ATELIER TWO
ARCHITECTURE

Energy Statement

Proposed Storage Development

Sherborne Street
Manchester, M8 8LR

For World Metal Recycling Ltd

July 2025

2443 RP200

Rev. A

Executive Summary

This Statement summarises the energy strategy to support the planning submission for the proposed commercial storage development off Sherborne Street, Manchester, M8 8LR

It is considered that the development will meet the requirements of Manchester City Council's Guide to Development in Manchester SPD, and Core Strategy Policies EN4 and EN6, confirming the proposal will deliver the 20% provision of on-site renewable energy and required carbon reductions.

The intention of this document is to demonstrate a significant reduction in carbon emissions against the current standard of building regulations. This will help the proposed development meet with the updated Part L of the Building Regulations.

At the current planning stage, this document will only function in order to set out the proposed design intent. The final design of the development will be delivered by the designers or developers engaged to do so.

This document shall set forward a framework by which the post-planning design team should demonstrate compliance. The key features in line with current planning policies will be:

- Passive Approach
- Energy Reduction
- Energy Efficiency
- Low and Renewable Energy

1.0 Introduction

The following report is the energy statement to support the planning application for the proposed industrial development off Sherborne Street, Manchester, M8 8LR.

The report summarises the energy strategy which can be adopted by the post-planning design team to demonstrate compliance with the Approved Building Regulations Part L1A, L1B, and Manchester City Council's Guide to Development in Manchester SPD, and Core Strategy Policies EN4 and EN6

1.1 Description of Development

The proposed development consists of 20no. B8 storage unit with associated facilities, parking and external works. The application is to create commercial storage units with above-standard levels of insulation and performance in order to meet and exceed current standards of construction to enable a sustainable approach.

The aim of this development is to redevelop the brownfield site with proposed B8 storage units with significantly increased performance and energy efficiencies by comparison to standard regulations. This proposal has been designed to meet the high standard of energy efficiency construction to provide a series of sustainable storage spaces based on the principles of Fabric First construction with support from renewable technologies. This will create and facilitate a more modern, sustainable, and suitable delivery of commercial storage units. This energy statement has been developed in response to the climate emergency.

The current site is currently vacant and undeveloped with an area of 0.23ha. The total proposed development provides a constructed footprint of 1180m^2 within a site of 0.23ha, resulting in coverage of 51%

1.2 Site Description

The application site is located to the east of Sherborne Street, located towards the northern edge of large commercial and industrial development. The site is bounded by Sherborne Street to the east, with Cheetham Park beyond, a derelict and vacant mosque to the north, new industrial development to the east, and existing commercial development to the south. The site rectangular in form with a previously formed concrete slab located within the western sector at ground level. The existing boundary conditions of the site feature timber boarded fencing to the north, east, and south, with welded mesh metal fencing to the west. There are minor level differences between the application site and surrounding land.

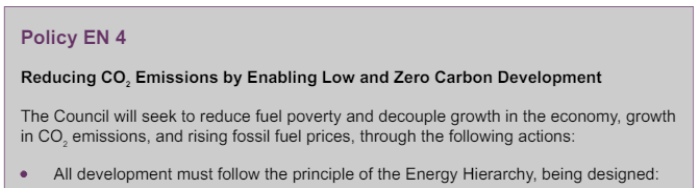
The application site has previously been used for commercial and industrial purposes but has been left vacant and subsequently cleared following a historic fire on the site.

The application site is neither listed nor located within a conservation area. The application site is not located within a landscape designation, either of national or local importance.

1.3 Development Targets

The development proposed will need to comply with the following:

- Building Regulations namely Part L1A/B and Part F
- Manchester City Council's SPD and Core Strategy policies.



Policy EN 4

Reducing CO_2 Emissions by Enabling Low and Zero Carbon Development

The Council will seek to reduce fuel poverty and decouple growth in the economy, growth in CO_2 emissions, and rising fossil fuel prices, through the following actions:

- All development must follow the principle of the Energy Hierarchy, being designed:

- to reduce the need for energy through design features that provide passive heating, natural lighting and cooling
- to reduce the need for energy through energy efficient features such as improved insulation and glazing
- to meet residual energy requirements through the use of low or zero carbon energy generating technologies

- Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies.
- Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings.
- Where appropriate new development and retrofit projects will be required to connect to and/or make contributions to low or zero carbon energy schemes and/or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes.
- The use of building materials with low embodied carbon in new development and refurbishment schemes.

Extract taken from Policy EN4 from Manchester CC Core Strategy DPD

Policy EN 6

Target Framework for CO_2 reductions from low or zero carbon energy supplies

Applications for residential development of 10 or more units and all other development over 1,000 sq m will be expected as a minimum to meet the target shown in Tables 12.1 or 12.2, unless this can be shown not to be viable. This should be demonstrated through an energy statement, submitted as part of the Design and Access Statement. Such a statement will be expected to set out the projected regulated energy demand and associated CO_2 emissions for all phases of the development.

Non-domestic CO_2 emissions reduction targets

Table 12.2

Target	% Minimum requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible, a 15% increase on Part L 2010
Target 2: Electricity intense buildings (Applies to commercial uses with a high proportion of emissions from electricity use (>45 kg CO2/m2))	+10%increase on Part L 2010
Target 3: Micro generation area	+15% increase on Part L 2010

Extract taken from Policy EN6 from Manchester CC Core Strategy DPD

It should be noted that the Building regulations have now been updated since the 2010 figures are referred to in EN6.

As part of the transition to zero carbon, It is expected that the updates to the Approved Document L (ADL) 2022 will provide a stimulus in the approach to constructing and servicing new buildings in order to align with the aspirations for a carbon neutral future, limiting the impact of climate change.

The updated ADL 2022 requires a significant reduction of carbon emissions from the previous ADL 2013 baseline. The updated Part L considers the following points:

20% reduction in carbon emissions delivered through the use of very high fabric standards

31% reduction in carbon emissions delivered by moderate improvements to fabric and the installation of PV or similar. This is the Government preferred option

It is therefore considered that any new development should align with the governments preferred option of a 31% reduction in carbon emissions.

In order to achieve the established MCC EN6 policy requirements, the proposal must be designed to meet the current ADL 2022, which will significantly surpass the required +15% on ADL 2010.

1.4 Discussion

The following document shall provide a methodology for the development of a formal energy strategy to be developed as part of the detailed master-planning application.

It should also be noted that the following potential legislation should be considered when developing the energy strategy for the proposed development off Sherborne Street, Manchester, M8 8LR

In addition, the emerging changes in legislation may influence the developed solution for the development, with key considerations being:

Fuel Carbon Factors

The current building regulations utilize outdated carbon factors for primary electrical generation.

The proposed changes to the methodology for calculation of domestic carbon emissions (SAP10) proposes a 55% reduction in the emission factor for electricity, from 0.52 to 0.23 CO2/kWh. The result is that electrical heating would be as efficient as gas fired boilers and even more efficient is technologies such as air source and ground source heat pumps

The above two potential changes in legislation suggest development may utilize all electric solutions rather than the traditional approach of using gas fired boilers.

As part of the development of the energy strategy it is considered that the key criteria utilised by Manchester City Council, specified within Core Strategy policy EN4, shall form the basis of this assessment. The following sections will provide an outline masterplan for the development of a detailed energy strategy by the housing provider.

- Passive Approach
- Energy Reduction
- Energy Efficiency
- Renewable Energy
- Low Carbon Energy
- Conventional Energy

2.0 Passive Approach

As part of the development of the site layout it is considered that a passive approach will be adopted to minimize energy consumption and carbon emissions associated with the scheme.

The following approaches have been developed and incorporated as part of the overall development of the site and the housing designs.

2.1 Orientation

Wherever reasonably possible, and considering wider design factors, the development orientation has been positioned with a southerly aspect within 30% due south to facilitate the following:

- Potential solar access to support renewable technologies such as solar thermal systems and photovoltaics
- Potential to provide passive heating to houses in the cooler months of the year in line with the optimised glazing and roof light positioning

3.0 Energy reduction

As part of the next stage of the carbon reduction process the houses shall be developed to reduce energy consumption. The following points have been considered and implemented throughout the design process:

3.1 Fabric First Approach

As part of the development of the proposed B8 unit a fabric first approach should be adopted to provide a passive means of energy reduction.

3.2 Fabric Performance

It is considered that each of the fabric elements will be built to be efficient in relation to airtightness and insulation standards. As a minimum, the detailed design of the envelope will be designed to meet the following:

Minimum Fabric Performance	
External Walls	0.26 W/m^{2}K
Floor	0.18 W/m^{2}K
Roof (pitched)	0.16 W/m^{2}K
Windows	1.6 W/m^{2}K
Doors	1.6 W/m^{2}K
Air Permeability*	8.0m^3/m^{2}K at 50Pa

The above figures have been taken from the proposed minimum fabric standards of Approved Document L 2022, incorporating 2023 amends, volume 2.

*In relation to air permeability it is considered that much better results than those stated above can be achieved.

3.3 Glazing Percentages

In order to maximise potential beneficial solar heat gain and reduce heat loss in winter the developed design will ideally have been developed to provide suitable glazing rations dependent upon orientation and internal use. The following levels have been used as a design guide.

Orientation	Percentage of wall as glazing
North	10-20%
East	10-15%
South	20-25%
West	10-15%

Glazing types should also be specified in order to achieve G-Values between 0.6 and 0.5.

It should also be noted that the glazing ratios should also be selected to provide good levels of daylighting into the rooms to reduce reliance on artificial lighting.

3.4 Heating and Hot Water Source

It is noted that a phase out of gas fired boilers for new development was originally planned for implementation in 2025 by the government. The electricity provided by the National Grid is also decarbonising which results in a required change to how the carbon emissions of a house can be calculated.

It is therefore considered that alternative forms of heating and hot water generation would be a key component of the design and would potentially be delivered by direct electric or the use of heatpump technology.

For the proposed development is it considered that the use of a gas boiler will be inappropriate, and the incorporation of heat pump technology in conjunction with an underfloor heating system throughout the property which is suitably sized would be the preferred option for each proposed unit.

The use of direct electric heating and hot water generation could be viable but would need significant improvement to the fabric performance and associated airtightness in order to reduce heatloss through the fabric which would offset the initial cost of heating.

4.0 Energy Efficiency

As part of the development of the housing it is considered that the following strategies will be considered by the developer in order to meet, and where possible exceed, the following legislative requirements:

- Fabric First Approach (see section 3.0)
- Use of Mechanical/Passive Ventilation Heat Recovery (MVHR)
- Low energy LED lighting used throughout, in-turn reducing internal heat gain
- Waste water heat recovery, combined with low water use fittings
- Use of smart controls to minimise heating and hot water consumption
- Smart metering so users can understand patterns of energy consumption

The above list is not exhaustive but will form part of the mix of solutions implemented as part of the proposed design to ensure an energy efficient solution is delivered.

In addition, it is considered that any external lighting provided will use low energy fittings and intelligent controls in order to reduce energy consumption on a development wide scale.

As the highways and access roads are not designed to an adoptable standard, there is no requirement for the external lighting to comply with Manchester CC's guidance.

5.0 Low Carbon and Zero Renewable Energy

As part of the sitewide consideration of the use of renewable energy shall be considered in accordance with Manchester City Council's Sustainable Design and Construction SPD policies.

It is considered that site wide opportunities for the implementation of site-wide solutions, such as large scale wind generation would be limited due to the likely initial costs and on-going management costs associated with maintenance and upkeep.

In terms of wind, the likely average electrical demand for a construction of this scale will require a large turbine so will have a visual impact and take up space for development further impacting on financial viability as clearance around the turbine would be required for access and safety.

It is therefore considered that the most viable zero carbon energy technologies, if required, for use in this development would be the integration of roof-mounted Photovoltaic panels. All photovoltaic panels will be mounted on a southerly facing pitch with the panels sized according to the heating requirements.

6.0 Summary

This document summarises the energy strategy to support the planning submission for the proposed development off Sherborne Street, Manchester M8 8LR

It is considered that the development will meet the requirements of Manchester City Council's Sustainable Design and Construction SPD policies, notably EN4 and EN6.

The methodology proposed is to demonstrate a minimum 15% reduction in Carbon Emissions against building regulations 2010.

Passive Approach

This proposal has been designed in order to align the unit pitches and roofs as efficiently as possible, in order to benefit from solar access by use of photovoltaic panels and provide passive solar gain through the winter season.

Large areas of rooflight glazing have been provided to the southern and northern elevations, which will allow an increased natural daylight factor within the space, and reduce reliance on artificial lighting throughout the year.

Energy Reduction

A fabric first approach has been adopted using enhanced insulative values for fabric elements and glazing along within improved airtightness.

The subsequent use of high performance rooflight windows, have been proposed in order to maximise solar gain whilst minimizing heat loss.

The use of heat pump technology is proposed as the primary heat source to reduce energy for heating and hot water in order to reduce carbon emissions in line with the grid decarbonization.

Energy Efficiency

It Is proposed that the development of the housing design may feature several energy efficient features such as the following:

- Use of Mechanical/Passive Ventilation Heat Recovery
- Low energy LED lighting used throughout, in-turn reducing internal heat gain

- Waste water heat recovery on shower systems, combined with low water use fittings
- Use of smart controls to minimise heating and hot water consumption
- Smart metering so occupants can understand patterns of energy consumption

Low and Renewable Energy

It has been determined that a site wide implementation will not be commercially or technically viable due to the scale of the development,and location. Therefore, the design of the proposal has been developed to be able to accommodate photovoltaic panels at roof level in order to contribute to the energy requirements for the proposed B8 units and in turn reduce carbon emissions.