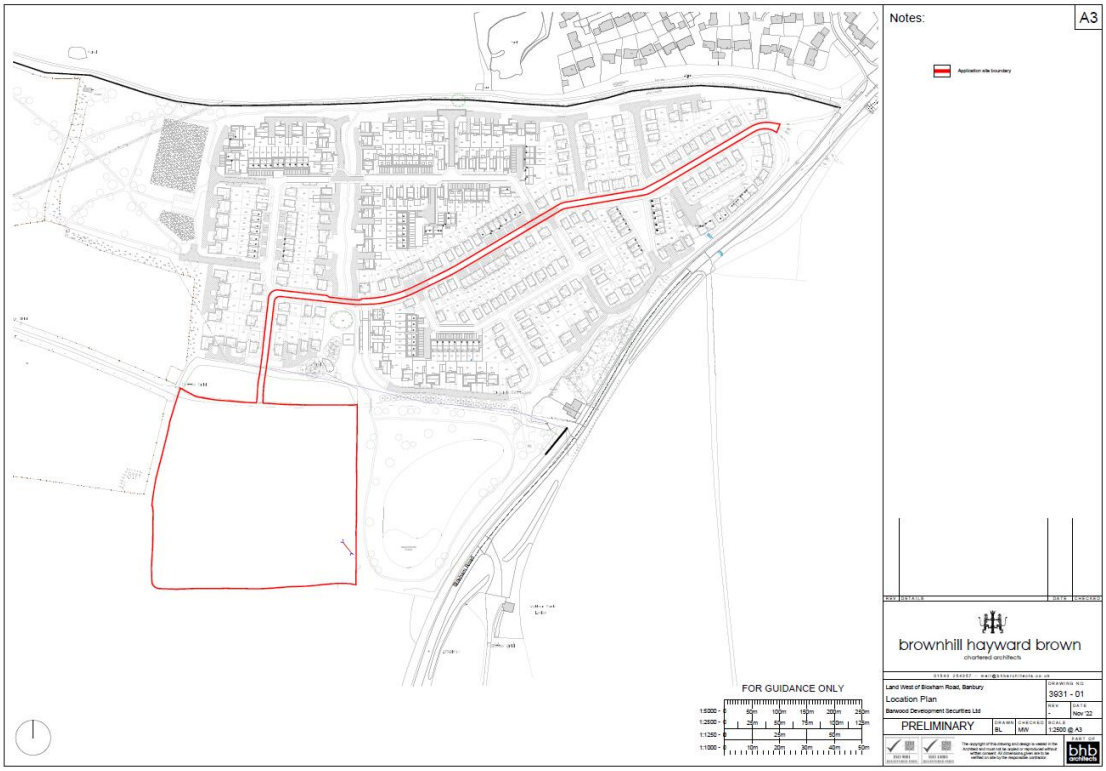

Figure 1: Location Plan

3. Policy context

3.1. National Policy for Low Carbon and Renewable Energy technology is informed by:

- National Planning Policy Framework (NPPF) 2021
- UK Building Regulations Part L (2021) published by the UK Government

3.2. The main aim of these documents is to inform policy and provide guidelines to reduce UK CO2 emissions, as this is currently considered to be the largest man made contributor to climate change.

3.3. The Climate Change Act 2008 (CCA2008) sets the target for the reduction of greenhouse gas emissions by 2050. CCA2008 targets a reduction of 80% in carbon emission by 2050 (against a 1990 baseline), with targets set at 34% by 2020 and 60% at 2030.

National Planning Policy Framework (NPPF) 2021

3.4. The National Planning Policy Framework (NPPF) 2021 sets out the Government's planning policies for England and how they should be applied. It comprises three main sections – Achieving Sustainable Development, Plan-Making and Decision-Taking.

3.5. *Paragraph 8* defines three overarching objectives that the planning system should pursue in order to achieve sustainable development, economic, social and environmental.

*'**...c) an environmental objective** – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.'*

3.6. The NPPF 2021 outlines that local authorities should adopt proactive strategies to mitigate and adapt to climate change and that to support the move to a low carbon future new development should be planned in ways that:

3.7. NPPF **paragraph 154 a)** states new development should be planned for ways that:

'Avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and

3.8. Furthermore, NPPF **paragraph 154 b)** states:

'Can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.'

3.9. The NPPF emphasises the importance of minimising environmental impacts during development construction and operation, as part of sustainability in new developments. The government is eager to reduce CO2 emissions to limit the environmental impact of new construction projects.

The Future Homes Standard: changes to Part L and Part F of the Building Regulations for new dwellings (January 2021)

3.10. In June 2019, the Government committed to a reduction in the UK's net greenhouse gas emissions by at least 100% by 2050.

3.11. In October 2019, in line with the Government's intention to lead all future improvements through the UK Building Regulations, the Ministry of Housing, Communities and Local Government (MHCLG) issued a consultation on changes to **Part L** (Conservation of fuel and power) and **Part F** (ventilation) of the Building Regulations for new dwellings.

3.12. The consultation considered two options for changes to Part L:

- **Option 1:** 'Future Homes Fabric': 20% reduction in carbon emissions compared to the current standard for an average home.
- **Option 2:** 'Fabric plus technology': 31% reduction in carbon emissions compared to the current standard.

3.13. Following a second consultation carried out by Future Home Standards (FHS) (18 January to 13 April 2021), 'Option 2' was confirmed as the route forwards, with all new homes required to have a 31% reduction in CO2 emissions from 2022 in comparison to current standards.

3.14. To assist delivery, new homes will be assessed against a set of four performance metrics:

- Primary energy target;
- CO2 emissions target;
- Fabric energy efficiency target; and
- Minimum standards for fabric and fixed building services.

3.15. It should be noted that the Part L and FHS is only concerned with an individual dwelling for assessment and not the development as a whole.

Infrastructure for charging electric vehicles: Approved Document S (2021)

3.16. Approved Document S: infrastructure for charging electric vehicles, was published by the Department for Levelling Up, Housing and Communities on 15 December 2021. The document provides technical guidance on the installation of charge points required by Part S of the Building Regulations.

- Proposed new residential buildings with more than 10 parking spaces, must have ducting infrastructure installed for every parking space.
- Proposed non-residential buildings with more than 10 parking spaces must have at least one ChargePoint installed and ducting infrastructure should be installed for at least 1 in every 5 spaces.
- From 2025, existing non-residential buildings with more than 20 parking spaces will require at least 1 charge point.

3.17. Easy access to chargers will be essential for the mass transition to Electric Vehicles (EVs) for personal transportation. Alongside the decarbonisation of the national grid (discussed in the next section), increased uptake of EVs will significantly lower carbon emissions from transportation.

3.18. The Government has confirmed that it expects all chargers to be "Smart" devices, which will ensure charging will be available without the electricity network being overloaded.

3.19. The changes are expected to be implemented predominantly through amendments to the Building Regulations 2010 and will be enacted through the Electric Vehicle Charging Points (New Buildings) Bill.

3.20. The approved document supporting Part S of Schedule 1 to the Building Regulations 2010 takes effect as of June 2022.

National Grid (Decarbonisation) – The Ten Point Plan for a Green Industrial Revolution

3.21. The Ten Point Plan for a Green Industrial Revolution (November 2020) details the Government's approach to *'build back better, support green jobs, and accelerate our path to net zero'*.

1. Advancing offshore wind: "Offshore wind: Producing enough offshore wind to power every home, quadrupling how much we produce to 40GW by 2030, supporting up to 60,000 jobs.

2. Driving the growth of low carbon hydrogen: Working with industry aiming to generate 5GW of low-carbon hydrogen production capacity by 2030 for industry, transport, power and homes, and aiming to develop the first town heated entirely by hydrogen by the end of the decade.

3. Delivering new and advanced nuclear power: Advancing nuclear as a clean energy source, across large-scale nuclear and developing the next generation of small and advanced reactors, which could support 10,000 jobs.

4. Accelerating the shift towards Electric Vehicles: Backing UK car manufacturing bases to accelerate the transition to electric vehicles and transforming our national infrastructure to better support electric vehicles.

5. Green public transport: Making cycling and walking more attractive ways to travel and investing in zero-emission public transport of the future.

6. Jet zero and green ships: Supporting difficult-to-decarbonise industries to become greener through research projects for zero-emission planes and ships.

7. Greener buildings: Making UK homes, schools and hospitals greener, warmer and more energy efficient, while creating 50,000 jobs by 2030, and a target to install 600,000 heat pumps every year by 2028.

8. Investment in carbon capture: Becoming a world-leader in technology to capture and store harmful emissions away from the atmosphere, with a target to remove 10MT of carbon dioxide by 2030, equivalent to all emissions of the industrial Humber today.

9. Protection of the natural environment: Protecting and restoring the natural environment, planting 30,000 hectares of trees every year, while creating and retaining thousands of jobs.

10. Green finance and innovation: Developing the cutting-edge technologies needed to reach these new energy ambitions and make the City of London the global centre of green finance.

4. Policy Review (ESD 4 and ESD 5)

4.1. The Local Planning Authority for the Site is Cherwell District Council, and the Local Policy for Low Carbon and Renewable Energy Technology is informed by the Cherwell Local Plan 2011-2031 (Adopted 2015). The two key policies are set out in full below:

- Policy ESD 4: Decentralised Energy Systems; and
- Policy ESD 5: Renewable Energy.

4.2. Policy ESD 4: Decentralised Energy Systems

'The use of decentralised energy systems, providing either heating (District Heating (DH)) or heating and power (Combined Heat and Power (CHP)) will be encouraged in all new developments. A feasibility assessment for DH/CHP, including consideration of biomass fuelled CHP, will be required for:

- *All residential developments for 100 dwellings or more*
- *All residential developments in off-gas areas for 50 dwellings or more*
- *All applications for non-domestic developments above 1000m2 floorspace.*

The feasibility assessment should be informed by the renewable energy map at Appendix 5 'Maps' and the national mapping of heat demand densities undertaken by the Department for Energy and Climate Change (DECC) (see Appendix 3: Evidence Base). Where feasibility assessments demonstrate that decentralised energy systems are deliverable and viable, such systems will be required as part of the development unless an alternative solution would deliver the same or increased benefit.'

Assessment

4.3. Policy ESD 4 sets out the Council's support for decentralising energy systems.

4.4. Addressing Policy ESD 4, the Local Plan identifies a commitment to ensure affordable, secure, and low carbon heating is addressed for new developments, with studies for the area identifying District Heating and/or Combined Heat and Power as an important role to reduce carbon emissions and promote more renewable power. However, a key issue in this is that non-renewable sources can still be utilised as the fuel source for these heating methods.

4.5. As outlined in Section 3, the progression of Future Home Standards, now post dates the Local Plan implementation date. In addition, modern heating equipment development is generally going to be more efficient and renewable than the 30% loss anticipated from a District Heating system. There is also the potential for more renewable energy sources to be utilised, which would provide further reductions in CO2 emissions.

4.6. In line with the Government's fabric first approach, it is anticipated that this could be delivered by very high fabric standards (typically with triple glazing and minimal heat loss from walls, ceilings, and roofs).

Policy ESD 5: Renewable Energy

4.7. *'The Council supports renewable and low carbon energy provision wherever any adverse impacts can be addressed satisfactorily. The potential local environmental, economic and community benefits of renewable energy schemes will be a material consideration in determining planning applications*

Planning applications involving renewable energy development will be encouraged provided that there is no unacceptable adverse impact, including cumulative impact, on the following issues, which are considered to be of particular local significance in Cherwell:

- *Landscape and biodiversity including designations, protected habitats and species, and Conservation Target Areas*
- *Visual impacts on local landscapes*
- *The historic environment including designated and non designated assets and their settings*
- *The Green Belt, particularly visual impacts on openness*
- *Aviation activities*
- *Highways and access issues, and Residential amenity.*

A feasibility assessment of the potential for significant on site renewable energy provision (above any provision required to meet national building standards) will be required for:

- *All residential developments for 100 dwellings or more*
- *All residential developments in off-gas areas for 50 dwellings or more*
- *All applications for non-domestic developments above 1000m2 floorspace.*

Where feasibility assessments demonstrate that on site renewable energy provision is deliverable and viable, this will be required as part of the development unless an alternative solution would deliver the same or increased benefit. This may include consideration of 'allowable solutions' as Government Policy evolves.'

Assessment

4.8. Policy ESD 5 sets out the Council's support for decentralising energy systems.

4.9. Addressing Policy ESD 5, there are a range of technologies and efficiencies that will allow developments to significantly reduce their carbon emissions and impacts for the future, to ensure renewable energy provision is deliverable and viable.

4.10. The below section provides a brief summary of some of the strategies which could be implemented for the Site to ensure its renewable energy provision.

Future Homes Standard

4.11. This standard reduces energy demand by 70% from current Part L demand and will build on the 31% reduction over current energy demands on the new Part L, which was introduced in 2022. This energy reduction could be achieved through Fabric Energy Efficiency.

4.12. Passive measures are design features from architectural and building fabric selection that reduce the building energy requirement. Active measures are associated with the specification, control and use of building services that will increase the efficiency of the energy used, hence reducing the building energy requirements.

4.13. Lighting is a regulated energy demand and has been assumed to require 5kWh/m2 constantly across all upcoming standards.

4.14. The Energy Efficiency in Buildings Chartered Institution of Building Services Engineers (CIBSE) Guide F (2016) explains that building design should adopt energy efficiency lighting principles:

'Energy efficient lighting should:

- *Maximise natural daylight*
- *Avoid unnecessarily high illuminance*
- *Incorporate the most efficient luminaires, control gear and lamps*
- *Include effective lighting controls'*

Solar Master Planning

4.15. Roofs of buildings could be orientated south where feasible for solar thermal/photovoltaic installation. PV is most efficient when positioned south facing at a pitch of 30-35 degrees from horizontal, limiting shading, according to the Energy Saving Trust.

4.16. Additionally, houses will benefit from solar heating and lighting through passive gains. Whilst it is not feasible to ensure all units achieve an East to West orientation, it is still possible to provide renewable/solar panels to roofs running North to South and still benefit from renewable energy although at a reduced rate.

4.17. These initiatives will allow for a circa 10% reduction is space heating demand in the first instance before any further technologies are installed.

Air Source Heat Pumps

4.18. Air source heat pumps (ASHPs) provide an active, mechanical mechanism for reducing space heating demand.

4.19. It is widely acknowledged that for every 1kWh of electricity inputted to ASHPs, approximately 3kWh of heat can be delivered, generating an approximate Coefficient of Performance (CoP) of 3. This reduces space heating requirements by approximately one third.

Carbon Sequestering

4.20. Carbon sequestering strategies can be implemented across the proposed development to contribute to offsetting any remaining carbon emissions.

4.21. Solar masterplanning elements such as solar shading can reduce carbon emissions by 5% and carbon sequestering can also be applied as a carbon sink. This can be evaluated to identify areas of potential planting, density and species mix to calculate an approximate carbon reduction over 30 years.

Sustainable transport initiatives and Car charging facilities

4.22. Sustainable transport initiatives will lower the amount of carbon emitted to the environment in the first instance.

4.23. In line with Part S of the Building Regulations, the application site will include, where practical, appropriate provision for electric car charging points. This will support sustainable travel in and around the proposed development.

5. Summary

5.1. This Energy Statement has provided an overview of the potential energy strategy options which could be implemented for the Site, in order to meet both national and local policy requirements in accordance with NPPF and Future Homes Standard, whilst adding value to the local area, in line with the Local Plan 2011-2031.

5.2. Based on the Cherwell Local Plan 2011-2031, adopted 20th July 2015, it is recommended in Policy ESD 4, that District Heating and/or Combined Heat and Power System are implemented for developments within the district. However, this note has demonstrated that alternative renewable energy sources could be implemented in lieu of District Heating or Combined Heat and Power Systems. The advancement of Future Home Standards, and modern heating equipment development will be more efficient and renewable than the 30% carbon reduction which is likely from a District Heating system. In addition, more renewable energy sources can be utilised to provide further reductions in CO2 emissions.

5.3. This note has demonstrated the range of renewable options, which could be implemented where required, and this further builds on the potential to use alternative heating systems than District Heating and/or Combined Heat and Power Systems.

5.4. As stated, the progression of Future Home Standards, now post dates the Local Plan implementation date and therefore Policy ESD4 and ESD5 are now seen to be superseded by this progression.

Town & Country Planning Act 1990 (as amended)
Planning and Compulsory Purchase Act 2004

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