



Building Services
Consulting Engineers

Cambria Property Investments

Plot 5610 Hatfield

Gypsy Moth Avenue

Hatfield

Energy Statement

Ref: 22.034

D&d

Building Services Consulting Engineers Ltd
28 Market Place, Kegworth, Derby, DE74 2EE
Tel: 01509 670100 Fax: 01509 670110
Email: info@ddconsultingengineers.co.uk

Cambria Property Investments

Plot 5610 Hatfield

Gypsy Moth Avenue

Hatfield

Energy Statement

Contents

1.0 Introduction

2.0 Energy Design Considerations

3.0 Low and Zero Carbon Technologies

4.0 Summary

Revision	Description	Prepared by	Date
P0	Planning Issue	R. J. Cadge	29.11.22

Cambria Property Investments

Plot 5610 Hatfield

Gypsy Moth Avenue

Hatfield

Energy Statement

1.0 Introduction

This Energy statement has been produced by D&d Building Services Consulting Engineers as part of the planning application for the development of Plot 5610 at Gypsy Moth Avenue, Hatfield Business Park, Hatfield, AI10 9BS.

This report provides an overview of the design approach which aims to reduce energy consumption and carbon emissions in line with Saved Policy R3 of Welwyn Hatfield District Plan (2005).

It has been the intention from project conception to create buildings that reduce carbon emissions by passive measures through specifying building elements with high performing U-Values and through using low energy building services that go beyond minimum Building Regulations Part L requirements.

Carbon reduction calculations will be developed using Tas industry leading building modelling and simulation software.

2.0 Energy Design Considerations

For building regulations compliance, and to validate the buildings' design, a Part L model will be developed. This demonstrates that the buildings design proposals reduce carbon emissions by more than the minimum Part L requirement.

Building Low Energy Design Features

It has been a primary aim of the project from the outset to reduce the buildings' energy consumption and carbon emissions using passive measures and the incorporation of high efficiency building services.

As well as reducing in use carbon emissions, this approach also ensures that the buildings' are economical to run by reducing energy and hence costs for heating, cooling, ventilation, and lighting.

Improving Thermal Fabric Performance

To minimise heat gains in summer and to reduce heat losses in winter the thermal transmittance (U-Values) for external walls and the roof will be specified to exceed the minimum requirements of Part L.

The reduction in heat gains will reduce energy requirements for cooling and the reduction of heat losses will reduce energy used for heating.

High Specification Glazing

In order to minimise heat loss during winter the glazing will be double glazed insulated units with argon filled cavity.

To reduce the heat gains during summer the glazing will be selected with a low total transmittance (G-Value) which goes beyond the notional requirement for glazing. This will reduce cooling plant load and also reduce occupant discomfort.

Improved Air Tightness

The buildings will be carefully modelled to ascertain the impact of various permeabilities.

Natural Ventilation

The use of natural ventilation to achieve lower cooling loads will be considered.

High Efficiency Lighting and Controls

High efficiency LED lighting is proposed throughout the development.

The proposed LED luminaires will have a lighting efficacy, luminaire lumen/circuit watt, which is a significant improvement over the Part L recommended minimum efficacy.

Lighting shall generally be controlled via an absence detection strategy to ensure lights are switched off automatically when a room is unoccupied.

High Efficiency Heating and Cooling

The heating and cooling to buildings will be via high efficiency VRV air source heat pump systems with high seasonal efficiencies. These shall be installed as part of the tenant fit-out.

3.0 Low and Zero Carbon Technologies

Carbon reductions will primarily be achieved through the use of passive measures as detailed previously within this report.

To further reduce carbon emissions roof mounted photo voltaic panels will be installed providing a cost-effective solution introducing renewable energy to the site.

4.0 Summary

Based on the initial assessment the following strategies will be developed and included in the design for the buildings and their mechanical and electrical services:

Passive Design

The thermal properties of the buildings will be carefully analysed and subsequently the U values will be reduced.

Glazing

Glazing with excellent thermal properties including low G values will be selected to achieve low heat gains.

Low and Zero Carbon Technologies

Photo Voltaic Array

A solar panel array is proposed to each building which will supplement the electricity supply for the development.