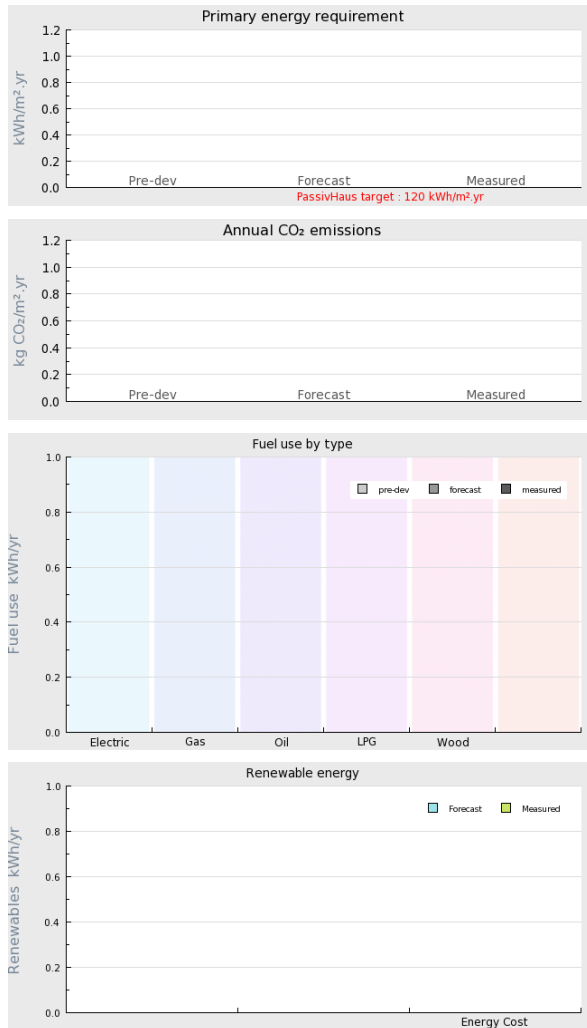


Project name Steel Farm

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 ² |
| 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 |
|-----------------|----------|----------|----------|
| 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





