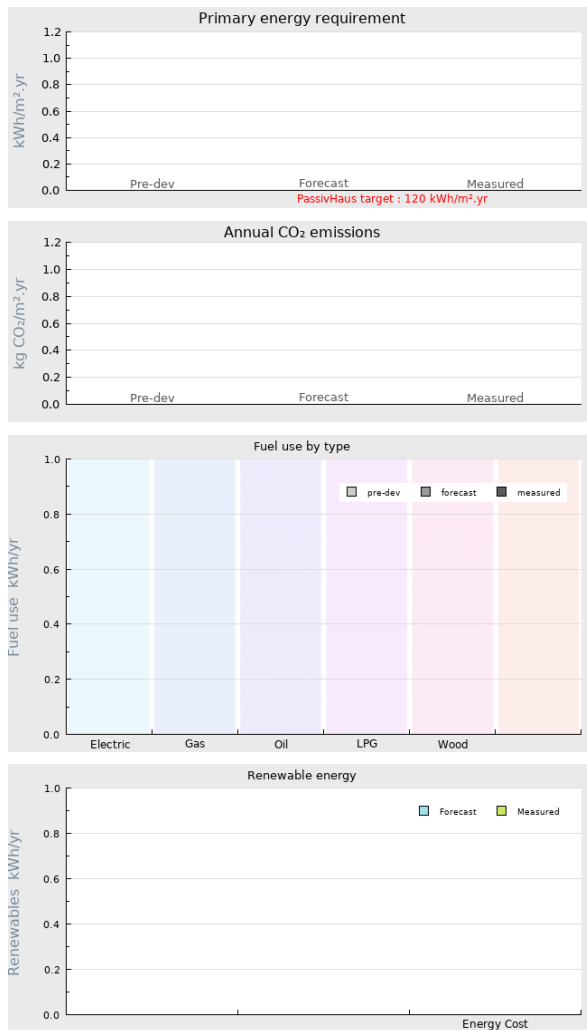


## Project name Steel Farm

**Project summary** WINNER of the UK Passivhaus Awards 2015 - Steel Farm is the first Certified Passivhaus in Northumberland. Built using traditional construction technology it is located near Hexham in the North Pennine Area of Outstanding Natural Beauty.



## Project Description

Projected build start date

Projected date of occupation

Project stage Occupied

Project location Hexham, Northumberland, England

Energy target PassivHaus

Build type New build

Building sector Private Residential

Property type Detached

Existing external wall construction Masonry Cavity

Existing external wall additional information Traditional Cavity Wall Masonry with Trussed Rafter Roof

Existing party wall construction

Floor area	151 m <sup>2</sup>
Floor area calculation method	PHPP
Building certification	Passivhaus certified

## Project team

Organisation	
Project lead	Mark Siddall, LEAP
Client	Private
Architect	Mark Siddall, LEAP
Mechanical & electrical consultant(s)	Alan Clarke
Energy consultant(s)	Alan Clarke
Structural engineer	Lee Dayes, Dayes Kenyon
Quantity surveyor	
Other consultant	
Contractor	Joe Dixon, J D Joinery and Building

## 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
<b>Electric</b>			
<b>Gas</b>			
<b>Oil</b>			
<b>LPG</b>			

Fuel	previous	forecast	measured
<b>Wood</b>			

### Primary energy requirement & CO2 emissions

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

### Renewable energy (kWh/yr)

Renewables technology	forecast	measured
-		
-		
<b>Energy consumed by generation</b>		

### Airtightness ( m<sup>3</sup>/m<sup>2</sup>.hr @ 50 Pascals )

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

### Annual space heat demand ( kWh/m<sup>2</sup>.yr )

	Pre-development	forecast	measured
<b>Space heat demand</b>	-	-	-

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

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## 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

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## Project images





