



sustainability & energy statement

WINSCOMBE VILLAGE HALL

MARCH 2021

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1.00 introduction.

BJP Consulting Group was appointed to provide a Sustainability and Energy Statement for the proposed construction of the proposed Winscombe WINspace Community Centre.

2.00 proposed building.

The proposed construction is of a new 800m² Community Centre consisting of meeting spaces, offices and community halls.

The siting and orientation of the building provides windows in the West elevations for good natural daylighting and avoids high heat gains from the South. The roof design allows the possibility of solar panels on the South facing roof with low to moderate shading.

The building fabric will achieve insulation and air tightness to higher standards than specifically required by Part L of the Building Regulations.

3.00 energy utility services.

3.01 electricity

It is anticipated that the building will have a grid mains electricity supply connection. Energy monitoring will be provided on the supplies.

3.02 gas

It is not intended to utilise gas for heating the building.

4.00 energy reduction through design.

The building design will be completed with measures to minimise the use of energy, these will include:

- High Performance Thermal Elements
- Measures to Minimise the Need for Cooling
- Use of LED Lighting
- High Efficiency Reverse Cycle Heat Pumps
- Intelligent Heating Controls
- Efficient Demand Controlled Heat Recovery and Extract Fans with a Low Specific Fan Power

5.00 renewable and/or low-carbon technologies.

5.01 expected building energy usage

A design stage energy modelling exercise has been undertaken and an SBEM calculation completed.

To comply with the Building Regulations Part L2, the Target Carbon Emission Rate (TER) must not be exceeded by the actual Building Emission Rate (BER)

The preliminary design phase model results were:

TER	16.1 kg CO ₂ /m ² per annum
BER	15.9 kg CO ₂ /m ² per annum

This indicates that subject to detailed design, the building meets the requirements of Part L2 of the Building Regulations

By the use of air source heat pumps, more than 60% of the heating/cooling energy is drawn from the ambient air and is therefore by decentralised (on site) renewable energy.

5.02 photovoltaic (pv) solar collection assessment

An analysis has been undertaken using the Energy Savings Trust Calculator to establish the yield from a 36m² PV array, as indicated on the Architects proposals.

Array Size 10.0kW(p)

Yield 7000 kWh per annum

CO₂ Saving 2000 kg per annum

And a Carbon Saving of 15.0%

The final PV array capacity will be dependent on the design SBEM calculations.