

SUSTAINABILITY STATEMENT

**CHANGE OF USE OF STORAGE AREA AND FIRST FLOOR OFFICES (CLASS SUI
GENERIS) TO TWO SELF-CONTAINED FLATS, AND THE CONSTRUCTION OF A
THIRD SELF-CONTAINED FLAT (USE CLASS C3)**

AT

**138 EAST STREET
BEDMINSTER
BRISTOL
BS3 4ET**

PREPARED BY

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FOR

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SUSTAINABILITY STATEMENT

Introduction

With reference to the Bristol Development Framework Core Strategy, regarding climate change and sustainability, the proposed scheme, where practicable, will accord with the policies listed below :

- BCS13 : Climate Change
- BCS14 : Sustainable Energy
- BCS15 : Sustainable Design and Construction
- BCS16 : Flood Risk and Water Management

When applying these policies, consideration will be *proportionate to the scale of the development* and will, therefore, be tailored accordingly. Consequently, this statement and the SAP ratings, Appendix B refers, will attempt to ascertain whether carbon emissions can, albeit theoretically, be reduced by at least 20%, over and above that required by Building Regulations, by increasing the thermal efficiency of the insulation, where possible, and providing renewable energy. This will be governed by the constraints of the premises, currently available materials and the type of air sourced heat pumps.

Policy BCS13 : Climate Change

Requires the development to both mitigate and adapt to climate change.

To comply with the policy, the development will :

- use optimal levels of thermal insulation
- provide passive ventilation by way of the new window openings
- encourage walking, cycling and the use of public transport. The site is within easy walking distance of the local amenities.

By improving the thermal characteristics of the building envelope will lead, by design, to a consequent reduction in the carbon emissions.

Policy BCS14 : Sustainable Energy

Sets out the requirement for the development to minimize its energy requirements and incorporate renewable and low-carbon energy supplies to reduce its carbon dioxide (CO₂) emissions.

1. Energy Strategy

The policy requires the provision of criteria for assessing new renewable energy schemes, with a presumption in favour of large-scale renewable energy installations. Requires new development to minimise its energy requirements and then incorporate an element of renewable energy to reduce its CO₂ emissions by a further 20%. Supports the delivery of a district heating network in Bristol.

1. Energy Summary Table

	Regulated Energy Demand (kW/yr)	Regulated CO ₂ emissions (kgCO ₂ /yr)	CO ₂ saved	% CO ₂ reduction
Baseline energy demand and emissions Building Regulations Part L compliance (equivalent to the Target Emissions Rate TER for new build, or building regulations compliant BER for existing buildings)	9839	2244	-	-
Proposed scheme after energy efficiency measures	9661	2109	135	1.40
Proposed scheme after energy efficiency measures and CHP (if suitable for the development) or non-renewable district heating – ‘residual emissions’	-	-	2109	21.09
Proposed scheme after renewables	2603	1351	758	29.12
Total CO ₂ reduction beyond baseline emissions	7236	893	893	39.80

2. Detailed Measures

2.1 Energy efficiency measures

Element or System	Part L Values (2013 - or most current)				Proposed
	Dwellings Lower	Dwellings Notional	Non-Dwellings Lower	Non-Dwellings Notional	
Wall	0.3	0.3	0.24	0.3	0.3
Roof	0.2	0.2	0.13	0.2	0.2
Floor	0.25	0.25	0.15	0.25	0.25
Windows/Doors	2.00	2.00	1.60	2.00	2.00
Permeability	N/A	N/A	N/A	N/A	N/A

Proposed heating system

2.2 On-site CHP and connection to off-site district heating

Not under consideration, at this time.

2.3 *On-site renewables*

The heating and hot water will be provided by electrically operated boilers controlled by full zone programmer and room thermostat with the radiators controlled with TRV's.

Renewable power – enter the total installed capacity (kW)	N/A
Renewable power – enter the estimated annual yield (kWh) from renewable measures generating electricity	N/A
Renewable heat – enter the total installed capacity (kW)	18
Renewable heat – enter the estimated annual yield (kWh) from renewable measures generating heat	4570

2.4 *Allowable solutions*

No allowable solutions are proposed.

BCS15 : Sustainable Design and Construction

This part of the policy, aimed at all major and super-major developments, requires a BREEAM and/or Code for Sustainable Homes to have been submitted as a major part of the Sustainability Statement.

Waste and Recycling

Total 3 No. 180 litre refuse bins along with recycling boxes and waste food caddy's, which will be stored on shelving provided within the refuse store.

Water

Water efficiency

Toilets will be fitted with dual action flushes whilst the kitchen sink, bath and washbasin will be fitted with aerated taps to reduce water flow to 8 litres/minute.

BREEAM and/or Code for Sustainable Homes

Some of the measures contained in the Code for Sustainable Homes, despite the size of development under consideration, will be adopted to minimize environmental impacts in an effort to improve the conversion from offices to residential.

Category 1 : Energy and Carbon Dioxide Emissions

Dwelling Emission Rate

CO₂ dwelling emission has been calculated in accordance with SAP2012 to show that the emissions rate is no greater than the projected figure.

Internal Lighting

100% of low energy fittings will be used to minimize energy consumption.

External Lighting

Any burglar security lighting installed will have a maximum wattage of 150W and be fitted with movement detecting shut off (PIR) and daylight cut off devices. All other security lighting will be Dawn 'til' Dusk.

Low or Zero Carbon (LZC) Technologies

It is proposed to install 3 No air sourced heat pumps, one per flat, to produce a minimum of 20% of the total energy demand.

Category 2 : Water

Internal Water Use

WC's already fitted with dual flush.

Taps to the wash hand basins, bathroom sink and kitchen sink to be fitted with flow restrictors.

Category 3 : Materials

In accordance with Approved Document Part L2B

Category 4 : Surface Water Run-off

Management of Surface Water Run-off from developments

None proposed.

Flood Risk

This site is not in a flood risk area.

Category 5 : Waste

Storage of non-recyclable waste and recyclable household waste

Refer to comment under *Waste and Recycling* above.

Category 6 : Pollution

Global Warming Potential (GWP) of Insulants

Not applicable

NOx Emissions

Primary water and space heating will be through use of an electrically operated condensing combination boiler and radiators.

Category 7 : Health & Wellbeing

Daylighting

Daylighting conforms to average daylight factor.

Category 8 : Management

Common sense will prevail in the appropriate use of the dwelling.

All works will be constructed in a considerate manner with regards to the environment.

BCS16 : Flood Risk and Water Management

Policy covers risk from flooding and the reduction in surface water runoff and water consumption.

Flood risk

This site is not at risk from flooding.

Water management

Reducing water consumption

Apart from those measures detailed under Policy BCS15 (Water : Water management), water usage of the new dwelling will be limited to less than 125 litres per person per day.