

Energy Statement

Introduction

This Energy Statement has been prepared to Associates to support a planning application for the development at 1 Drake Street, Rochdale, OL16 1RE. The statement specifically addresses the following Rochdale Borough Council (RBC) approved climate change planning policies, as stipulated in the Rochdale Core Strategy (October 2016):

- Core Strategy Policy G1 – Tackling and Adapting to Climate Change
- Core Strategy Policy G2 – Energy and New Development
- Core Strategy Policy G3 – Renewable and Low Carbon Developments

It also addressed the following Places for Everyone Joint Plan (March 2024) policies:

- Policy JP-S1: Sustainable Development
- Policy JP-S2: Carbon and Energy

The National Planning Policy Framework (NPPF, 2024) advises that The purpose of the planning system is to contribute to the achievement of sustainable development. Chapter 14 specifically deals with ‘meeting the challenge of climate change’.

The Site and Development Overview

The site relates to an existing building located in Rochdale Town Centre. The building is grade II listed and located within the Rochdale Town Centre Conservation Area. The proposals are for conversion of the vacant first and second floors, and roof space to residential use. A small area on the ground floor will be used to provide bike storage. Bins will be stored in an enclosed yard to the rear of the site.

Energy Efficiency Measures

The following measures have been considered in the development proposals to reduce the carbon footprint of development via reducing energy demand and maximising efficiency. It is important to highlight that the heritage status of the building will limit what measures are acceptable.

- Meeting or exceeding the requirements of the Building Regulations in terms of energy efficiency, drainage and water usage. **Proposed.**
- ‘A’ rated appliances will be specified where possible. **Proposed.**
- Low flush toilets, low energy lights and electrical fittings are measures that will be implemented. **Proposed.**
- Building materials will be sourced locally where possible and careful site control utilised to minimise waste. **Proposed.**
- Enhancing biodiversity where possible (bat bricks). **Proposed to elevations that are less sensitive in heritage terms (e.g the rear), subject to Conservation Officer comments.**
- Energy Efficiency LED Lighting. **Proposed.**
- Use of thermal glazing. **Proposed to new windows where secondary glazing is required.**
- PV Panels: **Proposed to roof slopes / elevations that are less sensitive in heritage terms (e.g the rear and two storey parts of the building), subject to Conservation Officer comments and wider design coordination to confirm feasibility.**

Other energy efficiency measures have been considered but discounted. These are discussed in turn below.

- Solar Hot Water (Thermal)

Solar water heating systems are one of the more familiar renewable technologies used at the moment. They use the energy from the sun to heat water, most commonly for hot water needs. Solar heating systems use a heat collector that is usually mounted on a roof in which the sun heats a fluid. This fluid is used to heat water that is stored in either a separate hot water cylinder or in a twin-coil hot water cylinder (the second coil is used to provide additional heating from a boiler or other heat source).

Solar hot water panels could be used however, PV will provide slightly better savings and avoid the need for water storage cylinders when compared.

Renewable Technology Not Chosen.

- Ground Source Heat pumps

A heat pump is a device that takes up heat at a certain temperature and releases it at a higher temperature. The essential components of a heat pump are heat exchangers (through which energy is extracted and emitted) and a means of pumping heat between the exchangers. The effectiveness of the heat pump is measured by the ratio of the heating capacity to the effective power input, usually known as the coefficient of performance (COP). Ground-source heat pumps (GSHP) extract heat from the ground. They are classified as either water-to-air or water-to-water units depending on whether the heat distribution system in the building uses air or water. Ground source heat pumps either use long shallow trenches or deep vertical boreholes to take low grade heat from the ground and then compress it to create higher temperatures.

Ground source heat pumps would not be suitable due to the lack of land space around the properties and the associated costs.

Renewable Technology Not Viable

- Wind

Wind turbines convert the kinetic energy in wind into mechanical energy that is then converted to electricity. Turbines are available in a range of sizes and designs and can either be free-standing, mounted on a building or integrated into a building structure.

The wind speed in the area is under the advised minimum and the built-up area means that a wind turbine wouldn't be feasible.

Renewable Technology Not Viable

- Biomass Heating

Biomass is any plant-derived organic material that renews itself over a short period.

Biomass energy systems are based on either the direct or indirect combustion of fuels derived from those plant sources. The most common form of biomass is the direct combustion of wood

in treated or untreated forms. The use of biomass is becoming increasingly common in some European countries.

The environmental benefits relate to the significantly lower amounts of energy used in biomass production and processing compared to the energy released when they are burnt. This can range from a four-fold return for biodiesel to an approximate 20-fold energy return for woody biomass. Biomass- fuels can be used to produce energy on a continuous basis (unlike renewables such as wind or solar energy) and it can be an economic alternative to fossil fuels as it is a potential source of both heat and electricity.

However, Biomass systems have particular design management and maintenance requirements associated with sourcing, transportation and storage and are therefore more commonly used in commercial developments rather than domestic installations. It can be less convenient to operate than mains-supplied fuels such as natural gas and are more management intensive and require expertise in facilities management. Sources of biomass can also fluctuate, so boilers should be specified to operate on a variety of fuels without risk of overheating or tripping out.

A communal biomass system would not be feasible for this development due to the expense associated with the necessary output to heat all dwellings on the site.

Renewable Technology Not Chosen