ELMSTEAD ENERGY ASSESSMENTS AND BUILDING SERVICES

9 Sharps Lane
Ruislip HA4 7JG

Energy Statement

Elmstead Energy Assessments & Building Services
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Essex, CO7 7FD
Registered Company: 11606546

Document Issue Record

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Contents

Figures

Tables

Appendices

1.0 Executive Summary

EEABS (Elmstead Energy Assessments & Building Services) were instructed to produce an Energy Statement for the proposed development located at 9 Sharps Lane, Ruislip HA4 7JG.

This Energy Statement can be used as a supporting document to the planning application to demonstrate that the carbon emissions and energy consumption strategy of the proposed development will meet the requirements set out by Hillingdon Local Planning Policy, The London Plan, and Part L 2021 Building Regulations.

Relevant Planning Policies

The Hillingdon Local Plan Strategic Policies (Adopted November 2012) Strategic Objective SO11 is to address the impacts of climate change, minimise emissions of carbon and local air quality pollutants from new developments and transport.

Policy BE1: Built Environment states that all new development is required to achieve the reductions in carbon dioxide emissions in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies. Where the required reduction from on-site renewable energy is not feasible within major developments, contributions off-site will be sought.

The Hillingdon Validation Checklist (February 2024) also states that an Energy Strategy following the London Plan guidance is required.

The London Plan states that developments should achieve at least a minimum 35% improvement on Building Regulations from on-site measures. A minimum of 15% should be achieved at the Be Lean stage, known as the energy efficiency target for non-domestic buildings.

The remaining carbon still emitted should be offset down to zero through a carbon offset payment set at £95 per tonne of CO2 over a timeline of 30 years.

Overall Energy Assessment Results

The results below show total carbon emissions in tonnes CO2 for the development.

Table 1 - Summary of the Carbon Emission Results

	Carbon Dioxide Emissions (Tonnes CO2 per annum)	CO2 Savings (Tonnes CO2 per annum)	CO2 Savings (%)
Baseline	6.65	-	-
Be Lean	5.67	0.98	15%
Be Clean	5.67	0.00	0%
Be Green	4.22	1.45	22%
Cumulative Savings		2.43	37%
Carbon Shortfall to Offset	4.22		
Carbon Offset Contribution	£95 x 30 years x 4.22 tCO2 =	£12,027	100%

The Be Lean Stage Results show that the total carbon emissions will be 7.32 kgCO2/m2 (5.67 tonnes) compared to 8.58 kgCO2/m2 (6.65 tonnes) for the baseline. This is an improvement of 15%, therefore meeting the minimum 15% energy efficiency target of the London Plan.

The Be Green Stage Results show that the total carbon emissions will be 5.44 kgCO2/m2 (4.22 tonnes) compared to 8.58 kgCO2/m2 (6.65 tonnes) for the baseline. This is an improvement of 37%, therefore meeting the 35% energy efficiency target of the London Plan.

The building would also receive an extremely good EPC rating of an A-5. The Part L BRUKL Documents and predicted EPCs for the building at each stage of the energy hierarchy can be found within the appendices.

The final results show that the development would still be emitting 4.22 tonnes of CO2 per annum. In order to off-set this remaining amount of carbon and be deemed a net-zero carbon development a cash in lieu contribution of £12,027 can be made to the local authority.

Conclusion

This Energy Statement has shown that the proposed development located at 9 Sharps Lane, Ruislip HA4 7JG would satisfy the energy requirements of Hillingdon Local Planning Policy, The London Plan, and Part L 2021 Building Regulations.

All relevant areas of energy strategy have attempted to be considered within this statement to satisfy Hillingdon Local Planning Policies, at a level proportionate to the proposed project. If any required areas have been unintentionally overlooked, we hope that these could be set as a planning condition to be satisfied and would not result in an outright denial of planning permission.

2.0 Introduction

EEABS (Elmstead Energy Assessments & Building Services) were instructed to produce an Energy Statement for the proposed development located at 9 Sharps Lane, Ruislip HA4 7JG.

This Energy Statement can be used as a supporting document to the planning application to demonstrate that the carbon emissions and energy consumption strategy of the proposed development will meet the requirements set out by Hillingdon Local Planning Policy, The London Plan, and Part L 2021 Building Regulations.

2.1 Proposed Development

The proposed Site is located at 9 Sharps Lane, Ruislip HA4 7JG. A Proposed Site Plan, Floor Plans, and Elevations can be seen below. Please see the architectural submitted documents for full details.

The existing building will be considerably extended to provide an 18-bedroom care home.

Figure 1 - Proposed Site Plan

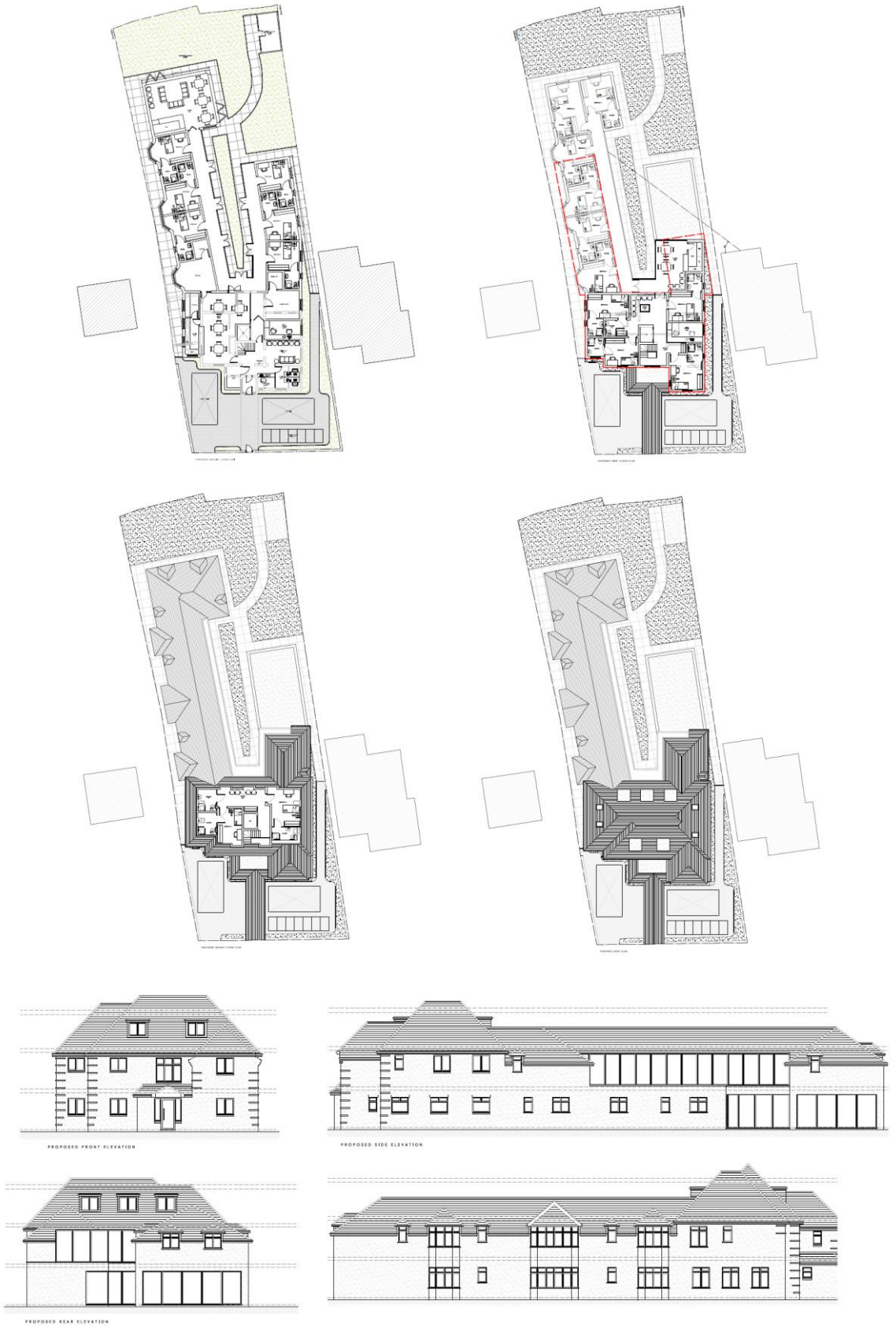


Figure 2 - Proposed Floor Plans and Elevations

2.2 Planning Policy Context

Numerous policies that relate to the energy efficiency and carbon emissions of the development have been considered in preparation of this energy assessment.

2.2.1 National Planning Policy Framework

The National Planning Policy Framework encourages local planning authorities to adopt proactive strategies to mitigate and adapt to climate change.

They should plan for new development in ways which reduce greenhouse gas emissions; actively support energy efficiency improvements to existing buildings; and set local sustainability requirements which are consistent with the government's policies and standards.

2.2.2 Building Regulations Part L 2021

The assessment of the development against policy targets has been carried out using the very latest Part L 2021 benchmarks. The Part L 2021 targets represent approximately a 30% reduction in carbon emissions in comparison to the Part L 2013 target.

Part L 2021 requires that any non-domestic parts of a building do not exceed the CO2 emission and Primary Energy Rate of that set by a Target Emission Rate (TER) and Target Primary Energy Rate (TPER) to the approved 2021 National Calculation Methodology (NCM).

2.2.3 Hillingdon Planning Policy

The Hillingdon Local Plan Strategic Policies (Adopted November 2012) Strategic Objective SO11 is to address the impacts of climate change, minimise emissions of carbon and local air quality pollutants from new developments and transport.

Policy BE1: Built Environment states that all new development is required to achieve the reductions in carbon dioxide emissions in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies. Where the required reduction from on-site renewable energy is not feasible within major developments, contributions off-site will be sought.

The Hillingdon Development Management Policies document (Adopted January 2020) Policy DMEI 2: Reducing Carbon Emissions states that all developments are required to make the fullest contribution to minimising carbon dioxide emissions in accordance with the London Plan targets. All major development proposals must be accompanied by an energy assessment showing how these reductions will be achieved.

The Hillingdon Validation Checklist (February 2024) also states that an Energy Strategy following the London Plan guidance is required.

2.2.4 The London Plan

The latest London Plan guidance on the preparation of Energy Assessments is from June 2022 and has been used to structure this energy statement. The guidance will be followed, and every effort will be made to ensure the most energy efficient and carbon minimal design possible.

Policy SI 2 of the London Plan requires development proposals to make the fullest contribution to minimising carbon dioxide emissions through on-site methods in accordance with the following energy hierarchy:

- Be Lean: use less energy
- Be Clean: supply energy efficiently
- Be Green: use renewable energy

The development should achieve at least a minimum 35% improvement on Building Regulations from on-site measures. A minimum of 15% should be achieved at the Be Lean stage, known as the energy efficiency target for non-domestic areas.

The remaining carbon still emitted should be offset down to zero through a carbon offset payment set at £95 per tonne of CO2 over a timeline of 30 years.

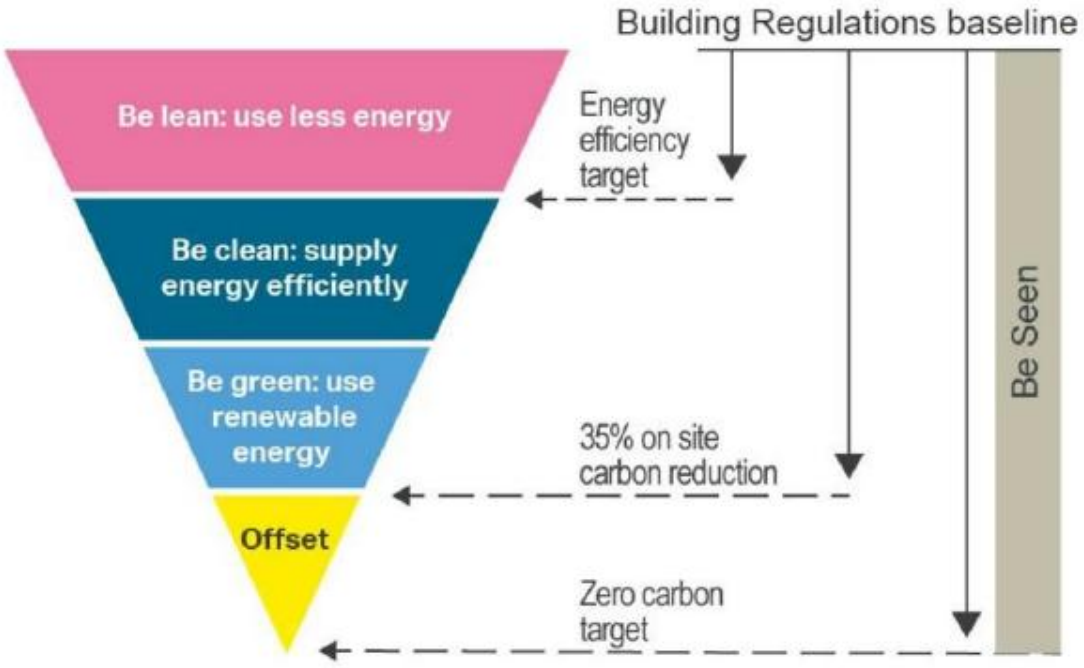


Figure 3 - London Plan Energy Hierarchy and Targets

London Plan Policy SI4 also states that developments should minimise the potential for overheating by assessing the cooling hierarchy of the development.

3.0 Assessment Methodology

The energy strategy of the development has been produced by following an Energy Hierarchy shown below taking a fabric first approach.

- Be Lean: use less energy
- Be Clean: supply energy efficiently
- Be Green: use renewable energy

The following methodology has been used to calculate the CO2 emissions for the development.

3.1 EDSL TAS - Dynamic Simulation Modelling

To calculate the estimated carbon emissions for the development EDSL TAS Dynamic Simulation Modelling software has been used. The EDSL TAS software has been approved by the Department for Communities and Local Government (DCLG) for use as a Dynamic Simulation Model (DSM) software package.

As part of its approval process, the TAS software had to demonstrate that it satisfies all of the tests and other requirements defined within sections 2 and 3 of the document “CIBSE TM33:2006, CIBSE standard tests for the assessment of building services design software”. The thermal modelling has also been carried out in accordance with CIBSE AM11 Building Energy and Environmental Modelling.

3.2 Limitations

The appraisals within this strategy are based on the Building Regulations Part L (2021) calculation methodology and 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 requirements once the development is in operation.

4.0 Energy Assessment

The following sections describe how the proposed developments Carbon Emissions have been calculated.

4.1 Baseline Target

The EDSL TAS modelling software automatically generates a notional building using the geometry for the proposed building, but allocating glazing coverage, U-values, and plant efficiency in accordance with the Elemental Method as defined in NCM modelling Guide 2021.

The software calculates an Emissions Rate for the Notional building which is the Target Emission Rate (TER) for the actual building. The TER is the emission rate which must be met in order to achieve Part L2 compliance.

4.2 Be Lean

4.2.1 Passive Design measures

Where possible the development has taken a fabric first approach to reducing the initial energy demand by the following methods:

Glazing Performance

Windows and glazed doors will have highly efficient glazing and will have a low U-value of 1.20 W/m^2.K, helping to reduce the amount of heat loss through the glazing.

The glazing will also have a solar gain G-Value of 0.35, helping to reduce overheating due to too much sunlight received through the large areas of glazing, and will help to reduce cooling loads in the main lounges that will be air-conditioned.

Thermal Envelope

The inclusion of high levels of thermal insulation not only helps to reduce the buildings overall energy demand and therefore carbon emissions, but it also plays a vital role in securing the occupant's thermal comfort.

It also helps to reduce the buildings peak heating load required meaning that smaller plant equipment can be sized, helping to further improve not only carbon emissions but also the cost of the development.

The proposed walls and floor will provide savings over the Part L limiting fabric parameters.

Air Permeability

The air permeability of the development is a measure of how much volume of air can penetrate through its fabric. Therefore, a well-built, highly sealed building would result in less unwanted heat loss, and therefore provide a more efficient building.

Part L 2021 Building Regulations has a maximum limit of 8.00 m^3/h.m^2 that must be achieved, the proposed development will target a value of 3.00 m^3/h.m^2.

Summary of Passive Design Measures

The table below shows a summary of the passive design measures included for within the development and how they compare against the Part L target values.

Table 2 - Summary Table of Passive Design Measures

Parameter	Part L Limiting Values	Development Proposal	% Improvement
U-Values			
Walls	0.26 W/m^2.K	0.17 W/m^2.K	35%
Floors	0.18 W/m^2.K	0.10 W/m^2.K	44%
Pitched Roofs	0.16 W/m^2.K	0.11 W/m^2.K	31%
Flat Roofs	0.18 W/m^2.K	0.11 W/m^2.K	39%
Glazing	1.60 W/m^2.K	1.20 W/m^2.K	25%
Air Permeability	8.00 m^3/h.m^2	3.00 m^3/h.m^2	63%

The summary of passive measures shows that the proposed development will be an improvement over the Part L limiting fabric parameters.

4.2.2 Energy Efficiency Measures

The following energy efficiency measures have been included within the proposed development.

Heating

Heating to the building will be supplied by an air source heat pump serving a wet heating system with a seasonal coefficient of performance (SCOP) of at least 3.50, better than the minimum Part L requirement of 2.50. (Although under the Be Lean Stage the SCOP value has to be set at 2.64 to only account for the Be Lean measure savings, the value of 3.50 will be used at the Be Green Stage).

Cooling

The main lounge and dining areas are to be cooled by air conditioning systems with a seasonal Energy Efficiency Ratio (SEER) of at least 6.00, better than the minimum Part L requirement of 5.00. (Although, as with heating, for the Be Lean Stage the Cooling SEER has to be set to 4.40 with the value of 6.00 being used under the Be Green Stage).

Hot Water

Hot water is assumed to be provided by a dedicated high temperature air source heat pump system with a seasonal coefficient of performance (SCOP) of at least 3.20, better than the minimum Part L requirement of 2.50. (Although under the Be Lean Stage the SCOP value has to be set at 2.86 to only account for the Be Lean measure savings, the value of 3.20 will be used at the Be Green Stage).

Lighting

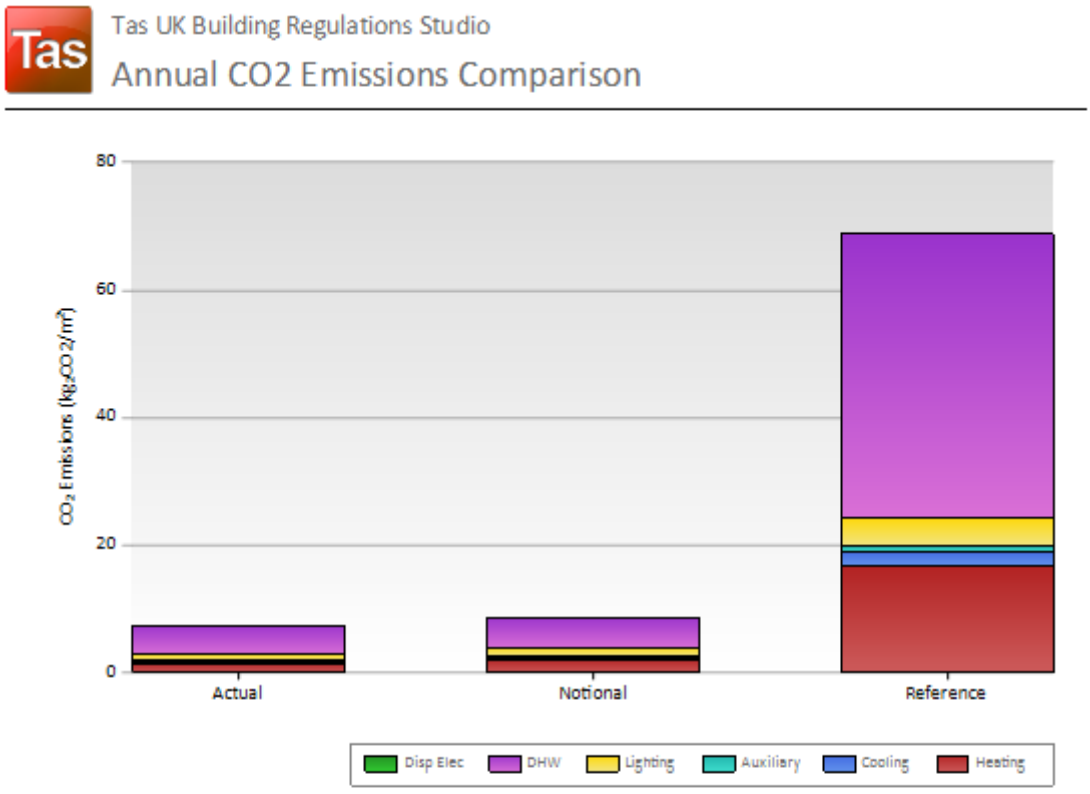
The lighting will consist of low energy LED lighting throughout with a minimum light source efficacy of at least 140 lm/W. Ancillary areas such as toilets and stores will have automatic on/off lighting control.

Ventilation

The majority of the rooms will be naturally ventilated through opening windows. Ensuites to the bedrooms, toilets, and laundry areas will have local extract ventilation fans.

4.2.3 Be Lean Stage Results

The results below show total carbon emissions in kgCO2/m2 for the proposed design at the Be Lean stage, as previously described.



	Actual	*Notional*	*Reference*
Heating (kg_2CO2/m^2)	1.41	1.95	16.74
Cooling (kg_2CO2/m^2)	0.19	0.35	2.33
Auxiliary (kg_2CO2/m^2)	0.33	0.38	0.55
Lighting (kg_2CO2/m^2)	0.97	1.15	4.78
DHW (kg_2CO2/m^2)	4.42	4.75	44.47
Displaced Electricity (kg_2CO2/m^2)	0.00	0.00	0.00
*Equipment (kg_2CO2/m^2) **	*11.15*	*10.87*	*11.15*
Total (kg_2CO2/m^2)	7.32	8.58	68.87
Total Floor Area (m^2)	775.09	775.09	775.09

** Energy used by equipment does not contribute to total value - it is presented here for comparison only*

Figure 4 - Be Lean Stage Results

The Be Lean Stage Results show that the total carbon emissions will be 7.32 kgCO2/m2 (5.67 tonnes) compared to 8.58 kgCO2/m2 (6.65 tonnes) for the baseline. This is an improvement of 15%, therefore meeting the minimum 15% energy efficiency target of the London Plan.

4.3 Be Clean

The Be Clean Stage of the Energy Hierarchy focuses on heating infrastructure and proposes creating or connecting to an already existing District Heating Network.

4.3.1 Heating Network

The London Plan heat map showed that the developments location is nowhere close to either an existing or proposed heat network.

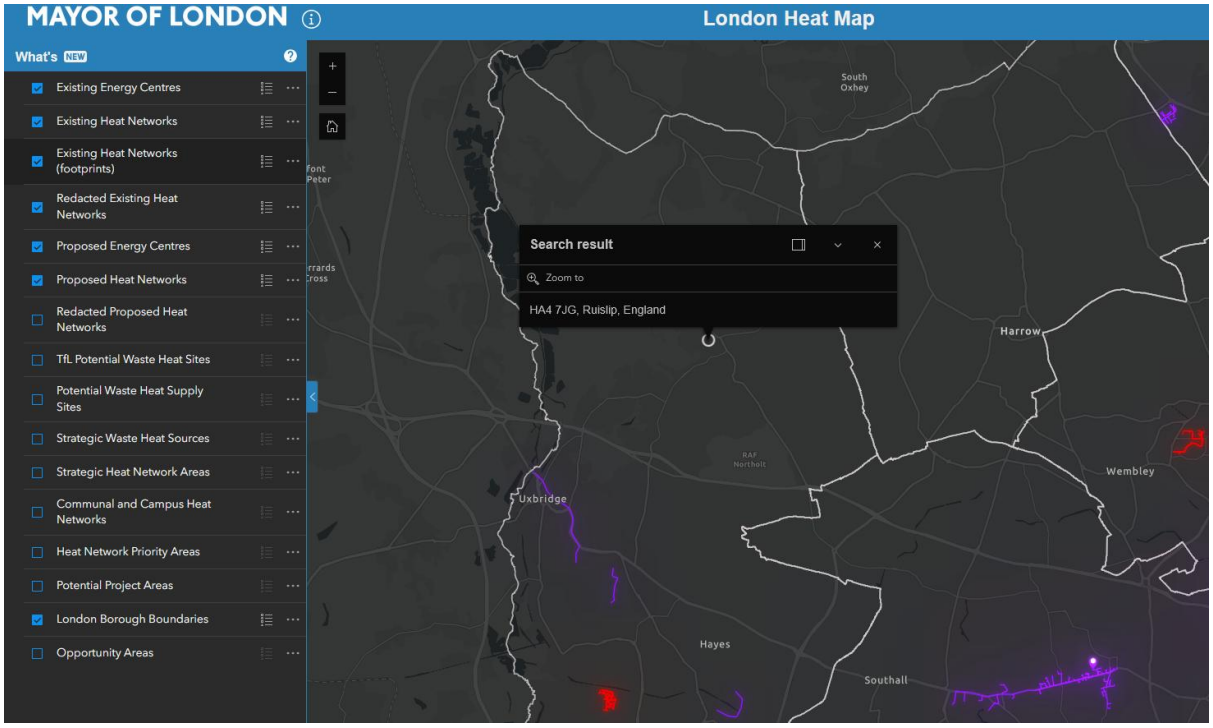


Figure 5 - London Plan Heat Map

Due to the long distances to any current or potential heat network the possibility of connecting to an Area Wide Heat Network, other secondary heat source, or using a combined heat and power system (CHP) have all been deemed technically unfeasible.

Better results can be more easily achieved through the use of on-site renewable technologies.

4.3.2 Be Clean Stage Results

There will be no additional carbon savings under the Be Clean stage of the energy hierarchy.

4.4 Be Green

The following sections discuss the low carbon and renewable technologies that have been considered for the development.

4.4.1 Air Source Heat Pumps

As discussed under the Be Lean section, the buildings heating, cooling, and hot water will be provided by air source heat pump systems.

Under the Be Green stage of the assessment the actual proposed heating, hot water, and cooling efficiencies can now be used within the calculation.

The heating ASHP system will have at least a heating SCOP value of 3.50, the hot water ASHP will have a SCOP value of at least 3.20, and the cooling air conditioning system will have a SEER value of at least 6.00.

4.4.2 Solar PV Panels

There should be sufficient roof space to allow for 16 No. PV panels to be installed. We have assumed that these would be 500 Watt panels providing a total system size of 8 kW. These are estimated to generate at least 6,250 kWh per year.

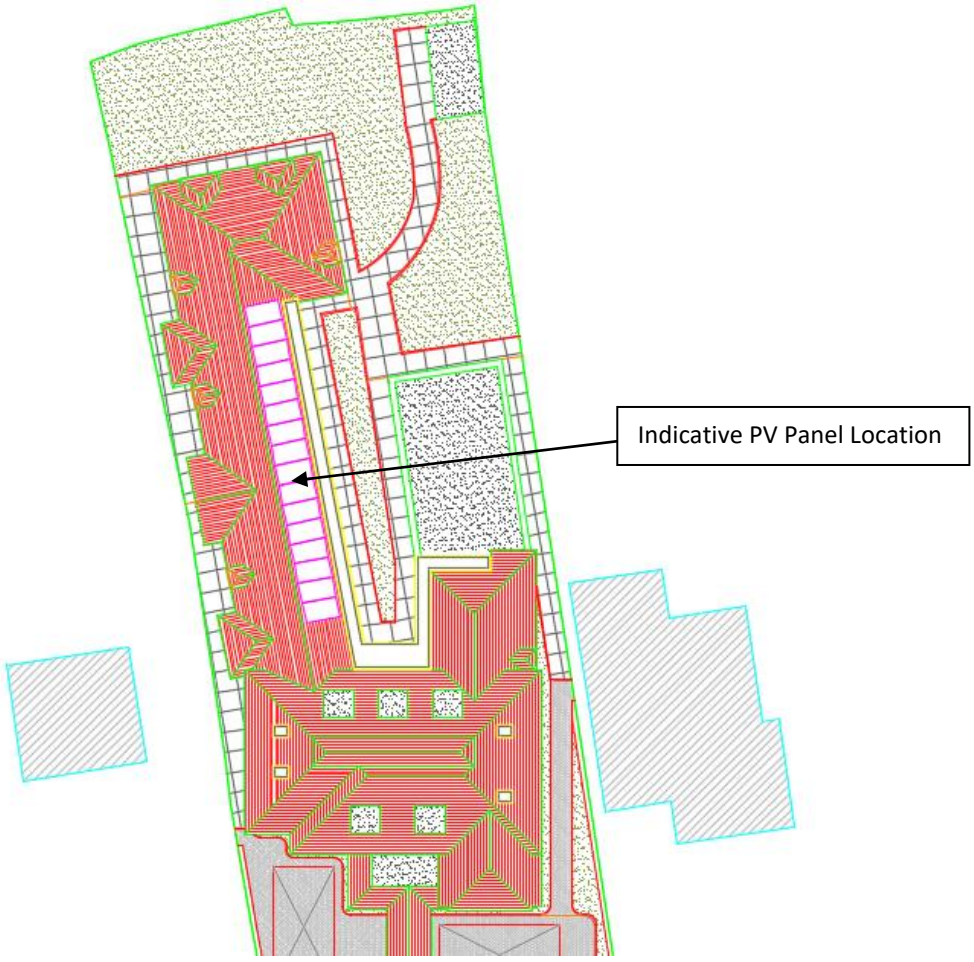
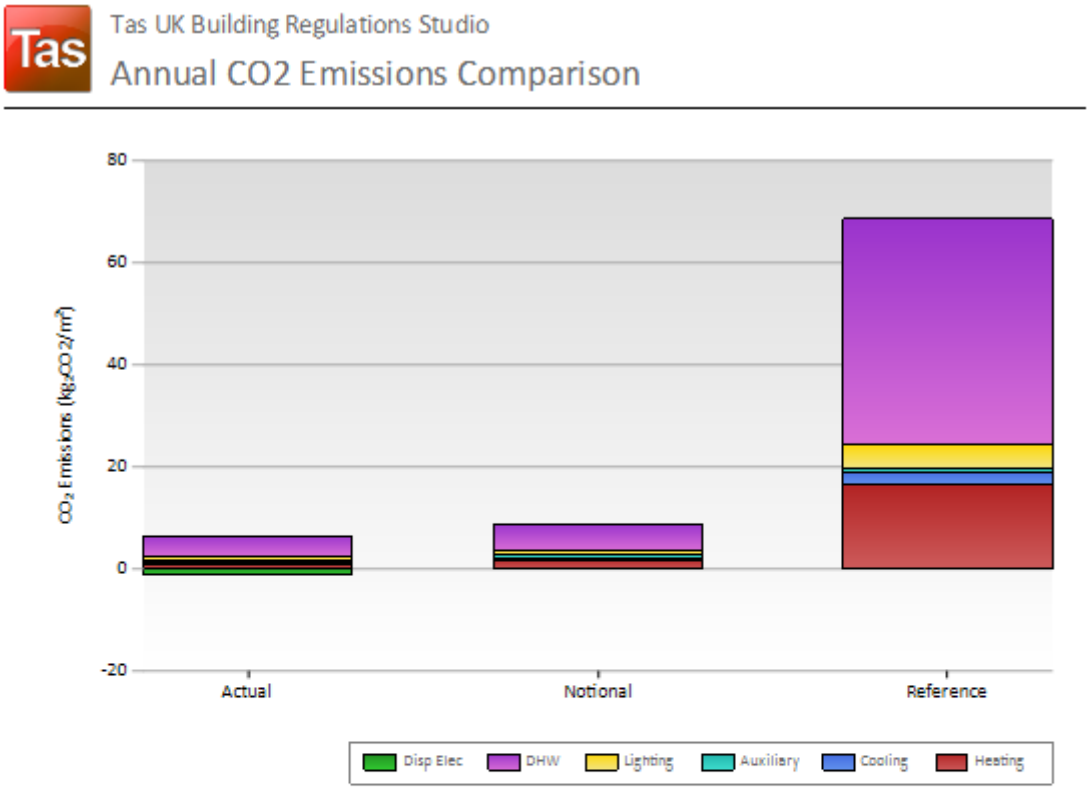


Figure 6 - Indicative PV Panel Location shown on Roof Plan

4.4.3 Be Green Stage Results

The results below show total carbon emissions in kgCO2/m2 for the proposed development design at the Be Green stage.



	Actual	Notional	Reference
Heating (kg_2CO2/m^2)	1.07	1.95	16.74
Cooling (kg_2CO2/m^2)	0.14	0.35	2.33
Auxiliary (kg_2CO2/m^2)	0.33	0.38	0.55
Lighting (kg_2CO2/m^2)	0.97	1.15	4.78
DHW (kg_2CO2/m^2)	3.95	4.75	44.47
Displaced Electricity (kg_2CO2/m^2)	-1.01	0.00	0.00
*Equipment (kg_2CO2/m^2) **	*11.15*	*10.87*	*11.15*
Total (kg_2CO2/m^2)	5.44	8.58	68.87
Total Floor Area (m^2)	775.09	775.09	775.09

** Energy used by equipment does not contribute to total value - it is presented here for comparison only*

Figure 7 - Be Green Stage Results

The Be Green Stage Results show that the total carbon emissions will be 5.44 kgCO2/m2 (4.22 tonnes) compared to 8.58 kgCO2/m2 (6.65 tonnes) for the baseline. This is an improvement of 37%, therefore meeting the 35% energy efficiency target of the London Plan.

The building would also receive an extremely good EPC rating of an A-5. The Part L BRUKL Documents and predicted EPCs for the building at each stage of the energy hierarchy can be found within the appendices.

4.5 Carbon Offset Payment

The final results show that the development would still be emitting 4.22 tonnes of CO2 per annum. In order to off-set this remaining amount of carbon and be deemed a net-zero carbon development a cash in lieu contribution can be made to the local authority. The carbon is priced at £95 per tonne for a period of 30 years.

The total cash in lieu contribution required for the development would therefore be:

4.22 Tonnes x £95 x 30 years = £12,027

5.0 Overheating Risk

In collaboration with the Energy Assessment of the development, an analysis of the overheating strategy within the building has also been carried out.

5.1 Cooling Hierarchy

1. Minimise Internal Heat Gains

To minimise internal heat gains low energy lighting will be used throughout the development. Any new heating pipework will also be well insulated, white goods and computer equipment should also be of the highest efficiency.

2. Reduce the Amount of Heat Entering the Building

Highly efficient constructions with good U-Values and low solar gain G-Values for the glazing will reduce the amount of heat transferring through to the rooms.

3. Use of Thermal Mass and High Ceilings to Manage Heat within the Building

The building will have a medium thermal mass and it will be well insulated with an improved air permeability value to stop heat from first entering the building.

4. Passive Ventilation

Windows and doors will be openable to allow for fresh air when required by the occupants.

5. Mechanical Ventilation

A Mechanical supply and extract ventilation system for the building has not been proposed in order to keep the energy consumption and embedded carbon to a minimum for the development.

By following the above overheating/cooling strategy the risk of internal overheating to the occupied rooms would be minimised. The main lounge and dining areas would also be air conditioned, and therefore would not overheat.

A detailed Part O CIBSE TM59 overheating assessment will be carried out at later design stages when requested by Building Control.

Appendix A - Be Lean Stage Part L 2021 BRUKL Document and Predicted Energy Assessment

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

Project name

Be Lean - 9 Sharps Lane

As designed

Date: Fri Oct 03 14:27:00 2025

Administrative information

Building Details

Address: 9 Sharps Lane, Ruislip,

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.5.6"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.5.6

BRUKL compliance module version: v6.1.e.0

Certifier details

Name: Jason Welsh

Telephone number: 01206 489019

Address: EEABS, Suite 3, Aster House, Lanswood Park, Elmstead Market, Colchester, CO7 7FD

Foundation area [m^2]: 235.41

The CO_2 emission and primary energy rates of the building must not exceed the targets

Target CO_2 emission rate (TER), $kgCO_2/m^2.annum$	8.58	
Building CO_2 emission rate (BER), $kgCO_2/m^2.annum$	7.32	
Target primary energy rate (TPER), $kWh_{PE}/m^2.annum$	92.25	
Building primary energy rate (BPER), $kWh_{PE}/m^2.annum$	78.79	
Do the building's emission and primary energy rates exceed the targets?	BER =< TER	BPER =< TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	First surface with maximum value
Walls*	0.26	0.17	0.17	External Wall - Ex
Floors	0.18	0.1	0.1	Ground Floor
Pitched roofs	0.16	0.11	0.11	Roof - Pro
Flat roofs	0.18	0.11	0.11	Flat Roof
Windows** and roof windows	1.6	1.2	1.2	Win 3b
Rooflights***	2.2	-	-	No rooflights in project
Personnel doors^	1.6	1.21	1.21	Ent Door 1
Vehicle access & similar large doors	1.3	-	-	No vehicle access or similar large doors in project
High usage entrance doors	3	-	-	No high usage entrance doors in project

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$] $U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m^2K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
$m^3/(h.m^2)$ at 50 Pa	8	3

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- ASHP - AC (3 Zones)

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	2.64	4.4	-	-	-
Standard value	2.5*	5	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

2- ASHP - Nat Vent

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	2.64	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

3- ASHP - Extract (23 Zones)

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	2.64	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

1- ASHP HW

	Water heating efficiency	**Storage loss factor [kWh/litre per day]**
This building	2.86	0
Standard value	2*	N/A
* Standard shown is for all types except absorption and gas engine heat pumps.		

Zone-level mechanical ventilation, exhaust, and terminal units

ID	**System type in the Approved Documents**
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter
NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.	

Zone name	**SFP [W/(l/s)]**									**HR efficiency**	
ID of system type	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	**Zone**	**Standard**
Bedroom 1	0.3	-	-	-	-	-	-	-	-	-	N/A

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
Bedroom 2	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 3	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 4	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 5	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 6	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 7	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 8	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 9	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 10	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 11	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 12	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 13	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 14	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 15	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 16	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 17	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 18	0.3	-	-	-	-	-	-	-	-	-	N/A
Dis WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Laundry Room	0.3	-	-	-	-	-	-	-	-	-	N/A
1st - Dis WC	0.3	-	-	-	-	-	-	-	-	-	N/A
2nd - Dis WC	0.3	-	-	-	-	-	-	-	-	-	N/A
B - Laundry	0.3	-	-	-	-	-	-	-	-	-	N/A

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
Standard value	95	80	0.3
Bedroom 1	140	-	-
Bedroom 2	140	-	-
Bedroom 3	140	-	-
Bedroom 4	140	-	-
Bedroom 5	140	-	-
Bedroom 6	140	-	-
Bedroom 7	140	-	-
Bedroom 8	140	-	-
Bedroom 9	140	-	-
Bedroom 10	140	-	-
Bedroom 11	140	-	-
Bedroom 12	140	-	-
Bedroom 13	140	-	-
Bedroom 14	140	-	-
Bedroom 15	140	-	-
Bedroom 16	140	-	-
Bedroom 17	140	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	**Efficacy [lm/W]**	**Efficacy [lm/W]**	**Power density [W/m²]**
Standard value	95	80	0.3
Bedroom 18	140	-	-
Lounge - GF	140	-	-
Lounge - 1st	140	-	-
Dis WC	140	-	-
Entrance	140	-	-
Entrance Hall	140	-	-
Reception	140	95	-
Office	140	-	-
Waiting Area	140	95	-
Nurse Station	140	-	-
Laundry Room	140	-	-
Dining Area	140	-	-
Dining Store	140	-	-
Laundry Store	140	-	-
Kitchen	140	-	-
Kitchen Store	140	-	-
Corridor	140	-	-
1st - Hallway	140	-	-
1st - Dis WC	140	-	-
1st - Nurse Station	140	-	-
1st - Corridor	140	-	-
2nd - Dis WC	140	-	-
2nd - Hallway	140	-	-
B - Hallway	140	-	-
B - Plant Room	140	-	-
B - Laundry	140	-	-
B - Kitchen	140	-	-
B - Kitchen Store	140	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Bedroom 1	NO (-76%)	NO
Bedroom 2	NO (-65%)	NO
Bedroom 3	NO (-69%)	NO
Bedroom 4	NO (-85%)	NO
Bedroom 5	NO (-83%)	NO
Bedroom 6	NO (-90%)	NO
Bedroom 7	NO (-91%)	NO
Bedroom 8	NO (-73%)	NO
Bedroom 9	NO (-68%)	NO
Bedroom 10	NO (-61%)	NO
Bedroom 11	NO (-55%)	NO
Bedroom 12	NO (-65%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Bedroom 13	NO (-89%)	NO
Bedroom 14	NO (-87%)	NO
Bedroom 15	NO (-90%)	NO
Bedroom 16	NO (-85%)	NO
Bedroom 17	NO (-87%)	NO
Bedroom 18	NO (-86%)	NO
Lounge - GF	NO (-16%)	NO
Lounge - 1st	NO (-31%)	NO
Reception	NO (-90%)	NO
Office	NO (-86%)	NO
Waiting Area	NO (-82%)	NO
Nurse Station	NO (-80%)	NO
Dining Area	NO (-73%)	NO
1st - Nurse Station	NO (-75%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	YES
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m^2]	775	775
External area [m^2]	1610	1610
Weather	LON	LON
Infiltration [m^3/hm^2@ 50Pa]	3	3
Average conductance [W/K]	470	542
Average U-value [W/m^2K]	0.29	0.34
Alpha value* [%]	31.5	16.5

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	Retail/Financial and Professional Services
	Restaurants and Cafes/Drinking Establishments/Takeaways
	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
	Storage or Distribution
	Hotels
100	**Residential Institutions: Hospitals and Care Homes**
	Residential Institutions: Residential Schools
	Residential Institutions: Universities and Colleges
	Secure Residential Institutions
	Residential Spaces
	Non-residential Institutions: Community/Day Centre
	Non-residential Institutions: Libraries, Museums, and Galleries
	Non-residential Institutions: Education
	Non-residential Institutions: Primary Health Care Building
	Non-residential Institutions: Crown and County Courts
	General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger Terminals
	Others: Emergency Services
	Others: Miscellaneous 24hr Activities
	Others: Car Parks 24 hrs
	Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	9.04	12.89
Cooling	1.64	2.84
Auxiliary	2.41	2.81
Lighting	6.79	8.39
Hot water	31.83	35.15
Equipment*	80.36	80.36
TOTAL**	**51.71**	**62.09**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*0*	*0*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m^2]	117.76	176.33
Primary energy [kWh_{PE}/m^2]	78.79	92.25
Total emissions [kg/m^2]	7.32	8.58

HVAC Systems Performance

System Type		Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Split or multi-split system, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	34.6	174.8	3.7	11	0	2.64	4.4	2.64	4.4
	Notional	0	302.4	0	19.1	0	2.64	4.4	----	----
[ST] Central heating using water: floor heating, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	262.1	0	27.6	0	3.6	2.64	0	2.64	0
	Notional	227	0	23.9	0	2.4	2.64	0	----	----
[ST] Central heating using water: floor heating, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	14.7	0	1.6	0	2.9	2.64	0	2.64	0
	Notional	42.1	0	4.4	0	1.7	2.64	0	----	----

Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type

Energy Performance Certificate

Non-Domestic Building

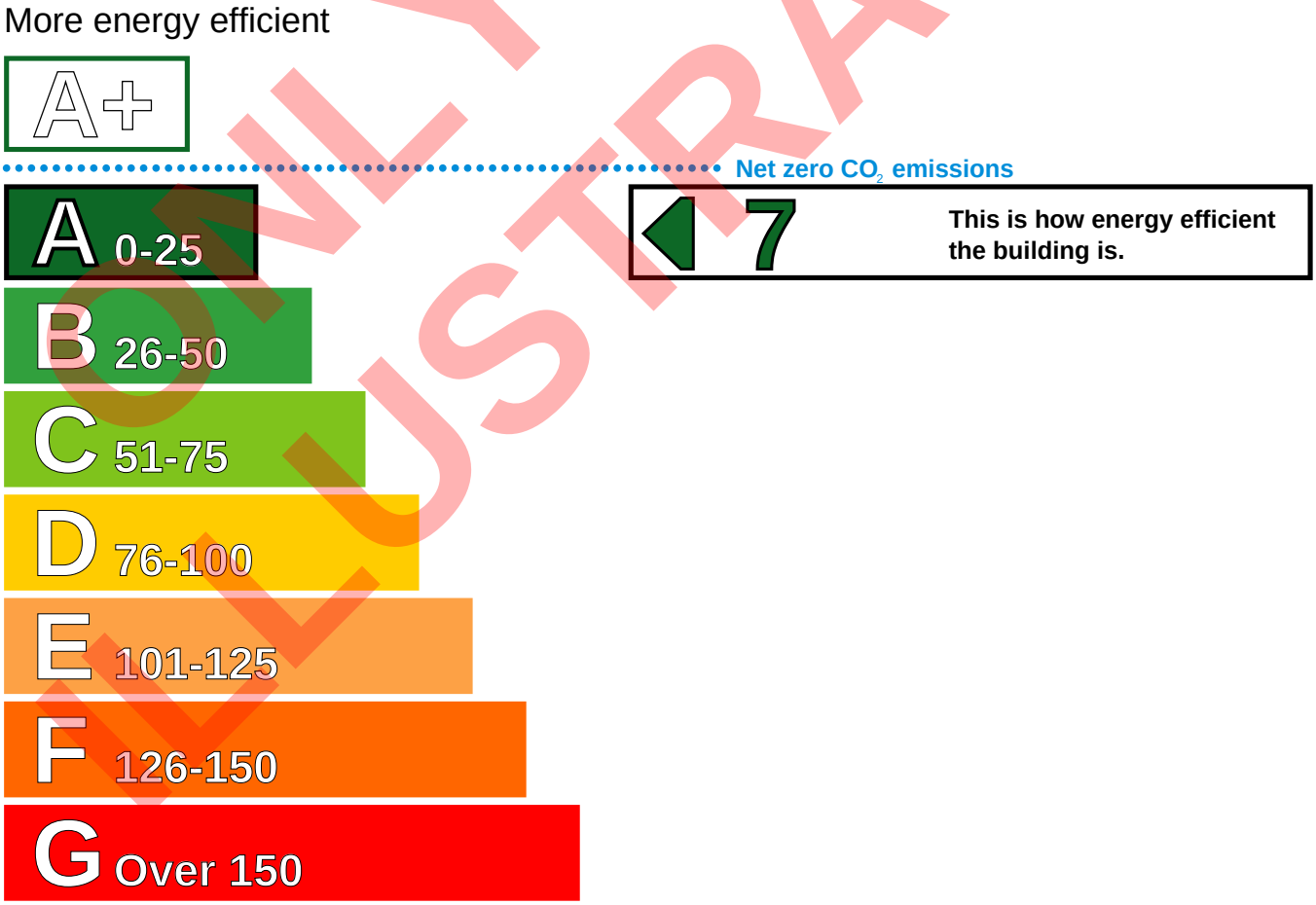
HM Government

9 Sharps Lane
Ruislip

Certificate Reference Number:
0417-0682-3218-8176-8515

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating



Technical information

Main heating fuel:	Grid Supplied Electricity
Building environment:	Heating and Natural Ventilation
Total useful floor area (m^2):	775
Building complexity:	Level 5
Building emission rate ($kgCO_2/m^2$ per year):	7.32
Primary energy use (kWh_{PE}/m^2 per year):	78.79

Benchmarks

Buildings similar to this one could have ratings as follows:

8 If newly built

33 If typical of the existing stock

Administrative information

This is an Energy Performance Certificate as defined in the Energy Performance of Buildings Regulations 2012 as amended.

Assessment Software:	TAS v9.5.6 using calculation engine TAS v9.5.6
Property Reference:	
Assessor Name:	Jason Welsh
Assessor Number:	LCEA122167
Accreditation Scheme:	CIBSE Certification Limited
Assessor Qualifications:	NOS5
Employer/Trading Name:	Elmstead Energy Assessors & Building Services
Employer/Trading Address:	Suite 3, Aster House, Lanswood Park, Elmstead Market, Colchester, CO7 7FD
Issue Date:	03 Oct 2025
Valid Until:	02 Oct 2035 (unless superseded by a later certificate)
Related Party Disclosure:	Not related to the owner

Recommendations for improving the energy performance of the building are contained in the associated Recommendation Report: 6600-1147-9358-2712-3164

About this document and the data in it

This document has been produced following an energy assessment undertaken by a qualified Energy Assessor, accredited by CIBSE Certification Limited. You can obtain contact details of the Accreditation Scheme at www.cibsecertification.com.

A copy of this certificate has been lodged on a national register as a requirement under the Energy Performance of Buildings Regulations 2012 as amended. It will be made available via the online search function at www.ndepcregister.com. The certificate (including the building address) and other data about the building collected during the energy assessment but not shown on the certificate, for instance heating system data, will be made publicly available at www.opendatacommunities.org.

This certificate and other data about the building may be shared with other bodies (including government departments and enforcement agencies) for research, statistical and enforcement purposes. For further information about how data about the property are used, please visit www.ndepcregister.com. To opt out of having information about your building made publicly available, please visit www.ndepcregister.com/optout.

There is more information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government website at: www.gov.uk/government/collections/energy-performance-certificates. It explains the content and use of this document and advises on how to identify the authenticity of a certificate and how to make a complaint.

Opportunity to benefit from a Green Deal on this property

The Green Deal can help you cut your energy bills by making energy efficiency improvements at no upfront costs. Use the Green Deal to find trusted advisors who will come to your property, recommend measures that are right for you and help you access a range of accredited installers. Responsibility for repayments stays with the property - whoever pays the energy bills benefits so they are responsible for the payments.

To find out how you could use Green Deal finance to improve your property please call 0300 123 1234.

Appendix B - Be Green Stage Part L 2021 BRUKL Document and Predicted Energy Assessment

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

Project name

Be Green - 9 Sharps Lane

As designed

Date: Fri Oct 03 15:02:30 2025

Administrative information

Building Details

Address: 9 Sharps Lane, Ruislip,

Certifier details

Name: Jason Welsh

Telephone number: 01206 489019

Address: EEABS, Suite 3, Aster House, Lanswood Park, Elmstead Market, Colchester, CO7 7FD

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.5.6"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.5.6

BRUKL compliance module version: v6.1.e.0

Foundation area [m^2]: 235.41

The CO_2 emission and primary energy rates of the building must not exceed the targets

Target CO_2 emission rate (TER), $kgCO_2/m^2.annum$	8.58	
Building CO_2 emission rate (BER), $kgCO_2/m^2.annum$	5.44	
Target primary energy rate (TPER), $kWh_{PE}/m^2.annum$	92.25	
Building primary energy rate (BPER), $kWh_{PE}/m^2.annum$	57.77	
Do the building's emission and primary energy rates exceed the targets?	BER =< TER	BPER =< TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	First surface with maximum value
Walls*	0.26	0.17	0.17	External Wall - Ex
Floors	0.18	0.1	0.1	Ground Floor
Pitched roofs	0.16	0.11	0.11	Roof - Pro
Flat roofs	0.18	0.11	0.11	Flat Roof
Windows** and roof windows	1.6	1.2	1.2	Win 3b
Rooflights***	2.2	-	-	No rooflights in project
Personnel doors^	1.6	1.21	1.21	Ent Door 1
Vehicle access & similar large doors	1.3	-	-	No vehicle access or similar large doors in project
High usage entrance doors	3	-	-	No high usage entrance doors in project

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$] $U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m^2K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
$m^3/(h.m^2)$ at 50 Pa	8	3

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- ASHP - AC (3 Zones)

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	3.5	6	-	-	-
Standard value	2.5*	5	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

2- ASHP - Nat Vent

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	3.5	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

3- ASHP - Extract (23 Zones)

	Heating efficiency	**Cooling efficiency**	**Radiant efficiency**	**SFP [W/(l/s)]**	**HR efficiency**
This system	3.5	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

1- ASHP HW

	Water heating efficiency	**Storage loss factor [kWh/litre per day]**
This building	3.2	0
Standard value	2*	N/A
* Standard shown is for all types except absorption and gas engine heat pumps.		

Zone-level mechanical ventilation, exhaust, and terminal units

ID	**System type in the Approved Documents**
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter
NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.	

Zone name	**SFP [W/(l/s)]**									**HR efficiency**	
ID of system type	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	**Zone**	**Standard**
Bedroom 1	0.3	-	-	-	-	-	-	-	-	-	N/A

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
Bedroom 2	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 3	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 4	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 5	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 6	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 7	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 8	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 9	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 10	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 11	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 12	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 13	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 14	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 15	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 16	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 17	0.3	-	-	-	-	-	-	-	-	-	N/A
Bedroom 18	0.3	-	-	-	-	-	-	-	-	-	N/A
Dis WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Laundry Room	0.3	-	-	-	-	-	-	-	-	-	N/A
1st - Dis WC	0.3	-	-	-	-	-	-	-	-	-	N/A
2nd - Dis WC	0.3	-	-	-	-	-	-	-	-	-	N/A
B - Laundry	0.3	-	-	-	-	-	-	-	-	-	N/A

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
Standard value	95	80	0.3
Bedroom 1	140	-	-
Bedroom 2	140	-	-
Bedroom 3	140	-	-
Bedroom 4	140	-	-
Bedroom 5	140	-	-
Bedroom 6	140	-	-
Bedroom 7	140	-	-
Bedroom 8	140	-	-
Bedroom 9	140	-	-
Bedroom 10	140	-	-
Bedroom 11	140	-	-
Bedroom 12	140	-	-
Bedroom 13	140	-	-
Bedroom 14	140	-	-
Bedroom 15	140	-	-
Bedroom 16	140	-	-
Bedroom 17	140	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	**Efficacy [lm/W]**	**Efficacy [lm/W]**	**Power density [W/m²]**
Standard value	95	80	0.3
Bedroom 18	140	-	-
Lounge - GF	140	-	-
Lounge - 1st	140	-	-
Dis WC	140	-	-
Entrance	140	-	-
Entrance Hall	140	-	-
Reception	140	95	-
Office	140	-	-
Waiting Area	140	95	-
Nurse Station	140	-	-
Laundry Room	140	-	-
Dining Area	140	-	-
Dining Store	140	-	-
Laundry Store	140	-	-
Kitchen	140	-	-
Kitchen Store	140	-	-
Corridor	140	-	-
1st - Hallway	140	-	-
1st - Dis WC	140	-	-
1st - Nurse Station	140	-	-
1st - Corridor	140	-	-
2nd - Dis WC	140	-	-
2nd - Hallway	140	-	-
B - Hallway	140	-	-
B - Plant Room	140	-	-
B - Laundry	140	-	-
B - Kitchen	140	-	-
B - Kitchen Store	140	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Bedroom 1	NO (-76%)	NO
Bedroom 2	NO (-65%)	NO
Bedroom 3	NO (-69%)	NO
Bedroom 4	NO (-85%)	NO
Bedroom 5	NO (-83%)	NO
Bedroom 6	NO (-90%)	NO
Bedroom 7	NO (-91%)	NO
Bedroom 8	NO (-73%)	NO
Bedroom 9	NO (-68%)	NO
Bedroom 10	NO (-61%)	NO
Bedroom 11	NO (-55%)	NO
Bedroom 12	NO (-65%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Bedroom 13	NO (-89%)	NO
Bedroom 14	NO (-87%)	NO
Bedroom 15	NO (-90%)	NO
Bedroom 16	NO (-85%)	NO
Bedroom 17	NO (-87%)	NO
Bedroom 18	NO (-86%)	NO
Lounge - GF	NO (-16%)	NO
Lounge - 1st	NO (-31%)	NO
Reception	NO (-90%)	NO
Office	NO (-86%)	NO
Waiting Area	NO (-82%)	NO
Nurse Station	NO (-80%)	NO
Dining Area	NO (-73%)	NO
1st - Nurse Station	NO (-75%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	YES
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m^2]	775	775
External area [m^2]	1610	1610
Weather	LON	LON
Infiltration [m^3/hm^2@ 50Pa]	3	3
Average conductance [W/K]	470	542
Average U-value [W/m^2K]	0.29	0.34
Alpha value* [%]	31.5	16.5

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	Retail/Financial and Professional Services
	Restaurants and Cafes/Drinking Establishments/Takeaways
	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
	Storage or Distribution
	Hotels
100	**Residential Institutions: Hospitals and Care Homes**
	Residential Institutions: Residential Schools
	Residential Institutions: Universities and Colleges
	Secure Residential Institutions
	Residential Spaces
	Non-residential Institutions: Community/Day Centre
	Non-residential Institutions: Libraries, Museums, and Galleries
	Non-residential Institutions: Education
	Non-residential Institutions: Primary Health Care Building
	Non-residential Institutions: Crown and County Courts
	General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger Terminals
	Others: Emergency Services
	Others: Miscellaneous 24hr Activities
	Others: Car Parks 24 hrs
	Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	6.82	12.89
Cooling	1.2	2.84
Auxiliary	2.41	2.81
Lighting	6.79	8.39
Hot water	28.45	35.15
Equipment*	80.36	80.36
TOTAL**	**45.67**	**62.09**

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	8.06	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*8.06*	*0*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m^2]	117.76	176.33
Primary energy [kWh_{PE}/m^2]	57.77	92.25
Total emissions [kg/m^2]	5.44	8.58

HVAC Systems Performance

System Type		Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Split or multi-split system, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	34.6	174.8	2.8	8.1	0	3.5	6	3.5	6
	Notional	0	302.4	0	19.1	0	2.64	4.4	----	----
[ST] Central heating using water: floor heating, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	262.1	0	20.8	0	3.6	3.5	0	3.5	0
	Notional	227	0	23.9	0	2.4	2.64	0	----	----
[ST] Central heating using water: floor heating, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
	Actual	14.7	0	1.2	0	2.9	3.5	0	3.5	0
	Notional	42.1	0	4.4	0	1.7	2.64	0	----	----

Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type

Energy Performance Certificate

Non-Domestic Building

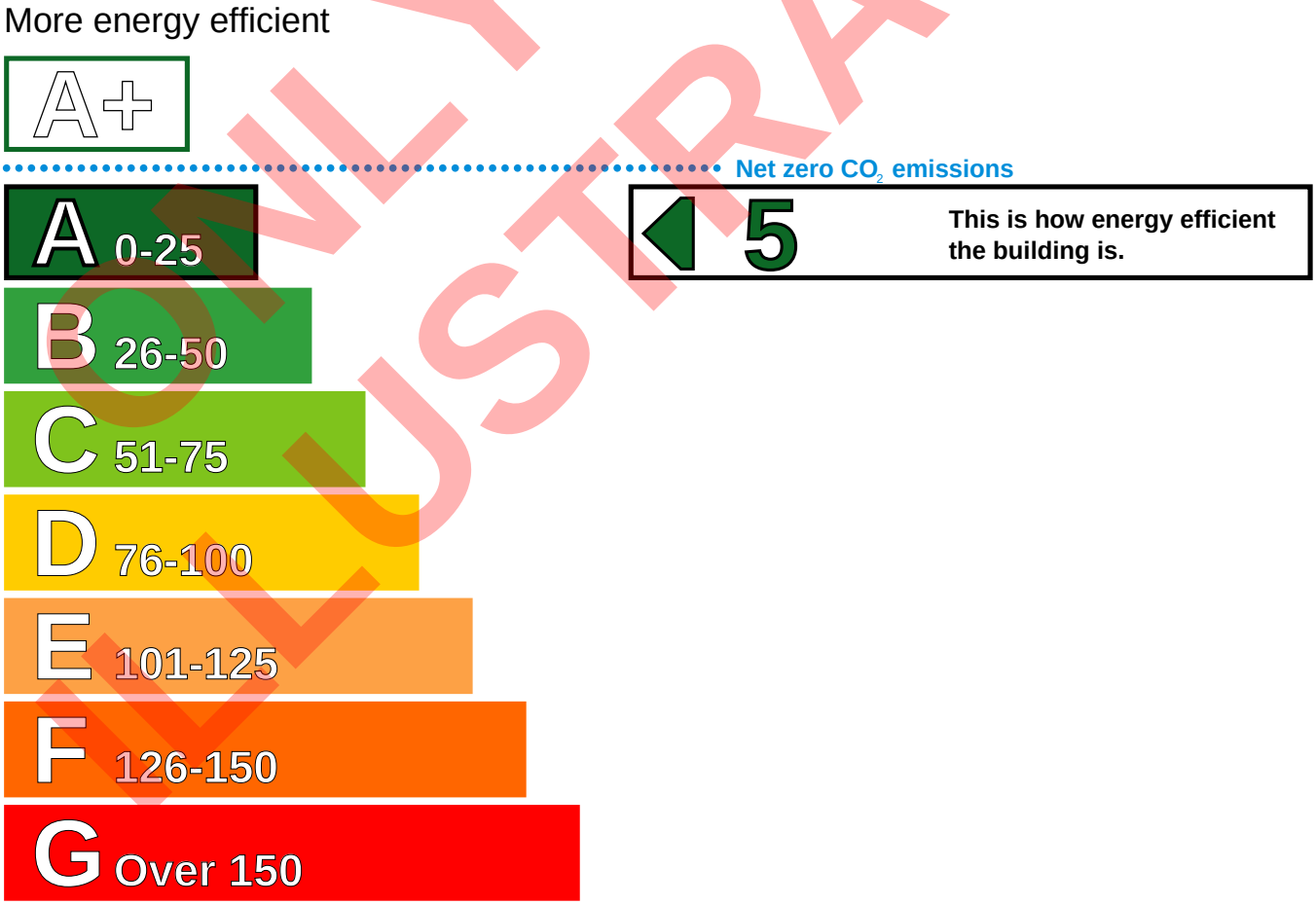
HM Government

9 Sharps Lane
Ruislip

Certificate Reference Number:
5831-2425-4608-1761-6381

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating



Technical information

Main heating fuel:	Grid Supplied Electricity
Building environment:	Heating and Natural Ventilation
Total useful floor area (m^2):	775
Building complexity:	Level 5
Building emission rate ($kgCO_2/m^2$ per year):	5.44
Primary energy use (kWh_{PE}/m^2 per year):	57.77

Benchmarks

Buildings similar to this one could have ratings as follows:

8 If newly built

33 If typical of the existing stock

Administrative information

This is an Energy Performance Certificate as defined in the Energy Performance of Buildings Regulations 2012 as amended.

Assessment Software:	TAS v9.5.6 using calculation engine TAS v9.5.6
Property Reference:	
Assessor Name:	Jason Welsh
Assessor Number:	LCEA122167
Accreditation Scheme:	CIBSE Certification Limited
Assessor Qualifications:	NOS5
Employer/Trading Name:	Elmstead Energy Assessors & Building Services
Employer/Trading Address:	Suite 3, Aster House, Lanswood Park, Elmstead Market, Colchester, CO7 7FD
Issue Date:	03 Oct 2025
Valid Until:	02 Oct 2035 (unless superseded by a later certificate)
Related Party Disclosure:	Not related to the owner

Recommendations for improving the energy performance of the building are contained in the associated Recommendation Report: 7671-2923-0708-2589-9149

About this document and the data in it

This document has been produced following an energy assessment undertaken by a qualified Energy Assessor, accredited by CIBSE Certification Limited. You can obtain contact details of the Accreditation Scheme at www.cibsecertification.com.

A copy of this certificate has been lodged on a national register as a requirement under the Energy Performance of Buildings Regulations 2012 as amended. It will be made available via the online search function at www.ndepcregister.com. The certificate (including the building address) and other data about the building collected during the energy assessment but not shown on the certificate, for instance heating system data, will be made publicly available at www.opendatacommunities.org.

This certificate and other data about the building may be shared with other bodies (including government departments and enforcement agencies) for research, statistical and enforcement purposes. For further information about how data about the property are used, please visit www.ndepcregister.com. To opt out of having information about your building made publicly available, please visit www.ndepcregister.com/optout.

There is more information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government website at: www.gov.uk/government/collections/energy-performance-certificates. It explains the content and use of this document and advises on how to identify the authenticity of a certificate and how to make a complaint.

Opportunity to benefit from a Green Deal on this property

The Green Deal can help you cut your energy bills by making energy efficiency improvements at no upfront costs. Use the Green Deal to find trusted advisors who will come to your property, recommend measures that are right for you and help you access a range of accredited installers. Responsibility for repayments stays with the property - whoever pays the energy bills benefits so they are responsible for the payments.

To find out how you could use Green Deal finance to improve your property please call 0300 123 1234.

Appendix C - GLA Carbon Emissions Reporting Spreadsheet Output

Table 3: Carbon Dioxide Emissions after each stage of the Energy Hierarchy for non-residential buildings

	Carbon Dioxide Emissions for non-residential buildings (Tonnes CO_2 per annum)	
	Regulated	Unregulated
Baseline: Part L 2021 of the Building Regulations Compliant Development	6.6	
After energy demand reduction (be lean)	5.7	
After heat network connection (be clean)	5.7	
After renewable energy (be green)	4.2	

Table 4: Regulated Carbon Dioxide savings from each stage of the Energy Hierarchy for non-residential buildings

	Regulated non-residential carbon dioxide savings	
	(Tonnes CO_2 per annum)	(%)
Be lean: savings from energy demand reduction	1.0	15%
Be clean: savings from heat network	0.0	0%
Be green: savings from renewable energy	1.5	22%
Total Cumulative Savings	**2.4**	**37%**
Annual savings from off-set payment	4.2	-
	(Tonnes CO_2)	
Cumulative savings for off-set payment	**126**	-
Cash in-lieu contribution (£)	**12,016**	

*carbon price is based on GLA recommended price of £95 per tonne of carbon dioxide unless Local Planning Authority price is inputted in the 'Development