Climate Change Statement

Proposed Development: Rear Two-Storey Extension and Refurbishment
Address: 16 Beaumont Street, Emley HD8 9RN

1. Introduction

This statement has been prepared in support of a householder planning application 2026/91019.

Additionally, a refurbishment of an existing dwelling, including a full internal upgrade, rewiring, re-plastering, and new heating system is planned

The proposal has been designed with consideration for climate change mitigation and adaptation, in line with the sustainability objectives of Kirklees Council.

2. Energy Efficiency and Carbon Reduction

The proposed development adopts a **fabric-first approach**, significantly improving the thermal performance of both the existing dwelling and the extension.

Measures include:

- High levels of insulation to walls, roof, and floors in accordance with, and where practicable exceeding, current Building Regulations
- Upgrading the existing dwelling's thermal envelope, including:
    - Internal walls upgraded with 62.5mm PIR insulated plasterboards
    - Ground floor construction incorporating underfloor heating with 100mm rigid insulation (e.g. Kingspan or similar)
    - Loft insulation increased to a minimum of 300mm
- Installation of energy-efficient double-glazed windows
- Improved airtightness to reduce uncontrolled heat loss
- Use of low-energy LED lighting throughout
- Replacement of the existing heat-only boiler with a modern high-efficiency condensing boiler, significantly improving heating efficiency and reducing energy consumption

The introduction of underfloor heating allows heat to be delivered at lower flow temperatures, improving overall system efficiency.

In addition, the extension has been designed to maximise natural daylight and beneficial solar gain, reducing reliance on artificial lighting and mechanical heating.

3. Sustainable Construction and Embodied Carbon

The development prioritises the retention and enhancement of the existing building, significantly reducing embodied carbon compared to demolition and rebuild.

Measures include:

- Re-use of existing stone from the rear elevation where possible
- Retention of the primary building structure
- Reuse of materials arising from demolition works where feasible
- Specification of sustainably sourced materials, including timber products
- Preference for locally sourced materials to reduce transport emissions
- Implementation of best practice construction methods, including waste minimisation and recycling

4. Renewable and Low-Carbon Energy

The scheme incorporates a modern, high-efficiency condensing boiler and underfloor heating system, representing a substantial improvement over the existing heating arrangement.

Whilst renewable technologies are not currently proposed, the design allows for future integration of low-carbon energy systems, including:

- Solar photovoltaic (PV) panels
- Air source heat pumps

This ensures the dwelling can transition towards lower-carbon energy sources over time.

5. Climate Change Adaptation and Design Optimisation

The layout and design of the extension have been carefully considered to optimise environmental performance and resilience:

- Strategic positioning of glazing to maximise natural daylight and passive solar gain
- Enhanced insulation and thermal continuity to minimise heat loss
- Improved airtightness through modern construction methods
- Window placement to promote natural ventilation and reduce overheating risk
- Use of durable materials suitable for changing climate conditions

Overall, the development will deliver a significant improvement in energy efficiency compared to the existing dwelling.

6. Surface Water and Flood Risk

The development is modest in scale and will not materially increase flood risk.

- The extension largely replaces existing hardstanding, resulting in no significant increase in impermeable area
- Surface water will be managed via existing drainage systems
- Permeable surfaces will be used where practicable
- Where feasible, on-site infiltration measures such as soakaways will be incorporated

The proposal will not increase flood risk on-site or elsewhere.

7. Water Efficiency

Water efficiency measures will be incorporated, including:

- Installation of low-flow sanitary fittings
- Use of water-efficient appliances
- Use of permeable landscaping to assist in reducing runoff and supporting groundwater recharge

8. Biodiversity Enhancements

The proposal provides an opportunity to enhance the ecological value of the site through improved landscaping, including the introduction of planting that supports local biodiversity.

9. Conclusion

The proposed development combines a comprehensive refurbishment with a modest extension, delivering a substantial improvement in energy efficiency and environmental performance.

The scheme incorporates proportionate and practical measures to reduce carbon emissions, improve climate resilience, and minimise environmental impact. It is therefore considered to accord with the sustainability and climate change objectives of Kirklees Council.