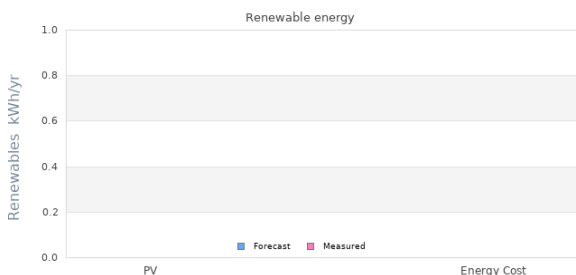
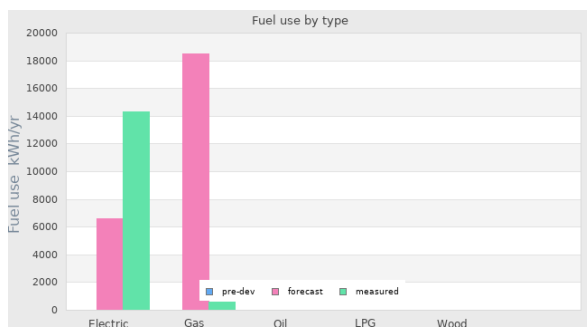
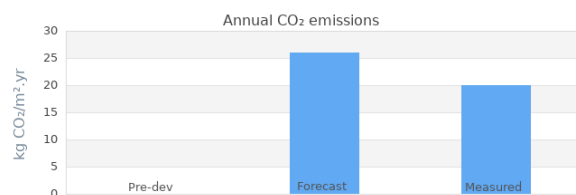
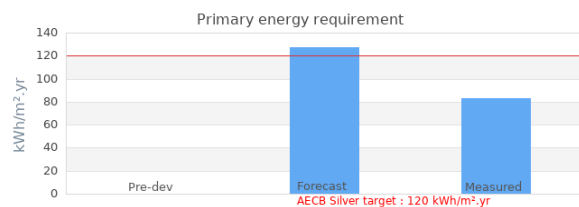


Project name Eco Hub at Lordship Recreation Ground, Haringey, London

Project summary The new Eco-Hub is the centrepiece of the regeneration and transformation of the historic Lordship Recreation Ground, and has been designed to exemplary sustainable standards. Commissioned by Haringey Council and funded by the Heritage Lottery Fund Parks for People programme, Big Lottery and the Greater London Authority. It will provide teaching space for environmental education, a multi-purpose community space for community organisations including the Lordship Rec mother and toddler group, a public cafe near the playground and the lake, with kitchen and public WCs, and a boot room for Park volunteers. From the outset, detailed consultation with Friends of Lordship Rec, local user groups, environmental education teachers and officers at LB Haringey, helped develop a pragmatic building brief and set out the core aims of community involvement and a truly sustainable building design for the Eco-Hub. Local people joined the construction team to build the strawbale walls.



Project Description

Projected build start date	11 Jul 2011
Projected date of occupation	01 Nov 2012
Project stage	Occupied
Project location	Haringey, London, London, England
Energy target	AECB Silver

Build type	New build
Building sector	Public
Property type	Detached
Existing external wall construction	Other
Existing external wall additional information	Straw bales
Existing party wall construction	
Floor area	298.45 m ²
Floor area calculation method	PHPP

Project team

Organisation	Anne Thorne Architects LLP
Project lead	NPS South East Ltd.
Client	London Borough of Haringey
Architect	Anne Thorne Architects LLP
Mechanical & electrical consultant(s)	NPS London Ltd.
Energy consultant(s)	Anne Thorne Architects LLP
Structural engineer	NPS London Ltd.
Quantity surveyor	NPS London Ltd.
Other consultant	Straw Works
Contractor	Vinci Construction UK Ltd

Design strategies

Planned occupancy	Max. 50 people, 9 am to evening use.
Space heating strategy	Top-Up heating by hot water radiator. Heat recovery ventilation.
Water heating strategy	Gas condensing boiler. Remote electric heater.
Fuel strategy	Mains Gas. Mains electricity.
Renewable energy generation strategy	PV-136 13 sqm 0.816 kWp
Passive solar strategy	Optimised windows facing South
Space cooling strategy	Natural cross ventilation.
Daylighting strategy	Multi-direction intake where possible. High level windows at Atrium.
Ventilation strategy	Natural ventilation and automated MVHR
Airtightness strategy	* Airtight membrane under roof structure sealed to inside of clay plaster on external strawbale wall. Clay plaster finished to provide continuous air barrier. * Suspended floor air barrier sealed direct to clay plaster on strawbale wall.
Strategy for minimising thermal bridges	Continuous insulation maintained throughout.
Modelling strategy	PHPP

Insulation strategy

* Raised Floor U-Value=0.10 W/(m²K) 15mm Wood fibre bitumen impregnated insulation board + 360mm Cellulose fibre insulation between I-joists + 18mm OSB board + 50mm Woodfibre insulation butt + Solid Oak flooring *

External Wall U-Value=0.11 W/(m²K) 30mm Internal clay plaster + 450mm strawbale + 30mm external lime render *

Main flat roof U-Value=0.06 W/(m²K) 325-550mm Cellulose fibre insulation between I-joists / firrings +18mm OSB deck + vapour control layer + 160mm PIR insulation board + waterproof membrane + green roof sedum blanket

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		6628	9734
Gas		18471	461
Oil			
LPG			
Wood			

Primary energy requirement & CO₂ emissions

	previous	forecast	measured
Annual CO₂ emissions (kg CO ₂ /m ² .yr)	-	26	20
Primary energy requirement (kWh/m ² .yr)	-	127	83

Renewable energy (kWh/yr)

Renewables technology	forecast	measured
PV		
-		
Energy consumed by generation		

Airtightness (m³/m².hr @ 50 Pascals)

	Date of test	Test result
Pre-development airtightness	-	-
Final airtightness	19 Jul 2012	1.06

Annual space heat demand (kWh/m².yr)

	Pre-development	forecast	measured
Space heat demand	-	28	-

Whole house energy calculation method

PHPP

Other energy calculation method

Predicted heating load

15 W/m² (demand)

Other energy target(s)

Building services

Occupancy

50 people

Space heating

Gas boiler is Worcester Si30 GreenstarOptimum start time controls and a programmable main thermostat. there are 4 radiators, one in each main zone each with thermostatic radiator valves fitted. There is no weather compensation.

Hot water

Worcester Si30 Greenstar for main. Remote electric heater to 2 sinks in rooms.

Ventilation

4 units of Drexel und Weiss Aerobusiness

Controls

Motion and humidity sensor - if the sensor detects moving, or humidity is high, the unit starts at Level 2. Humidity is lower than 30%, the unit slows down to level 1. No detection for 30 minutes - the unit stops. (Level 0) Every 2 hours the unit runs 15 minutes to enable the minimum needed air exhaust at Level 1. This function is active until next motion is detected.

Cooking

Gas cooker

Lighting

Lighting levels are as for a school, 300 lux generally with 500 lux in the office and kitchen.

Appliances

Tenant supply

Renewables

Kalzip Uni-solar Power Bond PVL-136 13 sqm
0.816 kWp

Strategy for minimising thermal bridges

Building construction

Storeys

1

Volume

1632m³

Thermal fabric area

1113m²

Roof description	325-550mm Cellulose fibre insulation between I-joists / firrings +18mm OSB deck + vapour control layer + 160mm PIR insulation board + waterproof membrane + green roof sedum blanket. (High level pitched roof: 50mm Woodfibre board + 300mm Cellulose fibre insulation between I-joists + 18mm OSB board + metal sheet roofing U-Value=0.12 W/(m2K))
Roof U-value	0.06W/m ² K
Walls description	30mm Internal clay plaster + 450mm strawbale + 30mm external lime render (Atrium wall:3-5mm Skim clay plaste + 25mm clayplaster board + 245mm Cellulose fibre insulation between timber studs +9mm OSB board +80mm PIR insulation board + Oak timber cladding U Value=0.11 W/(m2K))
Walls U-value	0.11W/m ² K
Party walls description	
Party walls U-value	
Floor description	15mm Wood fibre bitumen impregnated insulation board + 360mm Cellulose fibre insulation between I-joists + 18mm OSB board + 50mm Woodfibre insulation butt + Solid Oak flooring
Floor U-value	0.10W/m ² K
Glazed doors description	Green Building Store
Glazed doors U-value	uninstalled
Opaque doors description	
Opaque doors U-value	0.93W/m ² K installed
Windows description	Green Building Store Ecopassiv Ug-Value=0.58 44 mm (4lowe/16/4/16/4lowe) Ug-Value=0.61 46.4 mm(6.4lam/16/4tgh/16/4tgh)
Windows U-value	0.75W/m ² K installed
Windows energy transmittance (G-value)	58%
Windows light transmittance	
Rooflights description	na
Rooflights light transmittance	
Rooflights U-value	installed

Project images













