Climate Change & Sustainability Statement

Project: Residential Extension, Alterations, and Attic Conversion

Site Address: 9 Butternab, Huddersfield, HD4 7AR

Proposal: Side extension, attic space refurbishment, garage upgrade, and associated internal alterations.

1. Executive Summary

This statement has been prepared in conjunction with the planning application for 9 Butternab, Huddersfield. It demonstrates a commitment to sustainable development and climate change mitigation by implementing a "Fabric First" approach, optimizing building services, managing water resources, and prioritizing sustainable procurement. The proposed measures actively exceed the minimum baseline requirements of current UK Building Regulations.

2. Fabric Energy Efficiency & Thermal Upgrades

To minimize space heating demand and drastically reduce operational carbon emissions, the development targets thermal performance figures that surpass Approved Document L standards.

- **Attic Refurbishment (Enhanced Insulation):** Rather than meeting standard retrofitting U-values, the attic conversion will feature enhanced high-performance insulation (e.g., rigid PIR board or high-density mineral wool) built into the rafter and ceiling voids. This creates a highly efficient thermal envelope at the highest point of the dwelling, capturing rising heat and drastically reducing overall space heating demands.
- **Side Extension Envelope:** The new side extension will be detailed to meet and exceed current modern Building Regulation standards for new thermal elements. High-performance cavity wall insulation, high-specification double or triple glazing, and robust cold-bridge detailing will be implemented along the side elevation.
- **Garage Upgrade:** The upgrading of the garage space will include upgraded thermal detailing where it interfaces with or sits adjacent to the habitable envelope, ensuring no unnecessary heat loss pathways are introduced.

3. High-Efficiency Building Services & Smart Zoning

Moving away from inefficient, traditional heating controls, the property's internal systems will be overhauled for precision energy management.

- **Advanced Boiler Efficiency:** A new, ultra-high-efficiency boiler with an optimal ErP (Energy-related Products) rating will be installed. The unit will feature automated modulation to match the exact heat load of the home.
- **Smart Time and Temperature Zoning:** The heating system will be split into distinct, independently controlled zones (e.g., separating the new attic space, the extension, and primary living areas). By using programmable smart thermostats, different areas of the house can be cut off or set to setbacks based on occupancy schedules, eliminating the carbon cost of heating unoccupied rooms.
- **Intelligent Lighting Controls:** To eliminate energy wastage in transient areas, the entrance lobby and circulation spaces will be equipped with PIR (Passive Infrared) motion sensor lighting. This ensures lights are operational only when required.

4. Water Conservation

In alignment with regional water-stress mitigation strategies, internal water consumption will be strictly managed below the standard building regulation baseline.

- **Low-Flow Specifications:** All new and upgraded sanitaryware, specifically washbasin and kitchen taps, will utilize low-pressure/aerated flow technology. These fixtures maintain excellent user pressure while significantly reducing the overall liters-per-minute flow rate, directly conserving water resources.

5. Sustainable Procurement & Circular Economy

To reduce embedded carbon and minimize the broader environmental impacts associated with construction logistics:

- **Localized Supply Chains:** Building materials, aggregates, and timber will be sourced predominantly through local builders' merchants within the Huddersfield and West Yorkshire area.
- **Reduced Delivery Mileage:** By consolidating orders and sourcing locally, the project directly minimizes transport distances, reducing localized heavy goods vehicle (HGV) emissions, traffic congestion, and the overall carbon footprint of the construction phase.

6. Ecology & Biodiversity Preservation

The project respects the existing natural site assets and seeks to protect established green infrastructure.

- **Flora Preservation:** The rear garden currently hosts a diverse variety of established plants and shrubs. The layout of the proposed extension and garage upgrade has been carefully designed to ensure these green spaces remain entirely undisturbed. Retaining this established vegetation preserves localized

carbon sinks and maintains existing biodiversity corridors within the site boundary.

7. Conclusion

Through the combination of an enhanced thermal envelope, intelligent zoning, water efficiency, and localized sourcing, the proposal for 9 Butternab delivers a sensitive yet forward-thinking domestic upgrade. The scheme satisfies both local and national planning policies regarding sustainable design, ensuring the home is resilient, efficient, and fully equipped for a changing climate.