

ENERGY & SUSTAINABILITY STATEMENT

Proposed Development Land at 19 WALNUT TREE ROAD, PIRTON, HERTFORDSHIRE
Proposed Development of 4 No. Detached Houses and New Access Road

1. Introduction

This Energy and Sustainability Statement has been prepared in support of the planning application for the construction of four detached dwellings at the eastern end of the site at 19 Walnut Tree Road, Pirton, with the existing dwelling retained. The statement outlines the strategy for delivering a low-carbon, energy-efficient development that exceeds current policy expectations at local and national level.

The proposed dwellings have been designed to integrate high fabric performance, low-carbon technologies, and features that support long-term sustainability. The intention is to ensure that the development contributes positively to the transition to net zero while also providing comfortable and resilient homes.

2. Planning Policy Context

2.1 National Planning Policy Framework (NPPF, 2023)

The NPPF requires development to:

- Reduce greenhouse gas emissions;
- Minimise energy consumption;
- Use renewable and low-carbon technologies;
- Support climate change mitigation and adaptation.

The proposed development supports these principles through the use of air source heat pumps (ASHPs), high-performance building fabric, EV charging, and solar PV-ready roofs.

2.2 Building Regulations – Part L (2021 with 2023 amendments)

Part L sets performance targets for carbon emissions and fabric energy efficiency. The dwellings will significantly exceed the minimum standards through:

- Improved U-values,
- High airtightness levels, and
- Low-carbon heating and hot water provision.

2.3 North Hertfordshire Local Plan (2019)

Relevant policies include:

- Policy D1 – Sustainable Design
- Policy D3 – Protecting Living Conditions
- Policy NE1 – Renewable and Low Carbon Energy Development
- Policy NE9 – Water Quality and Environment

The proposed development aligns with these policies through integrated sustainability measures, water efficiency, biodiversity enhancements, and careful design to reduce environmental impact.

3. Energy Strategy Overview

The proposed energy strategy follows the recognised Energy Hierarchy:

1. Be Lean – Reduce demand through energy-efficient design
2. Be Clean – Supply energy efficiently
3. Be Green – Use renewable energy technologies

The scheme has been designed to prioritise fabric performance first, ensuring that energy consumption is minimised before renewable technologies are applied.

4. Fabric First Approach

The proposed dwellings will incorporate a robust thermal envelope that exceeds Building Regulations Part L standards. Measures include:

- Enhanced U-values for walls, roofs, floors, windows, and doors.
- High levels of airtightness, targeting significantly better than the regulatory limit.
- Thermal bridging reduction, through careful detailing at openings, junctions and eaves.
- High-performance glazing, suitable for both energy efficiency and acoustic attenuation (including potential enhancements once the pavilion noise environment is known).

This approach ensures that the majority of carbon reductions are achieved through demand reduction, resulting in highly efficient long-term performance.

5. Low-Carbon Heating and Hot Water

Each new dwelling will be equipped with a high-efficiency Air Source Heat Pump (ASHP), providing low-carbon heating and domestic hot water. Benefits include:

- CO₂ emissions significantly lower than those associated with gas boilers.
- Compatibility with high-efficiency emitters and low-temperature systems.
- Compliance with the Government's Future Homes Standard trajectory.

Noise emissions from ASHP units will be positioned and treated to comply with MCS and planning requirements.

6. Renewable Energy – Solar PV Provision

While solar panels are not installed at the outset, each dwelling is designed to be capable of accommodating future Solar PV arrays on the:

- East-facing roof slopes
- South-facing roof slopes
- West-facing roof slopes

This provides flexibility for future homeowners and enables substantial future carbon reductions. The roof structures will be designed to accept the loading, and wiring routes/consumer unit capacity will be planned to facilitate future installation.

7. Electric Vehicle Charging

Each dwelling will be provided with an EV charging point in accordance with:

- The Building Regulations Part S (in force June 2022);
- National policy to support transition to low-carbon transport.

This ensures that sustainable transport is embedded at the development stage.

8. Water Efficiency

The scheme will incorporate water-efficient fixtures and fittings designed to achieve:

- A maximum indoor potable water use of 110 litres/person/day, in accordance with local policy and national best practice.

This includes low-flow taps, dual-flush WCs, and efficient shower fittings.

9. Sustainable Materials & Construction

- Materials will be selected for durability, low embodied carbon where feasible, and compatibility with the traditional aesthetic of Pirton.
- Waste during construction will be minimised through site waste management procedures.
- Locally sourced materials will be used where practicable.

10. Climate Resilience / Overheating

The dwellings will be designed to comply with Part O of the Building Regulations (2022), using:

- Appropriate glazing ratios,
- Shading and orientation considerations, and
- Natural ventilation.

This will ensure resilience to higher summer temperatures.

11. Biodiversity & Landscape Integration

Although addressed in detail in the separate BNG submission, key measures linked to sustainability include:

- Delivery of 10% Biodiversity Net Gain,
- Retention of high-value trees,
- New planting with climate-resilient native species,
- Hedgehog highways, integrated bird/bat boxes, and sensitive lighting.

These measures contribute to the ecological and environmental sustainability of the site.

12. Summary & Compliance Statement

The proposed development at 19 Walnut Tree Road, Pirton demonstrates a strong and integrated approach to energy efficiency and sustainability, exceeding the minimum requirements of national and local policy. Key outcomes include:

- Low-carbon heating via ASHPs
- High-performance thermal envelope exceeding Building Regulations
- EV charging for every dwelling
- Solar-ready roof design
- Water-efficient homes
- Support for biodiversity and climate resilience

Collectively, these measures ensure that the development will deliver comfortable, efficient, and environmentally responsible homes consistent with the aims of the NPPF and the North Hertfordshire Local Plan.