

## Energy Statement

**Proposed Conversion of Barn to Single Storey Dwelling.**

**Three Gates Farm, Turton Road, Tottington.**

**Clients: Mr A Baldwin & Ms S Carter-Clavell**

**Job Ref: 25/681**



### **Policy Compliance: JP-S2**

#### **1. Introduction**

This Energy Statement has been prepared to support a planning application for the conversion of an existing storage unit into a single-storey residential dwelling. The statement demonstrates how the proposal complies with **Policy JP-S2**, which seeks to minimise energy demand, reduce carbon emissions, and incorporate sustainable and low-carbon technologies.

#### **2. Energy Hierarchy Approach**

The development follows the recognised energy hierarchy:

##### **1. Lean – Reduce Energy Demand**

The scheme prioritises fabric efficiency to minimise energy use:

- High levels of insulation to walls, floors, and roof to meet or exceed Building Regulations (Part L)
- Airtight construction detailing to reduce heat loss
- High-performance double or triple glazed windows and doors (low U-values)
- Optimised building orientation and window placement to maximise natural daylight
- Thermal bridging minimised through design detailing

##### **2. Clean – Efficient Energy Supply**

Efficient building services are proposed:

- Low-energy LED lighting throughout
- Energy-efficient appliances (where applicable)
- Mechanical extract ventilation with humidity controls
- Highly efficient heating system (e.g. electric panel heaters or heat pump)

##### **3. Green – Renewable and Low Carbon Energy**

Where feasible, renewable technologies will be considered:

- Air Source Heat Pump (ASHP) or equivalent low-carbon heating system

- Provision for roof-mounted photovoltaic (PV) panels (subject to design constraints)
- Smart heating controls to optimise energy use

### 3. Fabric Performance Standards

The building will achieve high fabric performance, targeting U-values broadly in line with or better than current Building Regulations:

| Element       | Target U-value (W/m <sup>2</sup> K) |
|---------------|-------------------------------------|
| Walls         | ≤ 0.18                              |
| Roof          | ≤ 0.13                              |
| Floor         | ≤ 0.15                              |
| Windows/Doors | ≤ 1.4 (or better)                   |

Air permeability will be reduced to improve overall efficiency.

### 4. Carbon Emissions Reduction

As a conversion scheme, the development will significantly improve the energy performance compared to the existing building.

Measures such as improved insulation, efficient systems, and low-carbon heating will:

- Reduce regulated carbon emissions
- Improve overall energy efficiency
- Ensure compliance with current Building Regulations

A SAP assessment will be undertaken at Building Regulations stage to confirm compliance.

### 5. Overheating and Climate Resilience

The design mitigates overheating risks through:

- Appropriate glazing ratios
- Opening windows for natural ventilation
- Thermal mass within the structure
- Optional shading where required

### 6. Sustainable Design Measures

The proposal incorporates broader sustainability principles:

- Re-use of existing structure, reducing embodied carbon
- Efficient use of materials
- Reduction of construction waste
- Surface water drainage will be via adjoining water course and foul water will be dealt with using a water treatment plant.

### 7. Electric Vehicle Charging

An **electric vehicle charging point**, will be installed to the proposed Garage area.

#### **8. Compliance with Policy JP-S2**

The proposal complies with Policy JP-S2 by:

- Minimising energy demand through fabric-first design
- Incorporating energy-efficient systems
- Supporting low-carbon and renewable technologies
- Reducing carbon emissions compared to the existing building
- Promoting sustainable construction practices

#### **9. Conclusion**

The proposed conversion has been designed in accordance with the principles of sustainable development and the energy hierarchy. It will deliver a highly energy-efficient dwelling with reduced carbon emissions and is therefore compliant with **Policy JP-S2**.