

Energy Assessment / SAP Details Applied

For the proposed development at:

Unit 1 & 2, 9 Circuit Lane, Reading, RG30 3HB

Energy Calculations Ltd

SAP ♦ PART O ♦ SBEM ♦ DESIGN

Burton Lodge
7 Marine Avenue
Skegness

Unit 1 & 2, 9 Circuit Lane, Reading, RG30 3HB
8th January 2026
Property reference: 01773-01774



Lincolnshire

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1. Introduction

The calculations provided, draw upon the detailed SAP 10 assessment. This gives as accurate a guide as possible to the energy usage of the final development in operation, to comply with part L 2021.

The Energy Assessment relates to a conversion of an existing dwelling to create two new dwellings at 2, 9 Circuit Lane, Reading, RG30 3HB

It has been assumed the existing heating system is via electricity so no change of energy use.

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2: Services & Thermals

The total CO₂ emissions has been calculated taking full account of energy demands for space heating and hot water, and electricity for pumps, fans, lights.. using the orientation and the use of building elements (walls, windows etc.) with U-values and other reference values and in most cases consistent with achieving compliance with Approved Document Part L: 2021.

2.1: SAP Details applied

Element	U – Value Element	Element	U – Value Element
External Wall - existing	0.37	New Wall to achieve	0.18
Roof to achieve – loft	0.11	Slope to achieve	0.15
Windows to achieve (g value 0.63)	1.40	Floor achieves – existing	0.57
New Floor to achieve	0.18	Roof windows to achieve	1.40

2.2: Services

Intermittent extract fans

Electricity tariff – Standard

Space heating and water heating – Mains gas combi boiler – applied ideal logic combi -ESP1 35

Emitters –Radiators

Controls- Programmer, TRVs, Room Stat.

Ventilation – Intermittent extract fans

Lighting – Efficacy 85 lm/W

Cold water storage – from mains

Shower 8.00 ltr per minute

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2.3 : Renewable

N/ A3: Results - shows the summary for the calculations

Unit	Co2 t/y	DER	SAP rating
1	3.26	24.50	77 C
2	3.34	25.14	76 C

4: Details

With reference to the heating details and domestic hot water these have been applied for the efficiency only and needs to be clarified that its suitable for use, if an alternative is used please inform us and we will check the efficiencies as an alternative could alter the EPC rating.

The U-value for a window should be that for the whole window opening, including the window frame. Measurements of thermal transmittance in the case of doors and windows should be made according to BS EN ISO 12567-1. Alternatively, U-values of windows and doors may be calculated using BS EN ISO 10077-1 or BS EN ISO 100772.

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