

# Sustainable Design Measures

## Renewable Energy

- We have installed a 6.8kWh solar array and 10kWh battery system here on the vineyard in 2021. This is connected in with the main power supply which serves the vineyard which means that any vineyard buildings, including the proposed staff dwelling, can utilise the solar or stored power from the renewable system.

## Passive Heating / Cooling Measures

- The following features are designed into the proposals to maximise passive heating/cooling:
  - Openable windows/doors on opposing elevations to allow cross-ventilation;
  - Openable roof lights to bathroom and living spaces to increase vertical stack ventilation when required
  - Timber horizontal brise soleil will be part of the pergola at the south elevation to reduce ingress of direct sunlight in warmer summer months when sun is higher in the sky
  - Ample south facing glazing will offer passive heating benefits of solar gain during winter months when sun is lower in the sky
  - Modest windows to north elevation to reduce heat loss in winter months

## Insulation and Draught-proofing

- The staff accommodation will use timber cladding in order to maximise the thermal properties of the external element of the construction. The walls will be insulated with Celotex or similar to a high level, as will the ceiling structure and floor. The double-glazed metal-framed windows and doors are constructed to a high standard and will be well-sealed with draught-proofing measures around opening elements. These measures combined will ensure that the dwelling is insulated to a high standard.

## Water Recovery

- Water harvesting infrastructure will be installed as part of the roof system with water pumped to an existing onsite storage system on the vineyard.