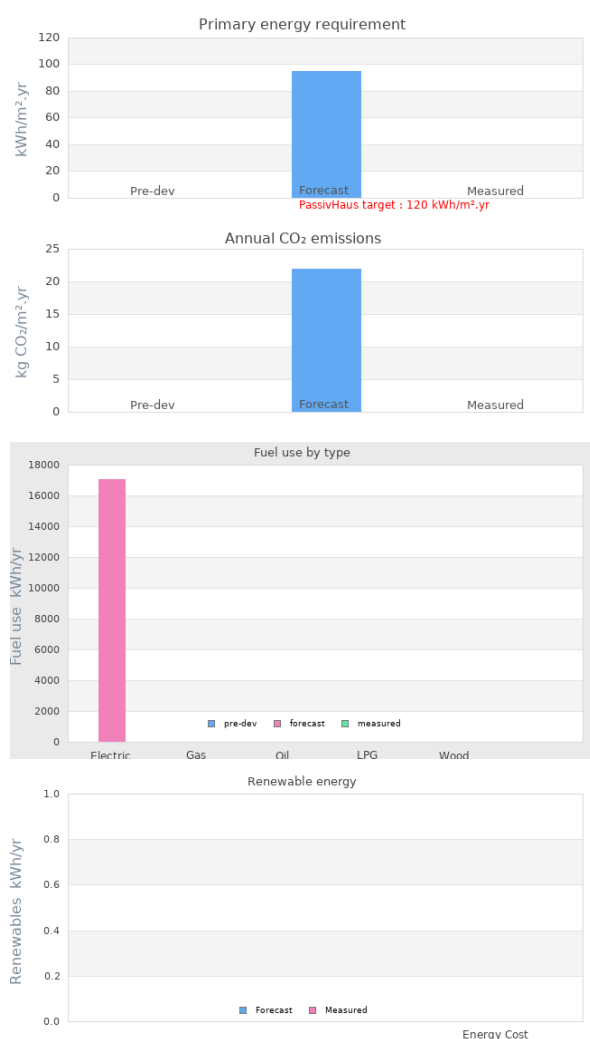


Project name Mayfield Passivhaus

Project summary A replacement dwelling on the site of a 1930s bungalow. Set within a historic Percy Crane landscape garden, this new dwelling provides 6 bedrooms over three storeys and responds to the layout of the historic garden setting, with footpaths and vistas becoming integral with the layout of the rooms and glazing. The house is a three dimensional venn diagram, with two volumes overlapping in the area of the main entrance atrium and staircase, which fall on the principal axis of the site entrance route. This mutual overlapping zone is expressed externally in a full glass roof over the entrance atrium, bringing light and winter warmth into the nucleus of the house. Internally, the layout reflects the order of priority of its users, with the kitchen and dining space taking the most prominent position off the south-facing terrace.



Project Description

Projected build start date

Projected date of occupation

01 Sep 2015

Project stage

Occupied

Project location

Mayfield, East Sussex, England

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

Project team

Organisation	
Project lead	James Galpin, Hazle McCormack Young LLP
Client	Private
Architect	James Galpin, Hazle McCormack Young LLP
Mechanical & electrical consultant(s)	Phil Neve, Aaben Ltd
Energy consultant(s)	Phil Neve, Aaben Ltd (PHPP)
Structural engineer	Crouch Waterfall
Quantity surveyor	
Other consultant	
Contractor	Martin Peat, Richardson & Peat

Design strategies

Planned occupancy	5-7
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		17065	
Gas			
Oil			
LPG			
Wood			

Primary energy requirement & CO2 emissions

	previous	forecast	measured
Annual CO2 emissions (kg CO2/m².yr)	-	22	-
Primary energy requirement (kWh/m².yr)	-	95	-

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	-	0.5

Annual space heat demand (kWh/m².yr)

	Pre-development	forecast	measured
Space heat demand	-	15	15

Whole house energy calculation method

PHPP

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









