

ENERGY AND SUSTAINABILITY STATEMENT – PASSIVE DESIGN AND ENERGY EFFICIENCY

The client's brief has always been to achieve as close to passive as possible and certainly to exceed the current Building Regulations. This will be covered in detail at the Building Regulations/working drawing stage.

Below is a schedule of relevant proposals:

- The overall construction will be primarily of a high performance timber-framed system providing both a wall and roof U-value of 0.14.
- Windows will be Rational Triple glazed averaging 0.79.
- Air lightness target is of 0.6 air changes per hour at 50 Pascals pressure to eliminate energy loss.
- Heating and ventilation will be provided by a heat pump ventilation system (HPV) which will provide heating and cooling and includes an HPV air to water heat pump with a 300 litre hot water cylinder.
- HPV 1 unit provides a ventilation requirement of 191m³/hr together with 3.2kW of heating and 2.2kW of cooling.
- Total Home Environment Ltd who provide and install the equipment carry out a detailed room-by-room heat loss appraisal for optimal design.
- The system employs Mechanical Ventilation with Heat Recovery (MVHR) to enhance air quality and comfort, both for heating and cooling.
- The integrated heat pump achieves a heat recovery of up to 90% and has an automatic summer bypass for efficient cooling.
- Solar PV panels on South roof slopes to the rear single storey element and garage together with battery storage is also proposed, subject to Planning Permission.
- Underground rainwater storage, harvested to feed WCs, washing machine and other non consumable appliances and could provide irrigation for the garden, together with car washing.
- Low water use WC cisterns, wash basins, baths/showers will be installed.
- Cycle storage and an Electric Vehicle charging point is provided.
- Although Biodiversity Nett Gain (BNG) does not apply, a responsible attitude will be taken to landscaping and the provision of planting that will encourage diverse habitats for wildlife.

- The street frontage hedgerow will be retained as shown on the planning drawings together with additional native hedgerow.
- Finally, this being a true Self Build project with the applicant being a skilled builder, as far as possible, subcontractors, material and product supplies will be sourced locally from known and trusted companies.