

Project: New Dwelling as Replacement for Existing Barn
At: Land west of Bedford Road, Holwell

Client: PMC Consultants

Project No: 19231

18 December 2025

ENERGY & SUSTAINABILITY STATEMENT

Checklist 1 – Optimising Passive Design & Performance

- 1.1 The design will take a 'fabric first' approach, utilising low U-values to minimise energy demand.
- 1.2 External element U-values:
 - Ground Floor = 0.13 W/m²K
 - External Walls = 0.18 W/m²K
 - Roof = 0.11 W/m²K
 - Windows = 1.2 W/m²K
 - Glazed doors = 1.2W/m²K
 - Solid Doors = 1.0 W/m²K
- 1.3 Design air permeability = 5 m³/h/m² at 50 Pa
- 1.4 Primary heat source = air source heat pump.
- 1.5 Glazing to south and west facing elevations makes beneficial use of solar gain.
- 1.6 Natural ventilation via openable windows to prevent overheating. Openable rooflights are particularly beneficial by allowing rising warm air to escape.

Checklist 2 – Achieving Low Carbon Energy

- 2.1 Primary heat source = air source heat pump.
- 2.2 Space & water heating controls:
 - time controls
 - zoning
 - thermostatic radiator/UFH controls
 - separate time controls for space & water heating
- 2.3 Low energy lighting:
 - fixed lighting capacity (lm) = 185 x total floor area
 - efficacy of all fixed lighting = 80 lm/W

Checklist 3 – Minimising Carbon Footprint

3.1 Compliance with policy and building regulations standards as a minimum.

Checklist 4 – Healthy Placemaking

4.1 The house is located in a rural setting, surrounded by open land.

4.2 Quiet location, 220m from nearest road.

4.3 Private garden.

4.4 Native planting.

4.5 Green roof to garden store.

Checklist 5 – Promoting Biodiversity

5.1 The current landscape is low biodiversity agricultural land.

5.2 Native planting and hedging to improve biodiversity.

5.3 Green roof to garden store.

Checklist 6 – Sustainable Travel

6.1 1 no. EV charger to serve each parking place.

6.2 EV charger specification to be in accordance with North Herts policy, Hertfordshire Highways requirements and Approved Document S of the Building Regulations.

Checklist 7 – Conserving Water

7.1 Low demand appliances and fittings in accordance with Approved Document G of the Building Regulations as a minimum.

7.2 External water butt(s) to capture roof run-off rainwater.

Checklist 8 – Sustainable Drainage

8.1 Foul drainage will discharge to a 'Biodigester' treatment unit, and the resulting clean run off directed to the existing water course running to the north of the site (subject to agreement with the Environment Agency).

8.2 Storm water discharge to soakaway(s).

