

Energy Statement

Proposed New Development to provide
6 new flats (4 x 1 bed and 2 x 2 bed units)

2 Bedford Road, Reading, RG1 7HS



CLIENTS: J R Properties

PLANNING CONSULTANTS:
The Keen Partnership

February 2026

Prepared by:



accredited SAP assessors

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BRIEF

Monitor Energy Consultancy has been instructed to undertake an Energy Statement, to demonstrate how the proposed development for a **6 new flats at 2 Bedford Road, Reading, RG1 7HS** will comply with the requirement of Reading Borough Council's Local Plan 2019 Policy 3.3: Carbon Reduction, which sets out that **all new build residential properties must achieve a percentage reduction in carbon emissions in excess of 19% compared with Building Regulations Part L 2013**. In order to comply with the current 2021 Building Regulations, the Development would need to achieve a **31% reduction** compared with the 2013 Regulations, therefore this would be the minimum reduction required.

ESTABLISHING CO₂ EMISSIONS

This energy statement seeks to identify the carbon footprint for this development and to demonstrate that the requirements of Policy 3.3 have been met.

The Standard Case TER and Actual DER Carbon Emissions have been calculated by SAP 10.2 in accordance with Building Regulations Part L 2021 with the results detailed below.

Table 1 illustrates the CO₂ emissions for the regulated loads (for heating, hot water, pumps, fans and lighting) associated with the dwelling if built to comply with Building Regulations Part L 2021. The SAP calculations confirming the TER can be found in the Appendix .

Flat Number	Total Area GIA	Standard Case TER (CO ₂ kg/m ² /yr)	Total CO ₂ (kg/yr)
1-03	40.99	18.51	758.72
1-04	39.22	19.03	746.36
1-05	40.90	18.62	761.56
2-02	69.91	10.79	754.33
3-02	69.91	13.17	920.71
4-02	33.26	22.49	748.02
	295.19	1.76	4 689.70

Table 1: Standard (Notional) Case SAP 10 results for proposed new dwellings.

The total CO₂ emissions for the Building Regulations 2021 Compliant case has been calculated at **4 689.70 kg CO₂/yr**.

ENERGY EFFICIENCY MEASURES

In order to achieve the required target CO₂ emissions, a fabric first approach has been adopted, using enhanced standards of insulation for floor, walls and roof together with a low carbon heating system:

- U-Value for the first floor of 0.12 W/m²K using 90mm Celotex or similar PIR insulation compared to Building Regulations standard of 0.18 W/m²K,
- U-Value for cavity walls of 0.18 W/m²K using Aircrete blocks and 150mm Dritherm 32 insulation, compared to Building Regulations standard of 0.18 W/m²K,
- U-value for the roof areas of 0.14 W/m²K using 160mm Celotex or similar PIR insulation, compared to Building Regulations standard of 0.14W/m²K
- High performing double-glazed windows and rooflights with low e glass and 16mm minimum gap, argon filled to achieve a maximum U-Value of 1.2 W/m²K compared to Building Regulations standard of 1.6 W/m²K,
- BRE approved thermal details eg Knauf, to be used for all junctions where applicable, to limit cold bridging at linear junctions with a calculated user defined psi values,
- High levels of air tightness with a design air permeability rate of 5m³/hr/m³ at 50 Pa pressure compared to Building Regulations standard of 8m³/hr/m³
- Ecodan or similar air source heat pumps have been chosen as a low carbon option for the heating system with individual time and temperature zone controls,
- Water efficient sanitaryware, in particular flow restriction to the shower swill be installed to reduce the demand for hot water,
- 100% Low energy lights with a minimum efficiency of 100 lumens per watt,

The resulting CO₂ emissions have been calculated for the dwellings incorporating the above specification and the results shown in Table 2 below.

Flat Number	Total Area GIA	Actual Case DER (CO ₂ kg/m ² /yr)	Total CO ₂ (kg/yr)
1-03	40.99	6.61	270.94
1-04	39.22	7.05	276.5
1-05	40.90	6.91	2.82
2-02	69.91	4.28	299.21
3-02	69.91	4.78	334.17
4-02	33.26	7.98	265.41
	295.19		1 728.86

Table 2: Actual Case SAP 10 results for the proposed new dwellings

CONCLUSION

The total carbon emissions for the development as proposed **1 728.86 kgCO₂/yr** compared to the Building Regulations requirement of **4 689.70 kg CO₂/yr**, a reduction of **63.13%** compared with 2021 Building Regulations or 94.13% compared to the 2013 Building Regulations. The proposals therefore satisfy Reading Borough Council's Planning requirement. Full SAP calculations are available on request, and a summary of the SAP calculations are appended with the TER calculation indicating the Building Regulation compliant case and the DER calculation indicating the dwelling as actually proposed.

MONITOR energy consultancy, accredited SAP assessors
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APPENDIX A

TER AND DER CALCULATIONS

Block Compliance



Block Reference	2 Bedford Road, Reading	Issued on Date	10/02/2026
Block Name			
Calculation Type	New Build (As Designed)	SAP Version	10.2
Assessor Details	Mrs. Nicola Battista	Assessor ID	L706-0001
Client			

Block Compliance Report - DER

Block Reference: 2 Bedford Road, Reading		Block Name:		
Property-Assessment Reference	Floor area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
1-03 - 00001	40.99	6.61	18.51	64.29 %
1-04 - 00001	39.22	7.05	19.03	62.95 %
1-05 - 00001	41.90	6.91	18.62	62.89 %
2-02 - 00001	69.91	4.28	10.79	60.33 %
3-02 - 00001	69.91	4.78	13.17	63.71 %
4-02 - 00001	33.26	7.98	22.49	64.52 %
Totals:	295.19	37.61	102.61	
Average DER = 5.88 kgCO ₂ /m ²	% DER/TER		PASS	
Average TER = 15.95 kgCO ₂ /m ²	63.13 %			

Block Compliance Report - DFEE

Block Reference: 2 Bedford Road, Reading	Block Name:			
Property-Assessment Reference	Floor area (m ²)	DFEE (kWh/m ² /yr)	TFEE (kWh/m ² /yr)	% DFEE/TFEE
1-03 - 00001	40.99	47.59	48.41	1.69 %
1-04 - 00001	39.22	52.32	48.95	-6.90 %
1-05 - 00001	41.90	54.48	49.94	-9.10 %
2-02 - 00001	69.91	23.77	25.53	6.92 %
3-02 - 00001	69.91	33.26	36.25	8.27 %
4-02 - 00001	33.26	58.03	57.92	-0.20 %
Totals:	295.19	269.45	267.00	
Average DFEE = 41.34 kWh/m ² /yr	% DFEE/TFEE	PASS		
Average TFEE = 41.47 kWh/m ² /yr	0.33 %			

Block Compliance Report - DPER

Block Compliance

Block Reference: 2 Bedford Road, Reading	Block Name:			
Property-Assessment Reference	Floor area (m ²)	DPER (kWh/m ² /yr)	TPER (kWh/m ² /yr)	% DPER/TPER
1-03 - 00001	40.99	69.94	99.52	29.72 %
1-04 - 00001	39.22	74.65	102.51	27.18 %
1-05 - 00001	41.90	73.09	100.07	26.96 %
2-02 - 00001	69.91	45.53	57.44	20.73 %
3-02 - 00001	69.91	50.65	70.32	27.97 %
4-02 - 00001	33.26	84.53	121.45	30.40 %
Totals:	295.19	398.39	551.31	
Average DPER = 62.31 kWh/m ² /yr	% DPER/TPER	PASS		
Average TPER = 85.58 kWh/m ² /yr	27.20 %			