



**UNIT 1, VICTORIA RETAIL PARK,
VICTORIA STREET, BURY, BL8 2EQ**

SUSTAINABILITY STATEMENT

September 2024

Introduction

Award Energy were instructed to undertake an appraisal of the sustainability and carbon reduction measures anticipated for the proposed re-development of Unit 1, Victoria Retail Park, Victoria Street, Bury, BL8 2EQ.

This report considers the issues surrounding sustainable construction with regards to the proposed development. In particular, it considers and evaluates the measures incorporated into the design of the development to reduce the predicted energy and carbon emissions of the site as per Greater Manchester's Joint Development Plan policies.

Policy Context

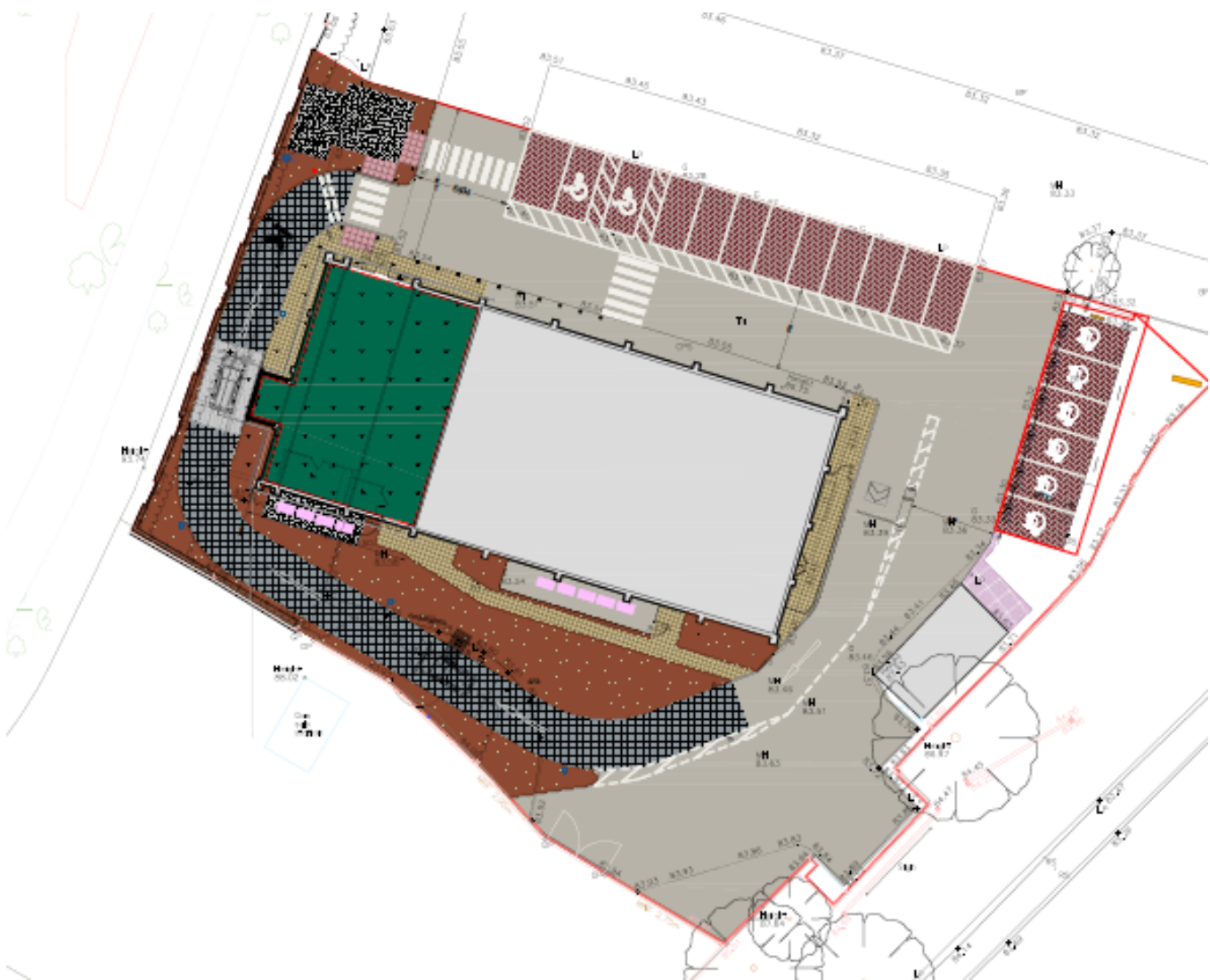
When preparing this statement, the following documents were consulted:

Building Regulations Part L2 2021 – sets minimum standards for carbon and energy efficiency for non-domestic buildings

National Planning Policy Framework 2023 - strengthens the emphasis on sustainable development and requires new developments to secure the highest viable resource and energy efficiency and reduction in emissions by considering Governments and other national standards

Greater Manchester Places for Everyone Joint Development Plan (Places for Everyone) 2024 Policy JP-S2: Carbon and Energy – aims to deliver a carbon neutral Greater Manchester no later than 2038, including a range of measures aimed at the built environment.

The proposed development is shown on the indicative site plan below.



Energy Strategy

The Energy strategy for the proposed re-development is based on the Building Regulations Part L; it adopts a set of principles to guide design and decisions regarding energy, balanced with the need to optimise environmental and economic benefits.

In accordance with the Energy Hierarchy, this statement outlines an overall commitment to reducing energy consumption through the adoption of a Fabric First principle. This strategy will seek to enhance insulation standards and improve heating and lighting efficiencies in comparison to the standard requirements of Approved Document Part L2 2021. Further carbon emission reduction will be achieved by using renewable technologies.

- **Be Lean:** Passive design principles including a high level of insulation and an energy efficient M&E strategy to deliver Part L compliant Building in absence of renewable technologies. It will achieve a **5.7%** reduction in carbon emissions over Part L 2021 baseline
- **Be Clean:** District Heating was deemed not viable for this project
- **Be Green:** Photovoltaic Panels have been proposed for the specific scheme and will deliver a further **94.48%** reduction in regulated carbon emissions over Part L 2021 baseline

Baseline Model

A baseline model is run assuming the development complied with Part L 2021 of the Building Regulations. This baseline model is then used in the Energy Strategy process in comparison to the Be Lean, Be Clean and Be Green steps of the Energy Hierarchy to establish the regulated CO₂ emissions from the development.

Be Lean – Demand Reduction

The building fabric performance and mechanical and electrical systems have been optimised in order to use less energy prior to the inclusion of Low and Zero Carbon (LZC) Technology. Following the passive design process, the building is estimated to achieve a **5.7%** reduction in annual regulated CO₂ emissions over Part L2 2021 before the utilisation of renewable technologies. As can be seen in Table 1 below, it is anticipated that all walls, floors and roofs will be insulated beyond current Building Regulation requirements. In addition, a highly efficient split ASHP system will be utilised for the heating, hot water and comfort cooling and high specification lighting and associated controls will be incorporated into the detailed design with appropriate zoning to allow control of luminaires via switches/absence detection, where appropriate.

Table 1

Element	Part L2 2021 Building Regulations Limiting Fabric Parameters (u-values)	Proposed specification (u-values)
Wall	0.70 w/m ² k	0.33 w/m ² k
Floor	0.70 w/m ² k	0.15 w/m ² k
Roof	0.35 w/m ² k	0.25 w/m ² k
Windows	N/A	2.2 w/m ² k

* For U-values: See Approved Document L2 2021 Building Regulations

Be Clean – Supply Energy Efficiently

District Heating and Cooling

There is no existing or planned heat and energy network in the vicinity and the site does not fall into an opportunity area with decentralised energy potential.

Community heating and Combined Heat and Power (CHP system)

CHP systems are usually used where there is a large heat demand (schemes such as high-rise apartment developments), usually resulting from the building(s) being in continuous use, or through specific heating requirements such as swimming pools. Community (or district) heating involves using a central boiler plant (or other heat sources) to heat a number of buildings through a network of well-insulated underground pipes. Considering the small scale of the proposed development, it is apparent that the use of CHP is also technically and financially unviable in this instance.

Be Green – Renewable Energy

Once energy demand reduction measures have been applied, methods for generating low and zero carbon energy can be assessed.

Table 2

Technology	Evaluation
Wind turbines	The national wind database for the site suggests that the average wind speed on the site will be 3.7 m/s at 10 m above the ground. Micro-wind turbines generally have a low-level cut off speed of c. 4 m/s which will result in any turbine only operating for a small proportion of the year, therefore this technology is not suitable for this development
Biomass Heating	Biomass boilers would need be used with a central energy centre which is excessively complex for this type of development. Lack of space for storage of pellets is also a consideration. In addition, biomass would result in regular heavy transportation vehicles to the site and the increased levels of noise and air pollution associated with this technology is not considered suitable for the development
Air Source Heat Pumps	Air Source Heat Pumps can provide low grade heat potential for the development and will be installed as a split system to provide space and water heating along with comfort cooling
Photovoltaics (PV)	Photovoltaic (PV) technology involves the conversion of the sun's energy into electricity. Due to the large amount of available roof space, approximately 23 kWp of Photovoltaic panels will be installed
Small Scale Hydroelectric	There are no suitable watercourses at or near the development site
Ground Source Heat Pumps	GSHPs are not a suitable technology for this development due to space considerations.

Carbon Reduction Calculations

A baseline model is run assuming the development complied with Part L2 2021 of the Building Regulations. This baseline model is then used in the Energy Strategy process in comparison to the Be Lean, Be Clean and Be Green scenarios of the Energy Hierarchy, to establish the regulated CO₂ emissions from the development. The following tables demonstrate the average carbon emissions and savings.

Table 3 - Carbon Dioxide emissions after each stage of the Energy Hierarchy

	Regulated Carbon Dioxide emissions (kgCO ₂ /m ² per annum)
Baseline: Part L 2021 of the Building Regulations Compliant Development	13.77
After Energy Demand Reduction (Be Lean)	12.98
After Heat Network Connection (Be Clean)	12.98
After Renewables (Be Green)	-00.08

*BRUKL documentation available on request

Table 4- Carbon Dioxide Savings from each stage of the Energy Hierarchy

	Regulated Carbon Dioxide Savings (kgCO ₂ /m ² per annum)	% Reduction
Be Lean: Savings from Energy Demand Reduction	0.79	5.7%
Be Clean: Savings from Heat Network	0	0
Be Green: Savings from Renewable Energy	13.06	94.48
Cumulative on-site savings	13.85	100.18%

*BRUKL documentation available on request

Material Selection

Two issues are significant in the specification of building materials; the environmental impact and the responsible sourcing of materials. Materials for this scheme will be selected in consideration of their sustainable properties and appropriate measures will be investigated and implemented to optimise the use of materials in building design, procurement, construction, maintenance and end of life to minimise environmental impact of material use and waste.

- Any timber products used are anticipated to be sourced from sustainably managed forests, preferably with FSC (or similar) certification available, and all timber will be from a legal source
- Aggregates used on site are anticipated to be from recycled sources
- Materials with low Ozone Depleting Potential and Global Warming Potential will be used compared to those with higher impacts. Where possible, building materials will be locally sourced.

Pollution

Techniques will be applied during the construction period to minimise the potential for dust and local air pollutants.

The external lighting design will adopt LED lamps with automatic controls for daylight, time and/or presence as appropriate to their location and function.

The designs will ensure that noise arising from fixed installations on the development will not compromise the health and wellbeing of building occupants as well as noise-sensitive buildings nearby.

6 Electric Vehicle charging bays will be provided for customer use.

Waste

The proposed development will promote resource efficiency via the effective management and reduction of construction waste. The principal contractor will be committed to developing a site-specific Waste Management Plan which will detail the individuals responsible for resource management, the types of waste that will be generated and how the waste will be managed on site (e.g. reduce, reuse, or recycle). Site demolition waste will be crushed and used as hardcore, where feasible.

Water Conservation Measures

Water efficient fixtures and fittings will be considered to reduce consumption of potable water across the development. The likely specification will include:

- Low flush/dual flush WCs designed to operate with a reduced volume of water
- Basins fitted with spray/aerating taps

In addition, water use on site during the construction phase will be monitored to mitigate environmental impacts arising from construction activities.

Conclusion

In line with Policy JP-S2 of the Places for Everyone plan, regulated CO₂ emissions from the re-development of Unit 1, Victoria Retail Park, Bury will be reduced by **100.18%** from the notional emissions through energy efficiency measures and the installation of approximately 23 kWp of Photovoltaic panels.

CAVEAT

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