



SILVER STREET, BURY

ENERGY STATEMENT

Report Reference: 205889579-1

September 2026

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Section 0: Executive Summary

0.1 Energy and Carbon Proforma

The Energy and Carbon Proforma has been completed using figures obtained from the SAP Conversion Tool V2.3.

However, due to the limitations of the spreadsheet and its inherent unsuitability for conversion calculations, the results are skewed. The SAP Conversion tool requires a numerical air permeability value to be entered; however, project-specific air permeability testing is not required for a conversion under the Building Regulations. Consequently, the SAP default value of $8 \text{ m}^3/(\text{h}\cdot\text{m}^2)$ at 50 Pa has been applied. The renewable energy deficit is also affected by the constraints of the building. As a listed building, there is no capacity to install photovoltaic (PV) panels on the roof without potentially compromising its architectural and heritage significance. These factors should therefore be taken into consideration when reviewing the results of the Energy and Carbon Proforma.

		Target values	Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7	Building 8	Building 9
Minimise energy demand	Space heating demand (kWh/m2GIA/yr)	≤ 15 (flats) - 20 (houses)			237.2	213.6		167.6			216.8
	Calculation methodology used to calculate space heating demand and confirmation that this covers all homes/blocks	Predictive energy model			SAP Conversion Tool V2.3	SAP Conversion Tool V2.3		SAP Conversion Tool V2.3			SAP Conversion Tool V2.3
	Form factor per building	≤ 2			2.56	2.43		1.52			2.59
	Average external wall U-value (W/m2K)	≤ 0.15			0.24	0.23		0.24			0.25
	Average window U-value (W/m2K)	≤ 1 (triple)			2.4	2.4		2.4			2.4
	Air permeability rate (m3/h/m2 @ 50 Pa)	≤ 1			8	8		8			8
Maximise energy efficiency	Energy use intensity (kWh/m2GIA/yr) <i>renewables should not be accounted for in the EUI calculation</i>	≤ 35			238.6	225.2		182.7			219.6
	Calculation methodology used to calculate energy use intensity and confirmation that this covers all homes/blocks	Predictive energy model			SAP Conversion Tool V2.3	SAP Conversion Tool V2.3		SAP Conversion Tool V2.3			SAP Conversion Tool V2.3
Use renewable energy	PV footprint area (% of ground floor space)	≥ 40			0	0		0			0
	Annual renewable energy generation (kWh/m2 building footprint/yr)	-			0	0		0			0
	Renewable energy balance (%)	-			8.12	14.6		12.04			6.35
	Total energy used (kWh/yr)	-			10477.74	4455.97		3962.26			9069.18
	Total energy generated on-site (kWh/yr)	-			926.13	764.31		542.47			615.01

Use low carbon energy	Fossil fuel free (yes/no)	Yes			Yes	Yes		Yes			Yes
	Heating heat source - Where the system for generating space heating is a heat pump and it achieves a SCOP of 3.5 or higher (then a Low Carbon Heat Appraisal not required)	Electric			Electric	Electric		Electric			Electric
	Domestic Hot Water heat source - Where the system for generating hot water is a heat pump and it achieves a SCOP of 3.5 or higher (then a Low Carbon Heat Appraisal not required)	Electric		ASHP Cylinder		ASHP Cylinder	ASHP Cylinder		ASHP Cylinder		
Reduce overheating risk	Have Part O overheating requirements been met without the use of mechanical cooling?	Yes			N/A	N/A		N/A			N/A
Minimise embodied carbon	Confirmation that a summary of the efforts made to design a lean, low carbon structure and building design has been submitted?	Yes			Yes	Yes		Yes			Yes

1.2 Project Overview

This report has been prepared by Award Energy Consultants for the proposed development of 9 converted dwellings at Silver Street, Bury to address the planning requirements set out by Greater Manchester Council. This report considers the issues surrounding sustainable construction with regards to the proposed residential development. In particular, it considers and evaluates the measures incorporated into the design of the development to reduce the predicted carbon emissions, energy demand and water usage of the site as per Greater Manchester Council's development policies.

Policy Context:

The following documents were considered:

Building Regulations Part L1 2021 - as newly constructed dwellings, Part L1 is of particular note. Part L1 sets minimum standards for fabric and energy efficiency for new dwellings

National Planning Policy Framework 2024 - strengthens the emphasis on sustainable development, energy efficiency and reduction in carbon emissions

Greater Manchester's Places for Everyone Plan Policy JP-S1: Sustainable Development - requires all developments to be designed to reduce both the extent and the impacts of climate change

Greater Manchester's Places for Everyone Plan Policy JP-S2: Carbon and Energy - requires all developments to use the Energy Hierarchy to minimise carbon emissions. As an interim measure, development should be consistent with the 2021 Part L Building Regulations

Greater Manchester's Places for Everyone Plan Policy JP-S3: District Heating Networks – requires new developments to explore connection to a local district heating network

Whilst the Core Strategy Policies are framed in terms of new build dwellings, this Report outlines proposed measures to enhance the sustainability of the dwellings created through conversion of the existing Barclays Bank building within the limits of the Listed Building Status.

Section 1: Building Fabric and Ventilation

1.1 Building Form and Heat Loss envelope

The Proposed Apartment block comprises 9 individual dwellings. Each dwelling has a ground floor and a mezzanine first floor, resulting in a 2-storey apartment block. The facades and roof are complex due to the historic nature of the building, and due to the listed nature of the building, any changes to these elements are limited. A sample of plots have been chosen, with a range of sizes and positions in the building to cover all possibilities.

Appendix I shows the Building Form and Heat Loss envelope, as provided by Addison Planning.

1.2 Elevation Design and window proportions

The existing elevations and window proportions will be retained wherever practicable to preserve the building's historic character. Where appropriate, existing windows will be upgraded through measures such as secondary glazing and draught-proofing to improve energy performance while minimising impact on the listed building. Each of the principal living rooms will have sufficient glazing to allow natural light to penetrate the rooms, reducing the need for artificial lighting.

Table 1: Form Factor and Opening Ratios for all assessed apartments

Plot Number	Form Factor	Window-to-Wall Ratio (%)
Plot 3 (GF)	2.56	7.37%
Plot 4 (GF)	2.43	19.97%
Plot 6 (FF)	1.52	30.29%
Plot 9 (FF)	2.59	10.93%

Appendix II shows the Building Elevations, as provided by Addison Planning.

1.3 Heated and unheated spaces

The majority of the proposed building comprises heated accommodation. The following areas are unheated:

- Communal corridors
- Lift
- Services and Vertical Duct

These spaces are outside the building's thermal envelope and are separated from the heated accommodation by insulated construction where applicable.

The thermal envelope is shown on the floor plans and building sections provided in Appendix II with the boundary of the heated envelope clearly identified. The unheated spaces are also identified on the drawings.

1.4 Building Fabric Specifications

The proposed building fabric has been designed to minimise heat loss through the building envelope and to provide a high level of thermal performance. The proposed fabric performance specifications have been incorporated into the energy modelling and will be reviewed and confirmed during the detailed design and construction stages.

The proposed building fabric specifications are summarised below in Table 2.

Table 2

Element	Enhanced specification (U-value)	
Walls	0.18-0.26 w/m ² k	
Party Walls	0.00 w/m ² k	
Roofs	0.12 w/m ² k	
Floors	0.13 w/m ² k	
Windows	2.4 w/m ² k	(gValue = 0.76)
Doors	1.4 w/m ² k	
Design air pressure test (m ³ /h/m ²)	N/A for Conversions	
Shading	None	
Thermal Bridging	N/A for Conversions	

1.5 Ventilation System

The proposed development will provide adequate ventilation to all occupied spaces in accordance with the requirements of the Building Regulations and relevant ventilation standards.

Each apartment will be provided with an EnviroVent ESava 260 Mechanical Ventilation with Heat Recovery (MVHR) system, appropriately sized to serve the dwelling and provide continuous ventilation to habitable rooms, kitchens and sanitary accommodation. The system will provide balanced supply and extract ventilation, with heat recovery from the extracted air to reduce heat losses associated with ventilation.

The EnergiSava 280 incorporates high-efficiency EC fans and heat recovery to support reduced electrical and space-heating energy consumption. Ventilation rates will be controlled in accordance with the requirements of the dwelling and system design, with appropriate controls provided to avoid unnecessary fan operation and energy use whilst maintaining suitable indoor air quality.

The MVHR systems will be designed, installed, commissioned and operated in accordance with the applicable requirements of the Building Regulations, Approved Document F, and relevant British Standards and manufacturer requirements. Ductwork will be appropriately sized to minimise pressure losses and will be insulated where necessary to limit heat loss and condensation risk.

The proposed MVHR strategy will therefore support the development's overall energy performance by providing the required ventilation whilst reducing ventilation-related heat losses and limiting electrical energy consumption.

1.6 Space Heating Demand

The proposed development has been designed to minimise space heating demand through the use of a well-insulated and thermally efficient building fabric. Space heating will be provided by an efficient electric heating system with appropriate heating controls, allowing the heating system to respond to the occupancy and heating requirements of individual spaces. The heating system will be designed to operate efficiently and minimise unnecessary energy consumption. Where appropriate, thermostatic controls will be provided to allow occupants to control the temperature of individual rooms or areas.

The space heating demand for each assessed dwelling can be seen in Section 0, in the Carbon Proforma. As stated in the Executive Summary, the space heating demand figures are skewed by the SAP conversion tool, as it is not appropriate to use for conversions due to the requirement of entering in an air test figure. The nature of this being a listed building also means there's limitations on improvements that can be made to the fabric elements e.g. walls, windows and floors, without compromising the size, structure and appearance of the dwellings.

Section 2: Maximise Energy Efficiency

2.1 Energy Use Intensity

The energy calculations for these assessments have been carried out using SAP 10.2. As the EUI (Energy Use Intensity) isn't a figure calculated by SAP, the SAP Conversion Tool V2.3 has been utilised to produce the EUI figure, which can be seen in Section 0.1, in the Carbon Proforma.

Section 3: Renewable energy Generation

3.1 Proposed renewable energy generation system

Due to the listed status and physical constraints of the existing building, the installation of Solar PV is not feasible. Air Source Heat Pumps have also been considered; however, the limited space available within and around the building prevents the installation of a suitable system. The dwellings will therefore utilise highly efficient electric heating alongside air source heat pump cylinders for domestic hot water, providing an efficient low-carbon solution appropriate to the constraints of the development.

3.3 Renewable energy balance

The energy strategy focuses on reducing energy demand through improvements to the building fabric and the use of efficient electric heating and hot water systems, alongside MVHR units to recover ambient heat.

Due to the limitations of the proforma, Award have calculated the difference between the total energy required with electric immersion heating, and enhanced air source heat pump hot water cylinder and MVHR. Results can be seen in the table below.

Table 3

Plot	Total Energy Demand Immersion	Total Energy Demand Air Source Heat Pump Cylinder & MVHR	Difference	% provided by Renewable Energy
Plot 3	11403.87	10361.87	1042	9.14%
Plot 4	5220.28	4394.27	826.01	15.82%
Plot 6	4504.73	3882.56	622.17	13.81%
Plot 9	9684.19	8932.67	751.52	7.76%
Average	7703.27	6892.84	810.42	11.63%
Total	69329.41	62035.58	7293.82	11.76%

Section 4: Low Carbon Heating

4.1 Fossil Fuel Free

The proposed development will be fully fossil fuel free, with no gas, oil or other fossil fuel systems proposed within the nine residential apartments. Space heating will be provided through highly efficient electric heating systems, with domestic hot water provided by air source heat pump cylinders.

4.2 Proposed System for Heating and Hot Water

Consideration has been made for other low carbon heat sources, summarised in Table 4 below.

Table 4:

Technology	Evaluation
Wind turbines	Wind Turbines are not suitable for city centre developments due to noise and space considerations
Solar Hot Water (SWH)	Solar Hot Water panels are not appropriate on Listed Building developments due to the impact on visual amenity.
Biomass Heating	Biomass boilers would need to 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.
Air Source Heat Pumps	Air Source Heat Pumps can provide an efficient low temperature space and water heating potential for the dwellings and will be considered during the detailed design phase
Air Source Heat Pump Cylinders	Air Source Heat Pump Hot Water Cylinders can provide efficient low temperature hot water heating potential for the dwellings and have been actively considered for this development and included for the purposes of this Report
Photovoltaics (PV)	Photovoltaic panels are not appropriate for Listed Building developments due to the impact on visual amenity
Hydroelectric	There are no suitable watercourses at or near the development site
Ground Source Heat Pumps	GSHPs are not a suitable technology for city centre developments such as Silver Street due to space considerations.
District Heating	The opportunity to connect to the Bury Heat Network has been explored, however connection cannot be delivered within the project's programme and timeframe and as a result, connection to the heat network is not considered feasible for this project.

4.3 Proposed system for cooling

There are no proposed systems for cooling at this development.

Section 5: Overheating Risk

5.1 Natural Ventilation

The proposed apartments will primarily utilise natural ventilation through openable windows, where permitted by the existing building and listed building constraints. The existing window arrangement and openings will be retained wherever practicable, with ventilation provision designed to provide adequate fresh air to the apartments in accordance with the relevant Building Regulations requirements. Mechanical ventilation will be provided where required, particularly to kitchens and bathrooms, to assist in maintaining suitable internal air quality.

5.2 Overheating Risk Assessment

A formal assessment against Approved Document O has not been undertaken as the proposed development involves the conversion and change of use of an existing listed building, rather than the construction of new residential buildings. Approved Document O confirms that its requirements apply to new residential buildings and do not apply to buildings undergoing a change of use.

Nevertheless, overheating risk has been considered as part of the design, with the retention of existing openable windows providing opportunities for natural ventilation and purge ventilation where appropriate. The listed status and existing form of the building significantly constrain alterations to the elevations and windows; therefore, the approach seeks to balance overheating mitigation with the requirement to preserve the architectural and historic significance of the building. The MVHR systems will also provide continuous background ventilation to the apartments, supporting the removal of internal heat and maintaining appropriate indoor air quality. The combination of retained openable windows for natural and purge ventilation, together with mechanical ventilation, provides opportunities to manage internal temperatures within the constraints of the existing listed building.

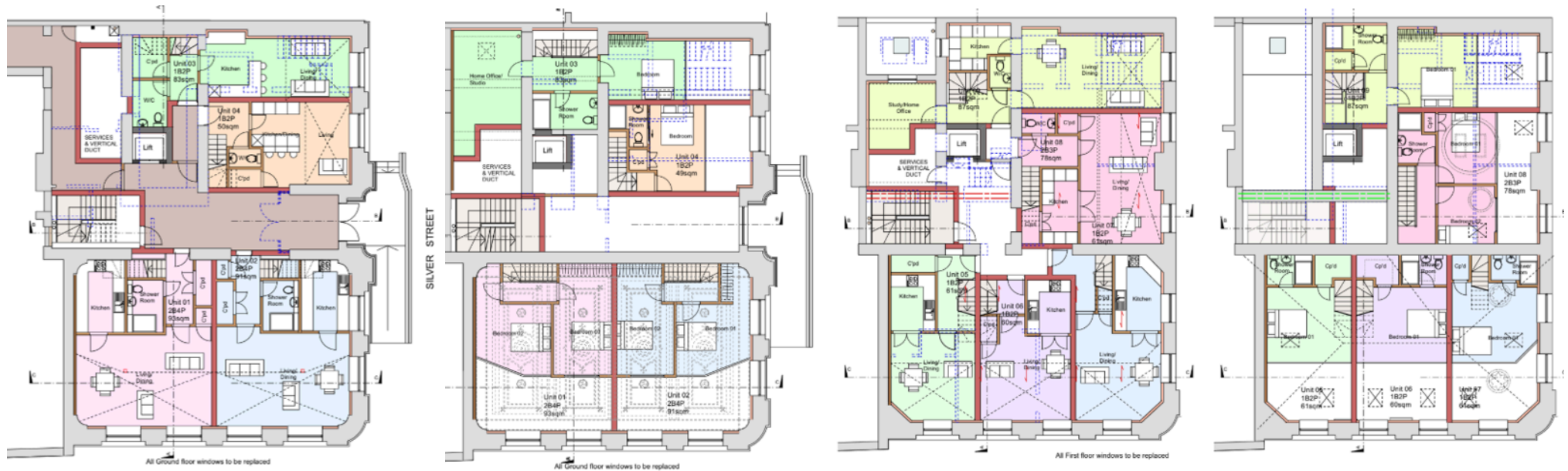
Section 6: Materials

6.1 Efforts made to minimise embodied carbon

The scheme seeks to minimise upfront embodied carbon through the retention and reuse of the existing listed building and its principal structural elements. The existing external walls and floor slab will be retained, avoiding the embodied carbon associated with their demolition and replacement; where additional thermal performance is required, insulation will be introduced internally, including mineral wool within new timber framing and PIR insulation above the existing concrete floor slab. This approach retains as much of the existing building fabric as practicable while improving its thermal performance and reducing the overall embodied carbon associated with the conversions.

APPENDIX I

Figures below show the layouts of the proposed new dwellings and shows where the heated and unheated spaces lie.



6 Raglan Street, Harrogate, HG1 1LT
Tel: 01423 506070/ 07890 041417
VAT No: 861943012, Company Registration Number: 5404229

APPENDIX II

Figures below show the elevations of the proposed new dwellings and shows where the openings are positioned



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