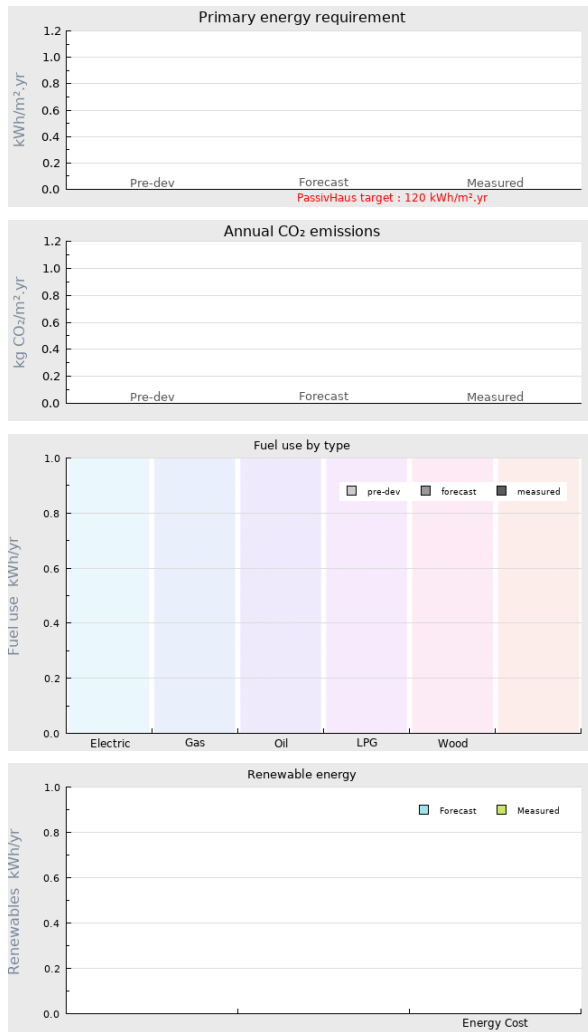


Project name Tigh na Croit

Project summary Set in the hamlet of Gorstan in the Scottish Highlands, Tigh na Croit nestles quietly into an area of former crofting land. A high quality, low energy dwelling, it takes inspiration from highland and rural design whilst achieving certified PassivHaus standard to drive down energy consumption.



Project Description

Projected build start date

Projected date of occupation

Project stage

Occupied

Project location

Gorstan, , Scotland

Energy target

PassivHaus

Build type

New build

Building sector

Private Residential

Property type

Detached

Existing external wall construction

Existing external wall additional information

Existing party wall construction

Floor area	223.5 m ²
Floor area calculation method	PHPP
Building certification	Passivhaus certified

Project team

Organisation	
Project lead	
Client	John & Jeanette Fenwick
Architect	Ross Barrett, HLM Architects
Mechanical & electrical consultant(s)	PAUL Heat Recovery Scotland
Energy consultant(s)	Federico Montella, HLM Architects
Structural engineer	Woolgar Hunter
Quantity surveyor	
Other consultant	Certifier - Ingo Theoboldt, Passivhusbyrn
Contractor	Urquhart Homes

Design strategies

Planned occupancy
Space heating strategy
Water heating strategy
Fuel strategy
Renewable energy generation strategy
Passive solar strategy
Space cooling strategy
Daylighting strategy
Ventilation strategy
Airtightness strategy
Strategy for minimising thermal bridges
Modelling strategy
Insulation strategy
Other relevant retrofit strategies
Other information (constraints or opportunities influencing project design or outcomes)

Energy use

Fuel use by type (kWh/yr)

Fuel	previous	forecast	measured
Electric			
Gas			
Oil			
LPG			

Fuel	previous	forecast	measured
Wood			

Primary energy requirement & CO2 emissions

	previous	forecast	measured
Annual CO2 emissions (kg CO2/m ² .yr)	-	-	-
Primary energy requirement (kWh/m ² .yr)	-	-	-

Renewable energy (kWh/yr)

Renewables technology	forecast	measured
-		
-		
Energy consumed by generation		

Airtightness (m³/m².hr @ 50 Pascals)

	Date of test	Test result
Pre-development airtightness	-	-
Final airtightness	-	-

Annual space heat demand (kWh/m².yr)

	Pre-development	forecast	measured
Space heat demand	-	-	-

Whole house energy calculation method

Other energy calculation method

Predicted annual heating load

-

Other energy target(s)

Building services

Occupancy

Space heating

Hot water

Ventilation

Controls

Cooking

Lighting

Appliances

Renewables

Strategy for minimising thermal bridges

Building construction

Storeys

Volume

Thermal fabric area

Roof description

Roof U-value

Walls description

Walls U-value

Party walls description

Party walls U-value

Floor description

Floor U-value

Glazed doors description

Glazed doors U-value

Opaque doors description

Opaque doors U-value

Windows description

Windows U-value

Windows energy transmittance
(G-value)

Windows light transmittance

Rooflights description

Rooflights light transmittance

Rooflights U-value

Project images





