



### Scale of development

Small

### Type of development

Single Dwelling

### Sustainability features



**Design**



**Energy**



**Biodiversity**



**Water Conservation**



**Health & Wellbeing**



**Materials**

### Features

- ❖ Structural straw bale construction
- ❖ Glass insulated solar collector in roof
- ❖ Multiple local material selection

### Introduction

Constructed on a sensitive site on the Lizard peninsular, this three bedroom house features structural straw bale walls, an Oak frame and incorporates local clay bricks and render.

### Construction and Materials

The designer has placed a strong emphasis upon local materials; designed with a range of techniques and variety of different materials the house demonstrates the potential for using locally sourced material.

The building is a combination of load bearing straw bale, local clay brick and render with both stone and timber clad sections. The frame is Oak, with extensive use of wood and natural finishes internally.

The kitchen is fitted with appliances from local suppliers Cornwall Kitchens, all units fitted are from their Eco range. The house uses low VOC paint throughout.

### Energy Efficient Design and Technology

The base of the building incorporates a concrete slab, adding to the thermal mass and allowing steady release of stored energy. This helps to control temperature and prevents hot cold cycling throughout the day.

The design also incorporates a 4kW capacity ground source heat pump and mechanical heat recovery and ventilation. Additional heat is provided by an innovative solar thermal collector which is manufactured to fit in the roof under glass slates, thereby improving the aesthetic quality of the building.

The house utilises low energy lighting and a wood burning stove with all windows being double glazed.

### Post Occupancy

The radical approach taken in using structural straw bales did result in a small amount of settlement. This caused a little cracking of the render which required some minor repairs.