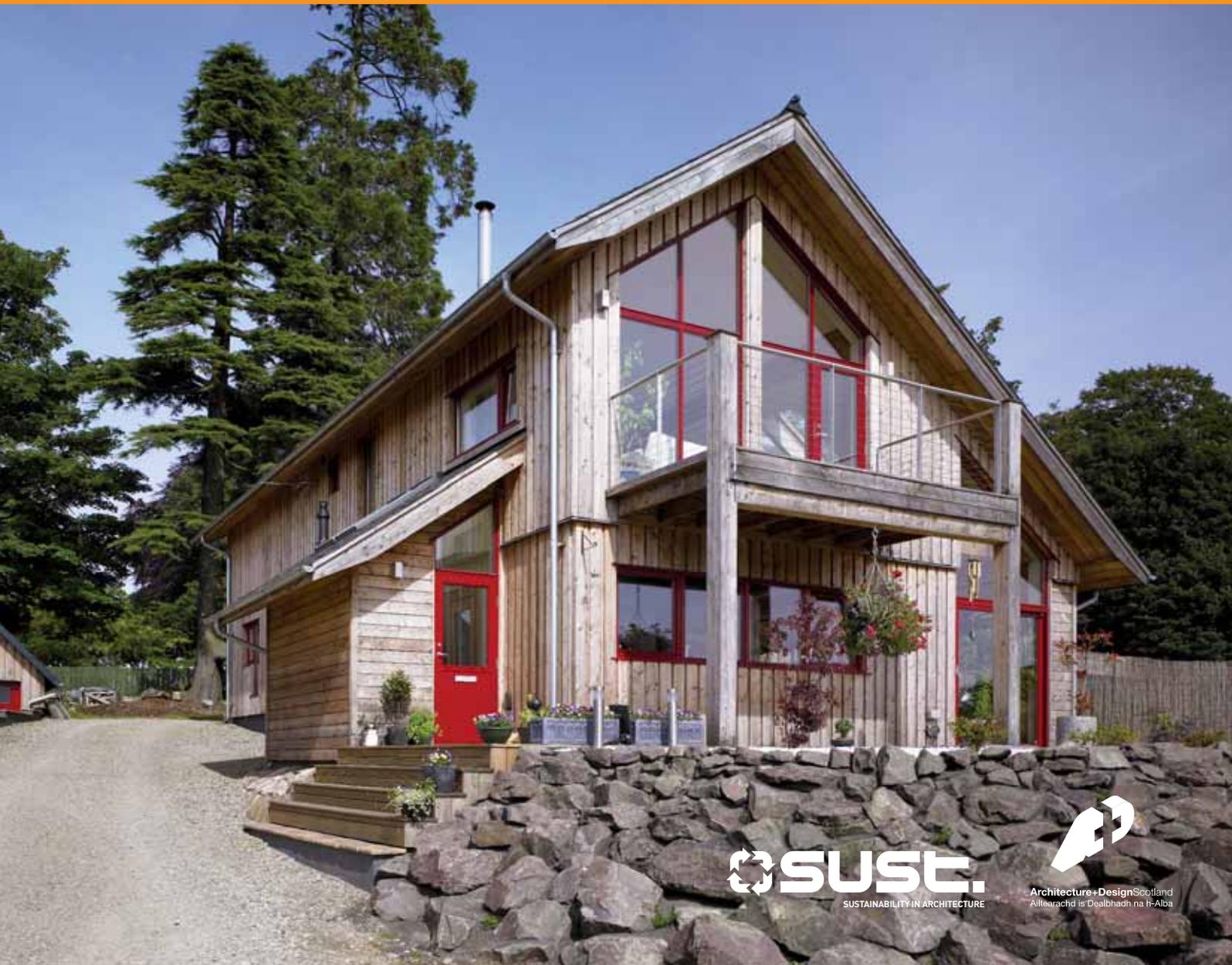
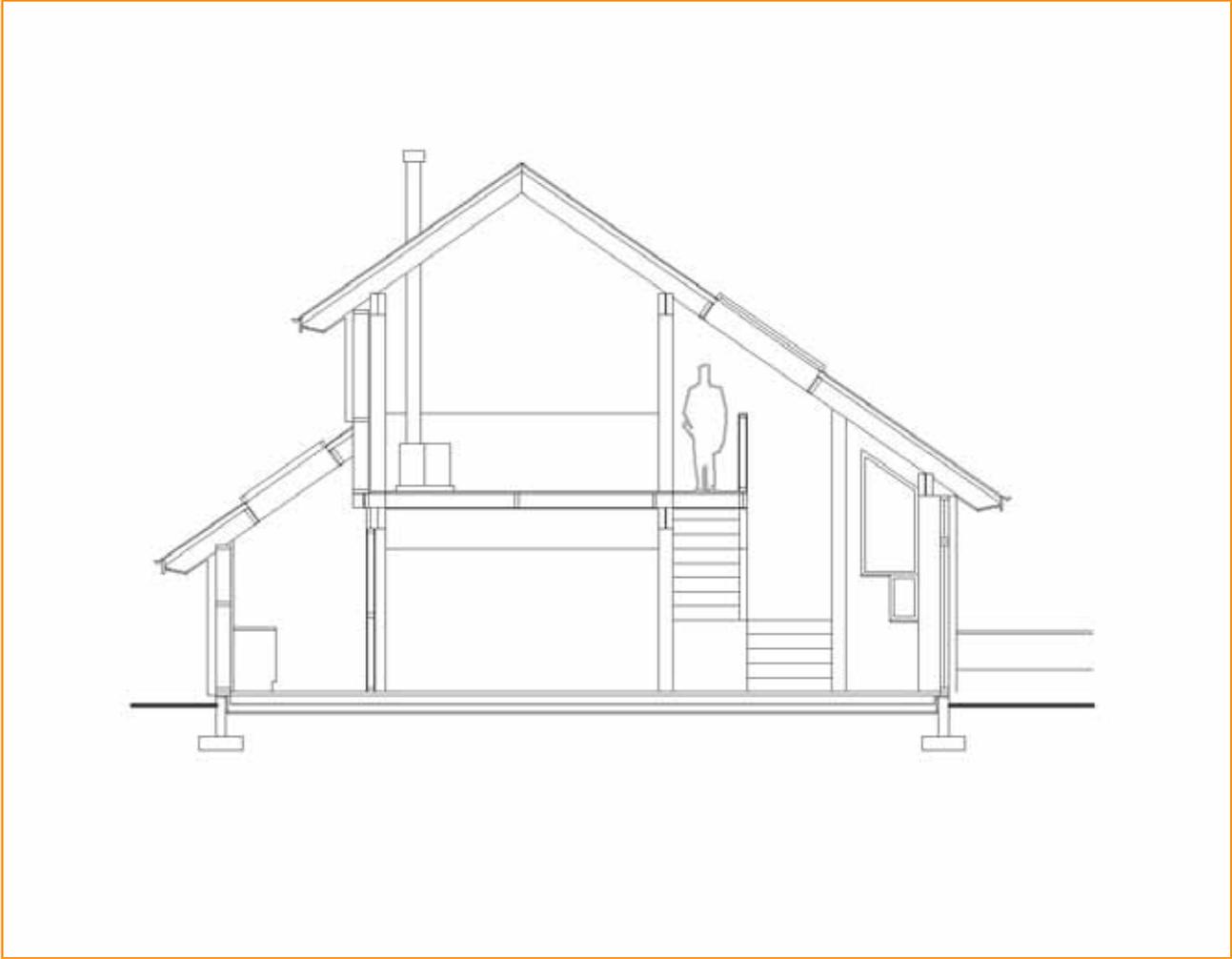


MATERIAL  
CONSIDERATIONS  
**A NATURAL FACTORY**

08

CASE STUDY  
PARAMATTA







With thanks to Neil Sutherland Architects for photography.

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### Timber technologies

The materials are locally sourced, principally from the Highlands. This accounts for all timber used in the construction of the house with the exception of the window frames, and some timber by-products, such as Oriented Strand Board for sheathing.

The post and beam frame, balconies and decking are made from Scottish Douglas fir. Scottish spruce has been used for the external and internal wall framing and panels, and the external cladding is Scottish larch.

Most other materials and components are sourced from UK manufacturers, while a few are brought in from northern or central Europe, such as the Hunton Board used in the external wall construction which comes in from Norway.

### Special timber-related features

As sustainability is key to the building, whenever possible locally grown and (chemically) untreated timbers are used, along with a carefully selected palette of benign construction materials, again sourced locally wherever possible.

The house uses a building system which typically involves the use of large section Douglas fir timber for the primary structural frame, not only for its structural properties and availability, but because the system of build promotes greater space and volume.

The house celebrates the use of timber throughout. The structure of the house is primarily an indigenous and untreated Douglas fir post and beam load-bearing frame, with external softwood wall panels. The house is well insulated beneath the floor slab, and in the walls and roof. Externally the house is clad in larch, and finished with a slate roof.

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# CASE STUDY

## PARAMATTA

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### Name of building

Paramatta

### Date completed

2005

### Building type

Residential (single dwelling)

### Location

Near Montrose

### Architect

Neil Sutherland Architects

### Client

Private Owner

### Main contractor / timber supplier

Sutherland Architecture Ltd

Cromartie Sawmill

Norbuild

### Awards

*Angus Design Awards 2006,*

Winner

*Montrose Society Award 2006,*

Winner

*Greenhouse Exhibition 2007,*

Sust. The Lighthouse, Glasgow

*Six Cities Exhibition: Creative Highlands, Inverness 2007*

### Background to building

This private house has been constructed from natural materials and designed to make the best use of solar energy.

The building occupies an elevated sloping site within the grounds of a former country house overlooking Montrose and the coast. The public areas have been extended externally with a series of decks and balconies, which diminish the boundaries between the inside and outside of the house.

The house includes passive energy systems such as high thermal mass in the floor slab, together with extensive south facing glazing, highly insulated walls and roofs with airtight construction. It also includes low-energy technology systems such as wood fuel stoves, solar panels, turbines and photovoltaics. Solar energy is used to heat the house in two ways: passively through the extensive glazing to the east, south (and west), and stored in the high thermal mass of the concrete floor slab; and actively in the solar panels to the roof, which connect to the domestic hot water tank.

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### Material Considerations

A Natural Factory

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