EcoConference Centre Zero Carbon In Operation Review

This report is compiled by Better Century CIC for Sheepdrove Organic Farm using the minimum reporting template from the Green Building Council.

Overview

Dates of achievement	1/4/2022 – 31/3/2023
Verified by	Tom Beckett, Consultant, Better Century CIC
Building location	Sheepdrove Green Events Venue, Sheepdrove Rd, Lambourn, Hungerford RG17 7UU
Building type	Class E – Commercial, Business and Service
Building description	The conference centre is T Shaped (25.95m x 51.8m). The building is naturally ventilated and is built of sustainable materials. Waste products are bio-degraded in reed beds south of site. The design reinterprets the concept of the Long Barn and utilises innovative timber engineering. It is mostly built of douglas fir, brick and traditional mortar, steel and glass, and has a completely natural non mechanical means of circulating air, which is facilitated by vents in a uniquely designed and pitched roof. A pitched roof of height 8.45m runs East to West 51.7m, with a width of 11.7m, accommodating a Conference Room (full height), mezzane (accommodating conference rooms), a reception and dining area. A flat roof at 5.3m runs North to South 25.95m from the base of the T accommodating two floors of offices, toilets and breakout rooms. There is a circular tower in the West elbow of the T. It rises above the pitch of both roofs and forms the main entrance to the conference area, which accommodates a small third floor, known as the Rooks Nest. The building is heated entirely through a ground source heating system, and is attached to 558 solar panels located on farm buildings close by that provide power to the building.
Energy scope	Whole building energy usage for all heating and electricity usage including; let office space, café/kitchen area and all space used for conferences.
Assessed area	Gross Lettable Area of 1,315m2.
Percentage of total building area	Total building area (100% of space)
Data sources	Electricity bills from Ecotricity. Gas bills from FloGas Energy production from regular meter readings.

Energy – overall

Indicator	kWh	kWh/m^2
Total annual energy consumption	169,330	126.3
Total annual electricity consumption	169,250	126.2
Total annual fuel consumption (all other sources e.g. natural gas, 'green gas', heat network) per fuel/delivery type	80	0.06
Total annual electricity exported by renewable energy sources minus storage losses (e.g. 4 solar sites and 2 wind)	228,719	170.6

Renewable electricity procurement

Indicator	kWh	%
Total annual electricity consumption: a row per procurement route (Refer to Table 9-10 of the Renewable Energy Procurement & Carbon Offsetting guidance)	169,250	100%
	Total	100%

Energy efficiency of the building for rooms assessed is EPC B or C, giving a high performing property with high energy efficiency. It is acknowledged that energy performance may be improved through installation of wall insulation in north facing offices, which is part of our plan to 2035.

Fossil fuel heating systems have been replaced in the building, through a ground source heating system installation. This has resulted in the building have all fossil fuel heating to be removed and replaced with ground source heating, which will affect the register into the following year. This will also decrease overall energy demand of the building as the system installed will perform to a 3.8 co-efficient of performance, and will optimise use of onsite renewable energy generated.

Renewable energy supplier is Ecotricity, which is 100% renewable.

	Dual reporting			NZCB Framework Definition approach	
	Scope 1	Scope 2 (location-based)	Scope 2 (market-based)	Scope 1	Scope 2
Total annual direct CO2e emissions from self-generation and consumption (tCO2e)	0.02	0	0	0.02	0
Total annual indirect CO2e emissions from imported electricity (tCO2e)	0	0.00	35.05	0	35.05
Total annual direct CO2e emissions from combustion of fuel (e.g. onsite gas) per fuel type (tCO2e)	0	0	0	0	0
Total annual indirect CO2e emissions from combustion of fuel (all other sources, e.g. heat network) per fuel type (tCO2e)					
Total annual CO2e for Scope 1 + 2 emissions (tCO2e)				35.06	

For net calculations:

Total annual displaced CO_2e emissions from electricity exported by on-site renewable energy sources minus storage losses (tCO_2e)	22.86
Total annual displaced CO_2e emissions from international carbon offsets (tCO_2e)	0
Total annual displaced CO_2e emissions from domestic carbon units (tCO_2e)	35.05
Total annual net CO_2e emissions (tCO_2e)	**(22.85)**

Offsets

Carbon offset approach used	Minimum / Leadership: Transition Fund
International carbon offset standard used, amount and type of offset credit procured Registry link	
Domestic carbon unit standard used, amount and type of offset unit procured Registry link	Green Tariff offsets used from utlising all electricity consumption from Ecotricity. https://www.ecotricity.co.uk/our-green-energy/green-electricity
Weighted average cost per tonne of CO_2e for carbon credits/units bought	
Transition Fund – carbon price, cost per tonne of CO_2e (if applicable)	

Energy generated is from two solar sites on the location of the venue, that feed energy directly to the venue, with excess exported.