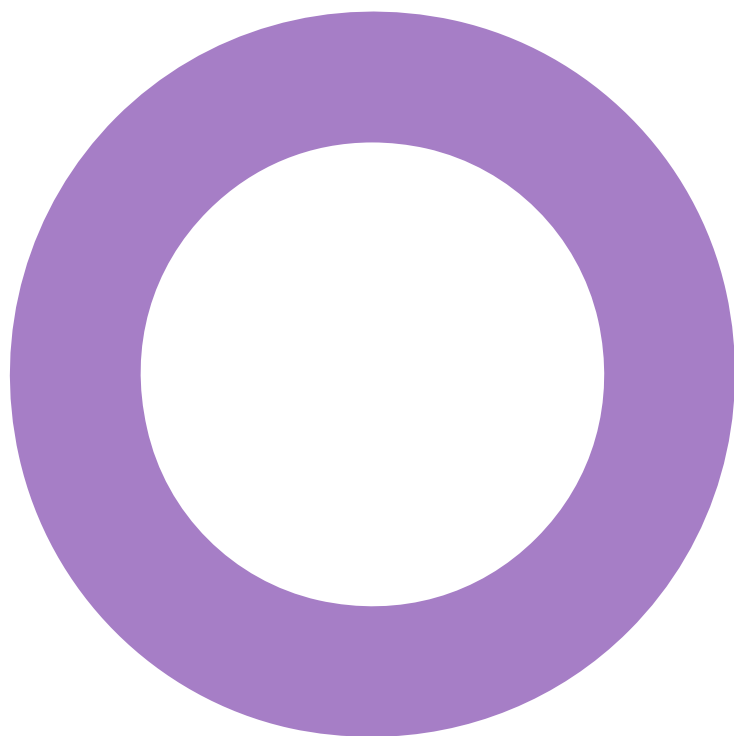


**Hosier Street Hotel.
Reading.**
Inception (Reading) Sarl.

SUSTAINABILITY
ENERGY STRATEGY

REVISION 02 – 22.10.2018



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
01	15.10.2018	Draft issue for comment	TPS	JN	JRF
02	22.10.2018	Amendments following DP9 comments	TPS	JN	JRF

This document has been prepared for Inception (Reading) Sarl only and solely for the purposes expressly defined herein. We owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. The consequences of climate change and the effects of future changes in climatic conditions cannot be accurately predicted. This report has been based solely on the specific design assumptions and criteria stated herein.

Project number: 23/23208
Document reference: REP-2323208-5A-TPS-20181022-Hosier Street Hotel Energy Strategy-Rev02

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Executive summary

This energy strategy has been prepared on behalf of Inception (Reading) Sarl. in support of the development proposals for the Hosier Street Hotel development, hereafter referred to as the *Proposed Development*.

This strategy summarises the relevant regulatory and planning policies applicable to the Proposed Development and sets out how the Proposed Development will address and achieve the relevant policy targets. The strategy responds to the UK planning and regulatory framework, and specifically to the Reading Core Strategy policy documentation.

1.1 Planning Policy

The Reading Core Strategy Policy CS1 states that applications for non-residential development should achieve the following targets:

Policy	Requirement
Policy CS1	20% reduction in annual regulated CO ₂ emissions beyond the 2006 baseline must be achieved through passive design or on site renewable technology.

Table 1 Non-domestic CO₂ Emission Reduction Targets, Reading Core Strategy

The Reading Borough Council; Revised Sustainable Design and Construction Supplementary Planning Document (SPD) confirms that Part L 2013 of the Building Regulations has exceeded the carbon emission reduction target identified in Table 1 and therefore the Policy Target CS1 no longer applies (Paragraph 2.2). Compliance with local planning policy therefore reflects compliance with Part L2A. No proposal improvements are identified in the Draft New Local Plan documentation.

The development is being developed and designed to achieve a 35% betterment of Part L2A 2013 and therefore this target for the hotel elements of the building is identified to be the simulated regulated carbon emissions target.

1.2 Approach

This report evaluates the Proposed Development against the energy hierarchy; Be Lean, Be Clean and Be Green.

The restaurant areas of the Proposed Development have been assessed as a ‘shell only’ assessment in lieu of the fit-out details for these areas and therefore are assumed not to show any improvement over the Part L 2013 Target Emission Rate (TER).

1.3 Hotel Areas

The results of the Part L compliance assessment indicate that the proposed development achieves compliance with Criteria 1 as set out in Approved Document L2A (2013) publications for England. The Part L2A result for the proposed developments are shown to be an improvement over Building Regulations requirements of 35.69% beyond the requirements of Part L2A 2013.

	Hotel performance
BER kgCO ₂ /m ² /year	34.6
TER kgCO ₂ /m ² /year	53.8
Percentage Betterment	35.69%
Energy Performance Certificate Rating	A 20

Table 1: Part L2A Assessment Results (C1)

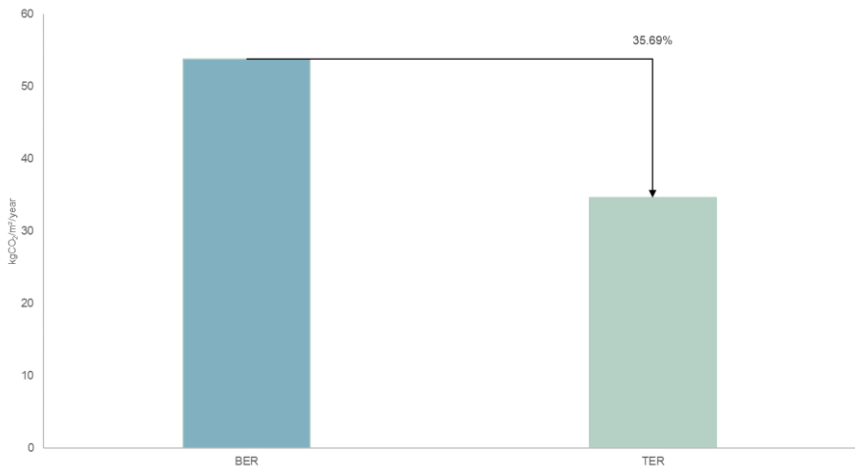


Figure 1 – Part L2A Assessment Results

1.4 Restaurant Areas

As mentioned previously, the Restaurant areas of the Proposed Development have been assessed as ‘shell only’ and therefore do not show any improvement over the Part L2A 2013 Target Emission Rate (TER).

	Shell only Restaurant performance
BER kgCO ₂ /m ² /year	78.1
TER kgCO ₂ /m ² /year	78.1
Percentage Betterment	0.00%
Energy Performance Certificate Rating	B 35

Table 2: Part L2A Assessment Results (A/3/4/5)

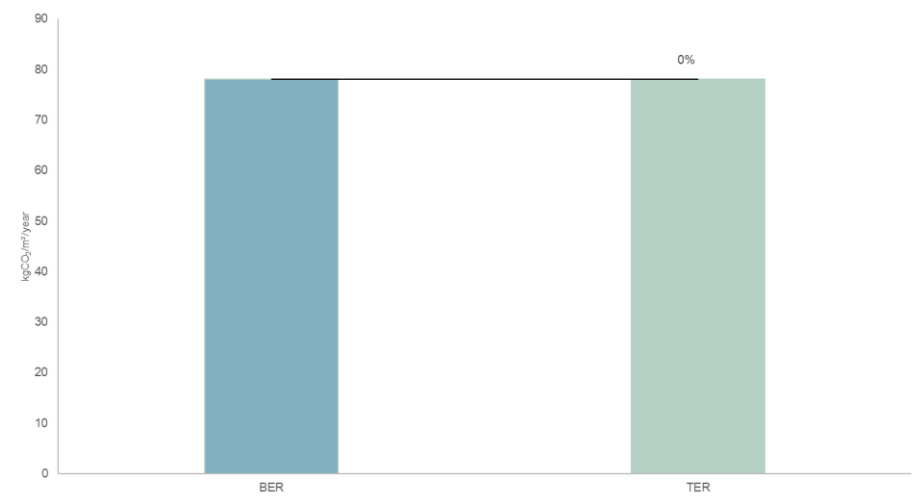


Figure 2: Part L2A Assessment Results (A/3/4/5)

1.5 Proposed Development

Combining the restaurant areas with the hotel areas results in a site-wide reduction in annual regulated carbon emissions of approximately 29.85% over the Part L 2013 benchmark.

1.6 Summary

Through the use of efficient building fabric and building services, utilising an all-electric strategy, the Broad Street development meets the requirements of current Building Regulations Part L 2013 and therefore achieves the carbon reduction target described in Policy CS1 of the Reading Core Strategy.

2. Introduction

This strategy has been prepared on behalf Inception (Reading) Sarl in support of the proposed Hotel development located on Hosier Street in Reading. This strategy summarises the relevant regulatory and planning policies applicable to the proposed development and sets out how the proposed development will address and achieve the relevant policy targets.



Figure 2: 3D visualisation of the approximate massing of the proposed development

The design consists of a seven storey hotel development. The accommodation on the ground floor features a shell only restaurant development and the development generally features hotel rooms and small areas of ancillary accommodation.

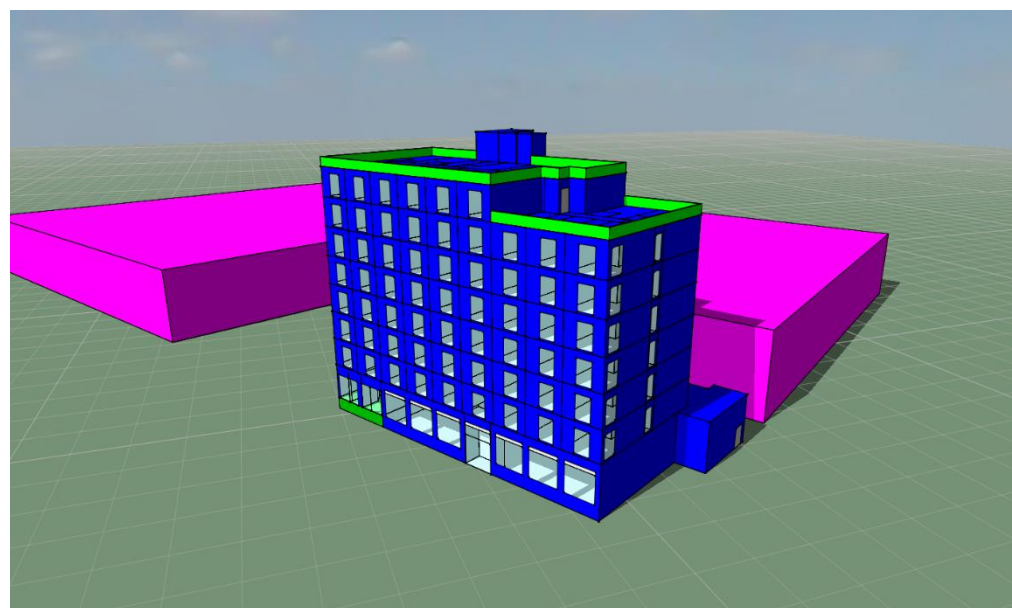
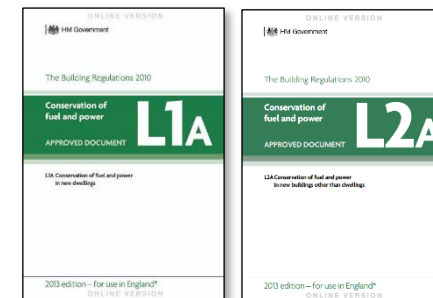


Figure 3: Visualisation of the simulation model

3. Policy and Drivers

The following section outlines the national and local policies and drivers.

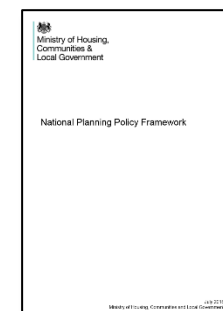
3.1.1 Building Regulations Part L (2013)



Part L of the Building Regulations is the mechanism by which government is driving reductions in the regulated CO₂ emissions from new buildings. The dwellings will be assessed against Building Regulations Part L1A 2013 and the commercial aspects will be assessed against Building Regulations Part L2A 2013.

All new buildings must meet the requirements of Part L1A or Part L2A of the 2013 Building Regulations.

3.1.2 National Planning Policy Framework



The National Planning Policy Framework (NPPF) was published in July 2018 and has superseded all Planning Policy Statements (PPS) and Planning Policy Guidance (PPG) documents, with the exception of PPS10 (Waste). The NPPF sets out the Government's strategy on the delivery of sustainable development.

The NPPF places responsibility for policy making with the Local Planning Authority, who shall communicate their policies through Local Plans and facilitate the creation of Neighbourhood Plans. The NPPF states that there is a presumption in favour of sustainable development.

The following is extracted from paragraph 11 of the NPPF:

For decision-taking this means:

- approving development proposals that accord with an up-to-date development plan without delay; or
- where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole

In respect of energy policy contained within the NPPF, paragraph 153 sets out that:

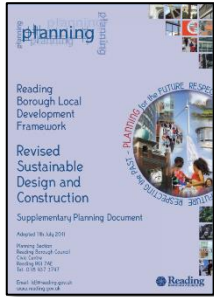
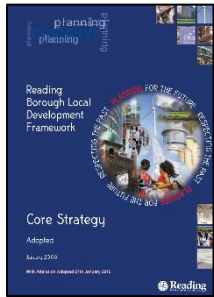
"In determining planning applications, local planning authorities should expect new development to:

- comply with adopted Local Plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
- take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption."

3.1.3 Local Planning Policy

The policies of Reading Borough Council (RBC) are contained within the Local Plan documents:

Those applicable to the Development are:



- Reading Borough Council Core Strategy (Alteration adopted January 2015)
- The Supplementary Planning Documents (SPD):

An updated version of the Sustainable Design and Construction SPD (July 2011) states the following:

‘Recent changes to the Building Regulations mean that the requirement in policy CS1 to 'off-set at least 20% of predicted carbon dioxide emissions' has now been superseded for both residential and non-residential developments.

All other parts of policy CS1 are still relevant. For this reason, the requirement to off-set at least 20% of predicted carbon dioxide emissions from the estimated energy usage of the completed and occupied development in adopted policy CS1 is not mentioned further in this SPD’.

3.1.4 Submission Draft Reading Borough Local Plan

The future planning policy identified by the Submission Draft version identifies that whilst there are carbon emission targets for residential development there are no specific targets for non-domestic development and therefore, as above, the targets are achieved through compliance with Building Regulations Part L2A.

Emerging Policy CC4 requires that assessment of decentralised heating energy technologies are considered. These technologies are identified to include a variety of technologies, including renewable technologies such as heat pumps.

4. Energy Strategy

4.1 Energy Hierarchy

The energy strategy has been based on the energy hierarchy; Be Lean, Be Clean and Be Green. The strategic approach to the design of the Proposed Development has been to reduce demand for energy prior to the consideration of integrating Low or Zero Carbon (LZC) technologies, since controlling the demand is the most effective way of reducing energy requirements and CO₂ emissions.

4.2 Methodology & Limitations

Calculations demonstrating the energy requirements and associated CO₂ emissions for the Proposed Development have been calculated using an approved calculation software system to calculate the performance of the development against the requirements of Part L2A 2013. The separate Part L2A report (REP-2323135-5A-TPS-20181015) identifies specific simulation parameters.

The restaurant elements of the scheme were assessed to demonstrate an emission rate equal to the Part L Target Emission Rate (TER).

The appraisals within this strategy should not be understood as a predictive assessment of likely future energy requirements or otherwise. Occupants may operate their systems differently, and / or the weather may be different from the assumptions made by Part L approved calculation methods, leading to differing energy demand and/or consumption.

4.3 Fabric First Approach

Target u-values to be achieved for the project design have been identified below. These have been specified in conjunction with good practice target parameters:

Parameter	Value
Air Permeability (m ³ /h.m ² at (50Pa))	3.00*
External wall u-value (W/m ² .K)	0.15*
Roof u-value (W/m ² K)	0.10*
Floor u-value (W/m ² K)	0.15*
Glazing u-value (average including frame, W/m ² K)	0.90*
Glazing g-value	0.35*
Glazing visible light transmittance	0.71*

Table 3: Fabric and Construction Parameters

*Target parameter.

4.4 Be Lean; use less energy

Passive design and energy efficiency measures will form the cornerstone of the overall energy demand and CO₂ emissions reduction strategy for the Proposed Development.

An initial series of Part L compliance calculations have been undertaken to determine the potential reduction in annual regulated carbon emissions using passive measures such as those indicated in Figure 9.

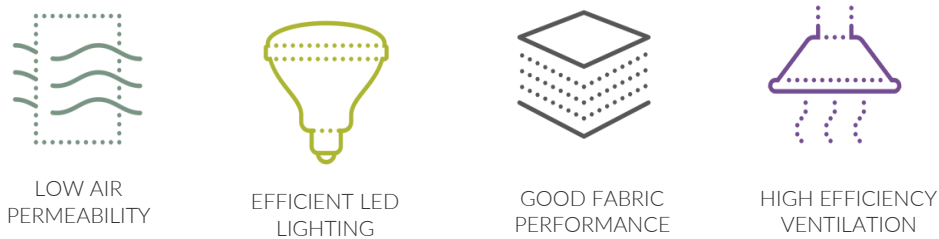


Figure 1 Passive Design Measures

4.5 Be Clean; Supply Energy Efficiently

Due the proposed changes to the carbon emission factors in future revisions of Part L – the use of Combined Heat and Power (CHP) is likely to offer a ‘negative benefit’ within the next five years and therefore has not been explored as part of the energy strategy.

4.6 Be Green; Use Low or Zero Carbon Technology

The final stage of the energy hierarchy; the use of technology which produces energy without consuming energy from the national grid, or is highly efficient in operation.

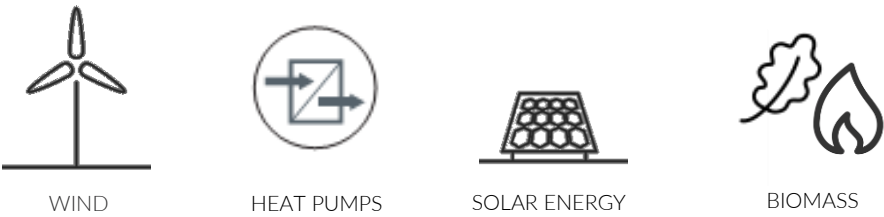


Figure 2 Examples of Low and Zero Carbon Technology

Technologies such as wind turbines and biomass boilers can be discounted from the outset. Locating a wind turbine or providing adequate storage for biomass fuel in an urban environment would be difficult to accommodate and therefore these systems have limited feasibility. These technologies also come with inherent air quality and environmental impacts such as noise and light flicker.

The proposed building layout has roof space available to be used for PV system. A measure of the roof space available has been made and this has identified an area of approximately 175m² of PV array can be accommodated for the scheme. This area of PV has been included within the design for the development. In addition, the development's specification includes a requirement to use Heat Pump technology for both the heating and to provide hot water. As previously identified, the specific inputs are identified by the Part L2A compliance report REP-2323135-5A-TPS-20181015.

5. Part L; Building Regulations Compliance Analysis

5.1 Criterion 1a: Achieving the Carbon Emissions Target

The results of the Part L compliance assessments indicate that the proposed development achieves compliance with Criteria 1 and 2 set out in Approved Document L2A (2013) publications for England. Criterion 3 identifies non-compliances in the ground floor reception only, although this criterion is non-mandatory and as a result, no remedial action is proposed given the building services strategy for the hotel.

As mentioned previously, the Restaurant areas of the Proposed Development have been assessed as ‘shell only’ and therefore do not show any improvement over the Part L2A 2013 Target Emission Rate (TER).

Combining the restaurant areas with the hotel areas results in a site-wide reduction in annual regulated carbon emissions of approximately 29.85% over the Part L 2013 benchmark.

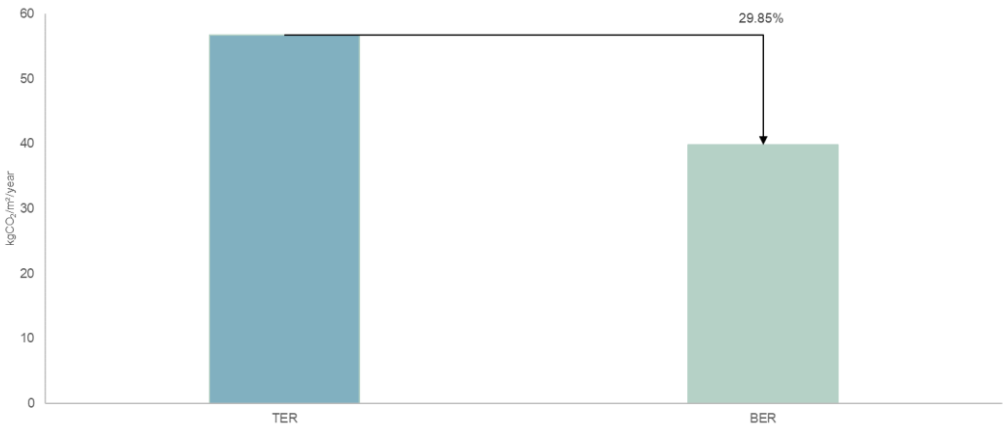


Figure 3 Aggregated performance of the development.

6. Conclusion

This energy strategy has been prepared on behalf of Inception (Reading) Sarl. in support of the development proposals for the Hotel development at Hosier Street, Reading, hereafter referred to as the *Proposed Development*.

This strategy summarises the relevant regulatory and planning policies applicable to the Proposed Development and sets out how the Proposed Development will address and achieve the relevant policy targets. The strategy responds to the UK planning and regulatory framework, and specifically to the Reading Core Strategy and Local Plan policy documentation.

6.1 Planning Policy

The Reading Core Strategy Policy CS1 states that applications for non-residential development should achieve the following targets:

Policy	Requirement
Policy CS1	20% reduction in annual regulated CO ₂ emissions beyond the 2006 baseline must be achieved through passive design or on site renewable technology.

Table 2 CO₂ Emission Reduction Targets, Reading Core Strategy

The Reading Borough Council; Revised Sustainable Design and Construction Supplementary Planning Document (SPD) confirms that Part L 2013 of the Building Regulations has exceeded the carbon emission reduction target identified in Table 1 and therefore the Policy Target CS1 no longer applies.

6.2 Approach

The development has been assessed using software in accordance with the Part L2A methodology. The hotel and restaurant have been separately assessed with the aggregate emissions then being identified.

6.3 Hotel Areas

The results of the Part L compliance assessment indicate that the proposed development achieves compliance with Criteria 1 as set out in Approved Document L2A (2013) publications for England. The Part L2A result for the proposed developments are shown to be an improvement over Building Regulations requirements of 35.69% beyond the requirements of Part L2A 2013.

	Hotel performance
BER kgCO ₂ /m ² /year	34.6
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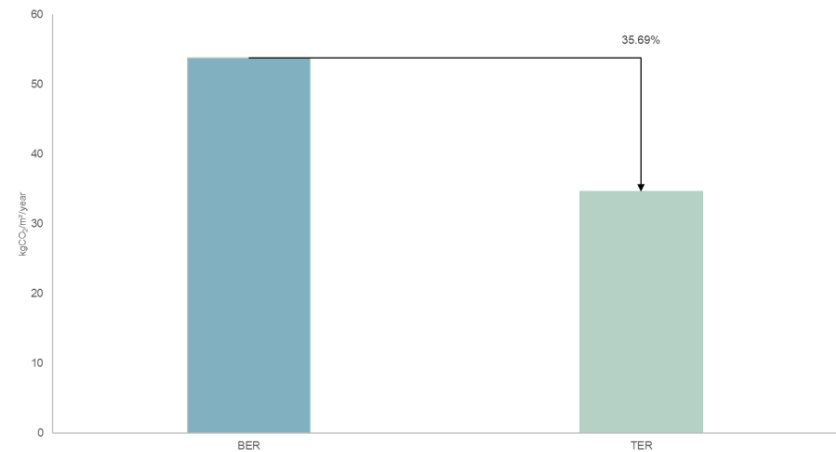


Figure 1 – Part L2A Assessment Results

6.4 Restaurant Areas

As mentioned previously, the Restaurant areas of the Proposed Development have been assessed as ‘shell only’ and therefore do not show any improvement over the Part L2A 2013 Target Emission Rate (TER).

	Shell only Restaurant performance
BER kgCO ₂ /m ² /year	78.1
TER kgCO ₂ /m ² /year	78.1
Percentage Betterment	0.00%
Energy Performance Certificate Rating	B 35

Table 2: Part L2A Assessment Results (A/3/4/5)

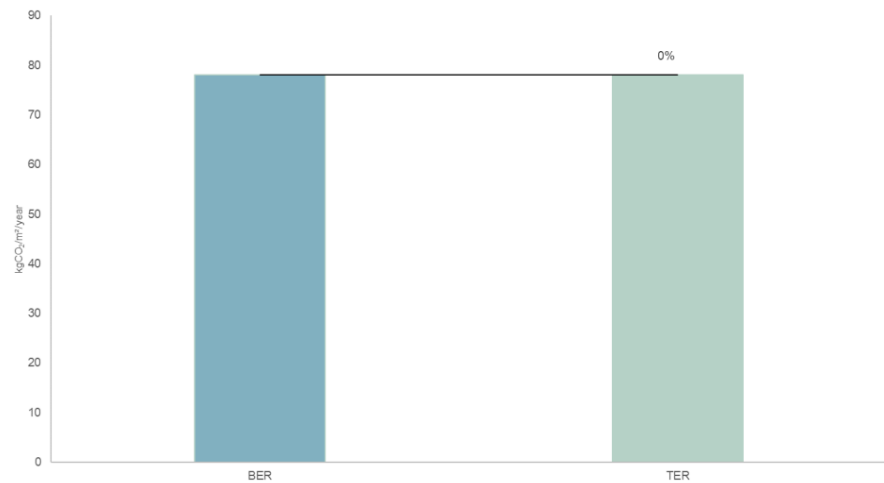
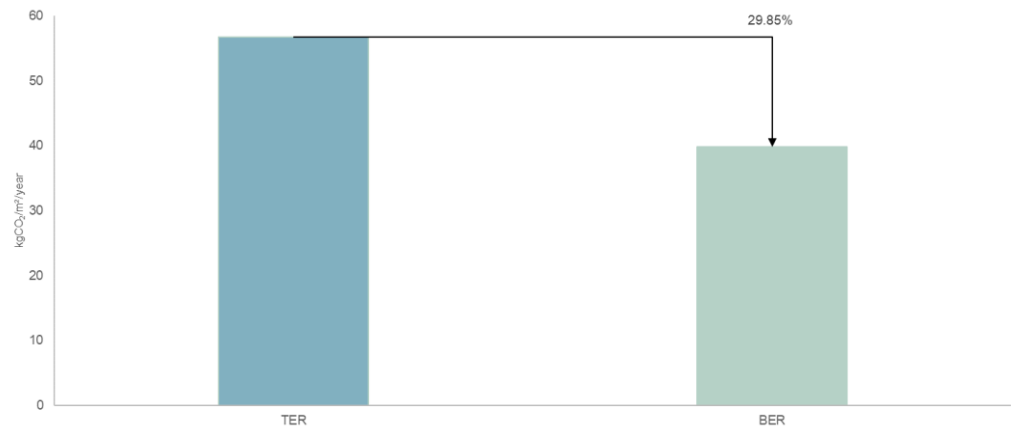


Figure 2: Part L2A Assessment Results (A/3/4/5)

6.5 Proposed Development

Combining the restaurant areas with the hotel areas results in a site-wide reduction in annual regulated carbon emissions of approximately 29.85% over the Part L 2013 benchmark.



6.6 Summary

Through the use of efficient building fabric and building services, utilising an all-electric strategy, the Broad Street development meets the requirements of current Building Regulations Part L 2013 and therefore achieves the carbon reduction target described in Policy CS1 of the Reading Core Strategy



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