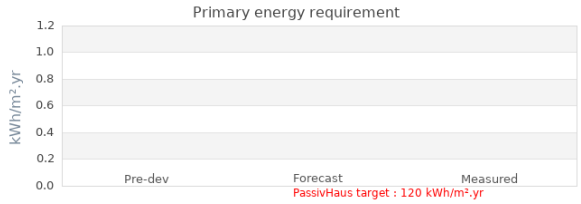
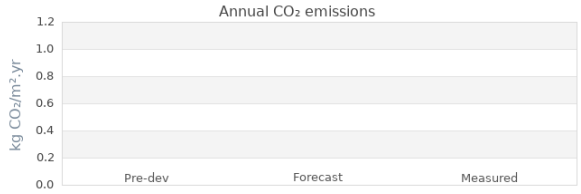
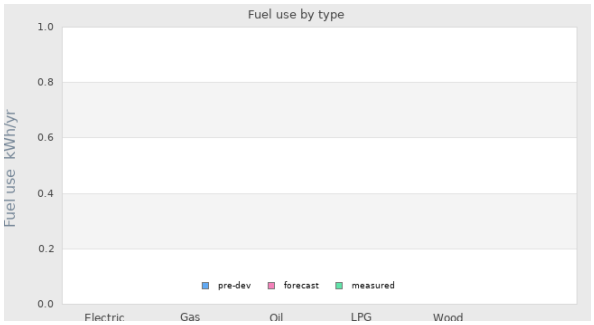
https://www.lowenergybuildings.org.uk/

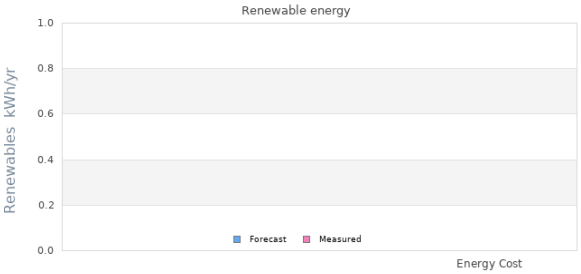
Project name Reform Cottage

Project summary Reform Cottage was a small dwelling originally built in 1838, extended at the beginning and the end of the 20th century.The owners chose this property on the basis of its location, setting and the opportunity to retrofit to a high level.









Project Description

Projected build start date	
Projected date of occupation	
Project stage	
Project location	Hereford, Herefordshire, England
Energy target	PassivHaus
Build type	
Building sector	Private Residential
Property type	Detached
Existing external wall construction	
Existing external wall additional information	
Existing party wall construction	

Floor area	167 m²
Floor area calculation method	PHPP
Building certification	Passivhaus certified

Project team

Organisation	
Project lead	
Client	Private Client
Architect	Gervase and Sonia Mangwana
Mechanical & electrical consultant(s)	
Energy consultant(s)	Green Building Store
Structural engineer	
Quantity surveyor	
Other consultant	
Contractor	

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/m².yr)	-	-	-
Primary energy requirement (kWh/m².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	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