

Project name Godwit House

Project summary Godwit House is a one-off house on the edge of Warkworth, Northumberland, designed as a response to both the client and the place. The clients life is captured by creating places for her collection of objects picked up through work and travel. The place is captured in the orientation of windows to key views and the materials which are familiar to the agricultural structures found locally. Bedrooms are on the ground floor, clustered around a courtyard garden, the upper floor is a large living, kitchen and dining space with windows splayed to the views across the Coquet estuary. Materials are low in embodied carbon and the house needs very little energy to heat, it also generates electricity through a PV array on the roof. The project increases local biodiversity, with a green roof, rainwater harvesting and a pond to accommodate visiting wildlife. The house is built from high quality materials, it achieved exceptional airtightness and is a certified Passivhaus.



Project Description

Projected build start date	01 Mar 2022
Projected date of occupation	01 Dec 2021
Project stage	Occupied
Project location	Warkworth, Northumberland, England
Energy target	PassivHaus
Build type	New build

Building sector	Private Residential
Property type	Detached
Existing external wall construction	Softwood frame
Existing external wall additional information	
Existing party wall construction	
Floor area	190.42 m ²
Floor area calculation method	PHPP
Building certification	Passivhaus certified

Project team

Organisation	MawsonKerr
Project lead	RIBA Domestic Building Contract
Client	Private
Architect	MawsonKerr
Mechanical & electrical consultant(s)	NA
Energy consultant(s)	NA
Structural engineer	NA
Quantity surveyor	NA
Other consultant	WARM
Contractor	True North Construction

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	PHPP
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			
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	-	0.2

Annual space heat demand (kWh/m².yr)

	Pre-development	forecast	measured
Space heat demand	-	14	14

Whole house energy calculation method

PHPP

Other energy calculation method

Predicted heating load

9 W/m² (demand)

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 2

Volume

Thermal fabric area

Roof description Timber Frame

Roof U-value $0.07\text{W/m}^2\text{ K}$

Walls description Timber Frame

Walls U-value $0.12\text{W/m}^2\text{ K}$

Party walls description

Party walls U-value

Floor description Insulated Raft

Floor U-value $0.08\text{W/m}^2\text{ K}$

Glazed doors description

Glazed doors U-value uninstalled

Opaque doors description

Opaque doors U-value $0.77\text{W/m}^2\text{ K}$ uninstalled

Windows description Alu-Clad Timber

Windows U-value $0.77\text{W/m}^2\text{ K}$ uninstalled

Windows energy transmittance
(G-value)

Windows light transmittance

Rooflights description

Rooflights light transmittance

Rooflights U-value

Project images











