



Unit 11 High Cross Centre London N15 4QL

Energy and Sustainability Statement

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1.0 Executive Summary

EEABS (Elmstead Energy Assessments & Building Services) were instructed to produce an Energy and Sustainability Statement for the proposed development located at Unit 11 High Cross, London N15 4QL.

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

Relevant Planning Policies

The Haringey Local Plan Strategic Policies 2013-2026 (Adopted March 2013) Policy SP4 states that all new developments should take measures to reduce energy use and carbon emissions during design, construction, and occupation in line with London Plan Policy.

The Haringey Development management DPD (Adopted July 2017) Policy DM21 states that new development will be expected to consider and implement sustainable design, layout, and construction techniques. Proposals should apply the energy hierarchy to minimise energy use to meet the carbon reduction requirements and also apply the cooling hierarchy to reduce the potential for overheating.

Where it can be demonstrated that proposals are unable to meet the carbon dioxide emission reduction targets on-site, consideration will be given to the use of carbon offset payments.

The Haringey Validation Checklist (August 2024) states that major developments are required to submit an energy statement verifying the carbon emission savings achieved (with supporting detailed carbon calculation worksheets) and a sustainability statement providing details of how the development proposes to reduce the energy, water, and materials used in its construction, as well as how it will incorporate circular economy principles.

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 for the Development

	Carbon Dioxide Emissions (Tonnes CO ₂ per annum)	CO ₂ Savings (Tonnes CO ₂ per annum)	CO ₂ Savings (%)
Baseline	5.71	-	-
Be Lean	4.56	1.15	20%
Be Clean	4.56	0.00	0%
Be Green	2.72	1.84	32%
Cumulative Savings		2.99	52%
Carbon Shortfall to Offset	2.72		
Carbon Offset Contribution	£95 x 30 years x 2.72 tCO ₂ =	£7,752	100%

The Be Lean Stage Results show that the total carbon emissions will be 1.88 kgCO₂/m² (7.62 tonnes) compared to 1.41 kgCO₂/m² (5.71 tonnes) for the baseline. However, the savings from the Notional PV system have to be removed from the Be Lean Stage emissions, this therefore makes the Be Lean stage carbon emissions to be 1.13 kgCO₂/m² (4.56 tonnes).

This is an improvement of 20%, 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 0.67 kgCO₂/m² (2.72 tonnes) compared to 1.41 kgCO₂/m² (5.71 tonnes) for the baseline. This is an improvement of 52%, therefore comfortably meeting the 35% energy efficiency target of the London Plan and even the further aspirational target of at least 50%.

The building would also receive an extremely good EPC rating of an A (4).

The final results show that the development would still be emitting 2.72 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 £7,752 can be made to the local authority.

Sustainability

Some of the main areas of sustainability such as Overheating Risk, Water Efficiency, Circular Economy, Air Quality, Biodiversity, and Sustainable Transport have also been considered within this report and have demonstrated how the proposed development will comply with local planning requirements.

Conclusion

This Energy and Sustainability Statement has shown that the proposed development located at Unit 11 High Cross, London N15 4QL would comfortably meet the energy and sustainability requirements of Haringey Local Planning Policy, The London Plan, and Part L 2021 Building Regulations.

All relevant areas of sustainability have attempted to be considered within this statement to satisfy Haringey 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 and Sustainability Statement for the proposed development of Unit 11 High Cross, London N15 4QL.

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

2.1 Proposed Development

The proposed Site is located at Unit 11 High Cross, London N15 4QL. Proposed floor plans and elevations can be seen below. Please see the architectural submitted documents for full details.

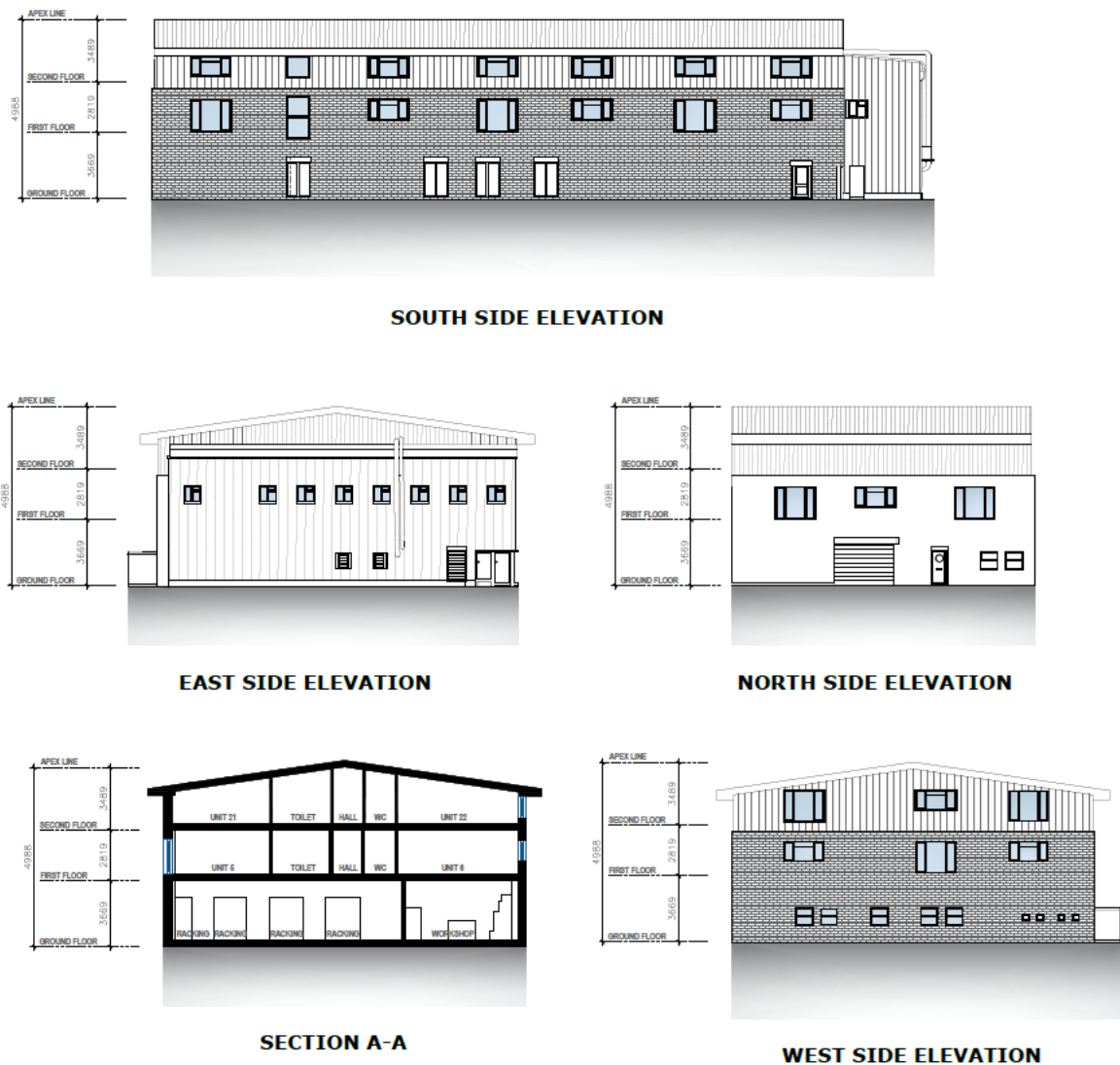
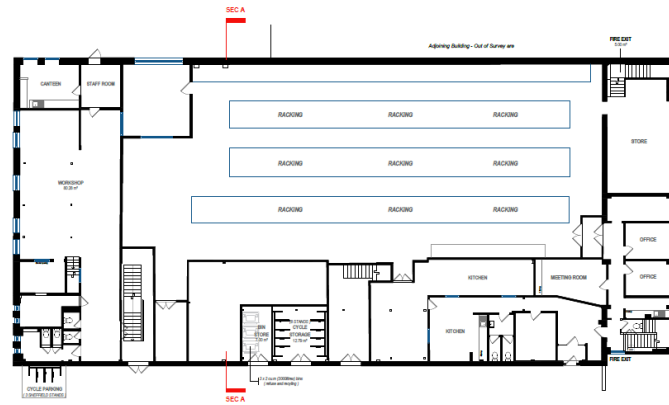
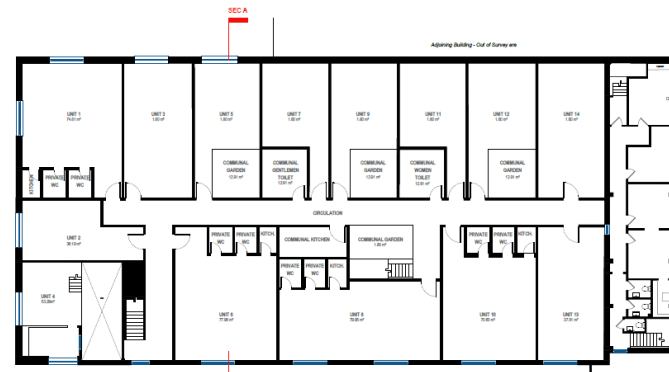


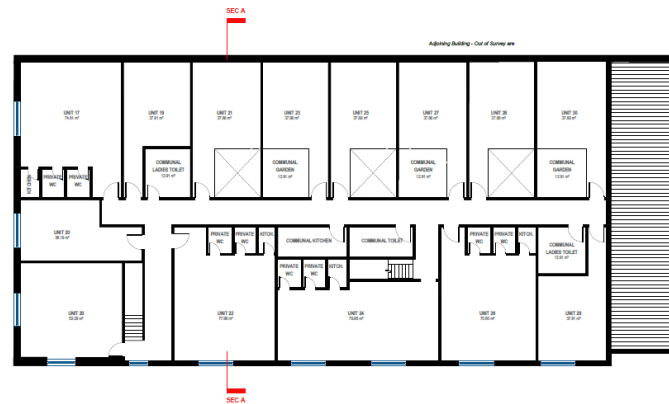
Figure 1 - Proposed Elevations



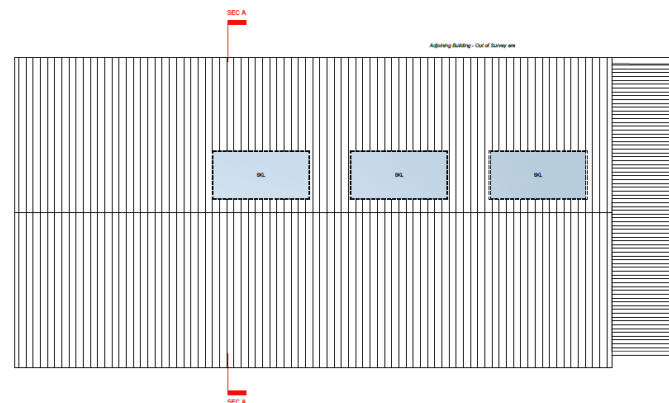
PROPOSED GROUND FLOOR



PROPOSED FIRST FLOOR



PROPOSED SECOND FLOOR



PROPOSED ROOF PLAN

Figure 2 - Proposed Floor Plans

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 Haringey Planning Policy

The Haringey Local Plan Strategic Policies 2013-2026 (Adopted March 2013) Policy SP4 states that all new developments should take measures to reduce energy use and carbon emissions during design, construction, and occupation in line with London Plan Policy.

The Haringey Development management DPD (Adopted July 2017) Policy DM21 states that new development will be expected to consider and implement sustainable design, layout, and construction techniques. Proposals should apply the energy hierarchy to minimise energy use to meet the carbon reduction requirements and also apply the cooling hierarchy to reduce the potential for overheating.

Where it can be demonstrated that proposals are unable to meet the carbon dioxide emission reduction targets on-site, consideration will be given to the use of carbon offset payments.

The Haringey Validation Checklist (August 2024) states that major developments are required to submit an energy statement verifying the carbon emission savings achieved (with supporting detailed carbon calculation worksheets) and a sustainability statement providing details of how the development proposes to reduce the energy, water, and materials used in its construction, as well as how it will incorporate circular economy principles.

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, however there is also an aspirational target benchmark of at least a 50% improvement on Building Regulations. 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.

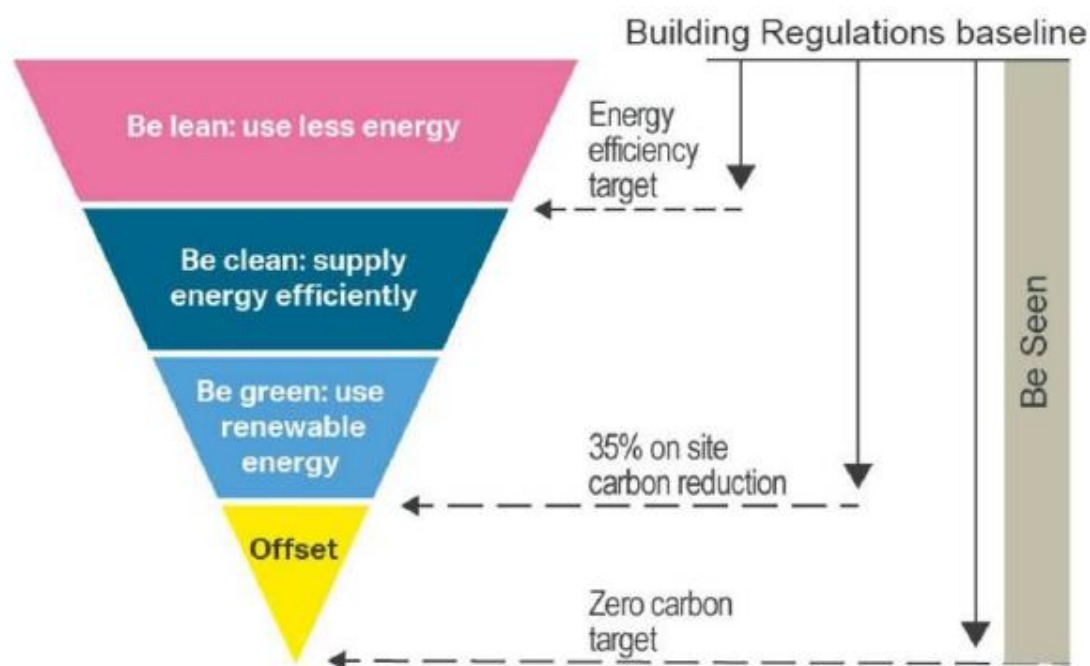


Figure 3 - London Plan Energy Hierarchy and Targets

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

To calculate the estimated carbon emissions for the non-domestic 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/m².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 air-conditioned spaces.

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 roof 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 m³/h.m² that must be achieved, the proposed development will target a value of 3.00 m³/h.m².

Summary of Passive Design Measures

The table below shows a summary of the passive design measures included for 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	0.18 W/m ² .K	31%
Floors	0.18 W/m ² .K	0.18 W/m ² .K	0%
Roofs	0.18 W/m ² .K	0.14 W/m ² .K	22%
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 is to be supplied by air conditioning systems with a seasonal coefficient of performance (SCOP) of at least 4.00, 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 4.00 will be used at the Be Green Stage).

Ancillary areas such as stores, corridors, and toilets will have heating only provided by local electric heaters.

Cooling

The buildings main occupied rooms will 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 local point of use electric water heaters.

Lighting

The lighting will consist of low energy LED lighting throughout with a minimum light source efficacy of at least 140 lm/W. Main occupied rooms will have manual on, auto off controls and ancillary areas such as stores, corridors, and toilets will have automatic on/off control.

Ventilation

The main occupied rooms will have a mechanical ventilation heat recovery with a specific fan power of 1.2 W/l/s and a heat recovery efficiency of 80%.

Toilet and kitchen areas will have local extract only mechanical ventilation.

4.2.3 Regulated and Unregulated Energy Sources

Regulated energy sources are those that fall under the Building Regulations such as Space Heating, Hot Water, Space Cooling, Lighting and Auxiliary Loads (Pumps, Fans, and Controls). Unregulated energy sources such as small power, are not a part of the Part L Assessment however every effort should be made in order to reduce the consumption from unregulated sources.

To reduce the demand from unregulated sources the following is recommended:

- Any White Goods installed should be at least A/A+ rated.
- Occupants should be encouraged to turn TVs, computers etc. off when not in use.

4.2.4 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.

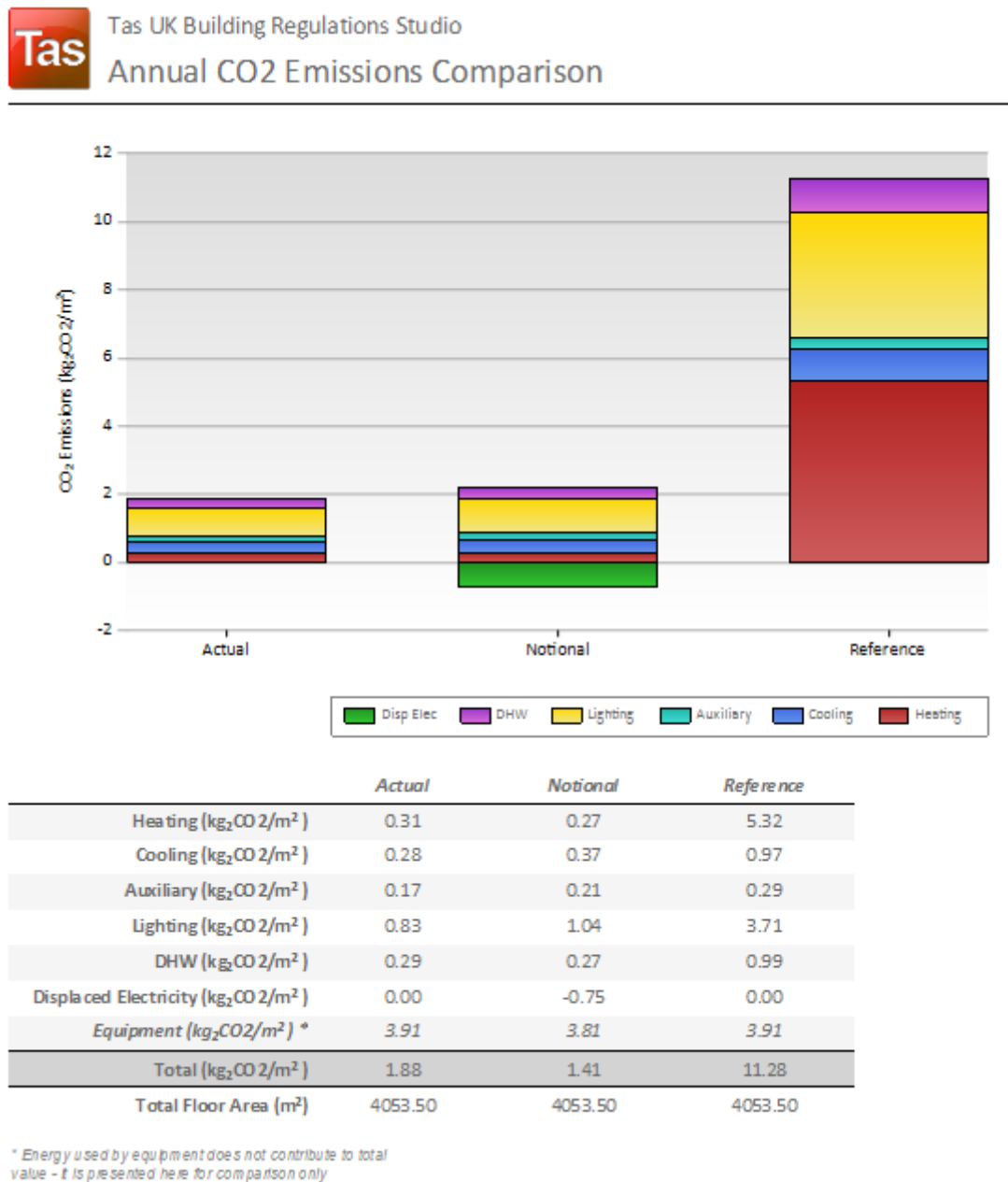


Figure 4 - Be Lean Stage Results

The Be Lean Stage Results show that the total carbon emissions will be 1.88 kgCO₂/m² (7.62 tonnes) compared to 1.41 kgCO₂/m² (5.71 tonnes) for the baseline. However, the savings from the Notional PV system have to be removed from the Be Lean Stage emissions, this therefore makes the Be Lean stage carbon emissions to be 1.13 kgCO₂/m² (4.56 tonnes).

This is an improvement of 20%, 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 approximately 300m from a proposed heat network and nowhere close to an existing heat network.

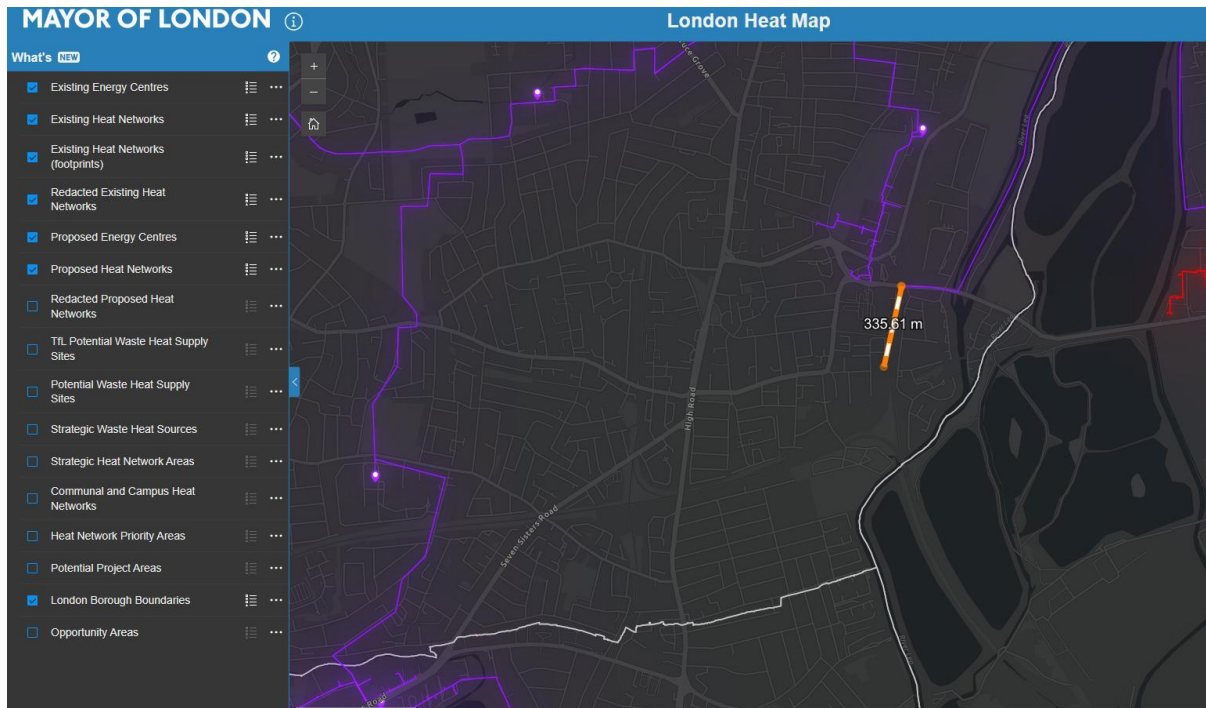


Figure 5 - London Plan Heat Map

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.

4.4 Be Green

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

4.4.1 Assessment of Renewable / Low Carbon Technologies

The table below provides a brief analysis of the different renewables and low carbon technologies considered for the site and comments on their overall feasibility.

Table 3 - Low Carbon and Renewable Technologies Analysis

Low Carbon or Renewable Technology	Comments	Feasible
Air Source Heat Pumps	ASHPs can be used to provide both heating and cooling. With a high Seasonal Coefficient of Performance (SCOP) the benefit of a providing heating from an ASHP could outweigh the use of a gas boiler. ASHP can be used to provide both the heating and cooling required and can be placed on the external walls of the building.	Yes
Ground Source Heat Pumps	Ground Source Heat Pumps are usually more efficient than ASHP as the temperature of the ground is more stable throughout the year. However, the installation of Ground Source is complex, requiring a lot of free ground area, and would not be economically or practically feasible for this project.	No
Photovoltaic Solar Panels	PV panels are a simple to install technology that can produce green electricity with very little ongoing maintenance. There is ample suitable roof space that can be used to hold a number of PV Panels.	Yes
Solar Hot Water Panels	Solar Hot Water Panels would also need to be installed on the roof of the development. There is thought to be a low requirement for hot water and therefore the roof would be better suited to the PV panels, as these can provide electricity for all of the buildings uses.	No
Biomass Boiler	A biomass boiler uses wood chips/pellets and would need a constant supply. A large storage area would be required to store the fuel on the site. There are also concerns with local air quality.	No
Wind Turbines	Large wind turbines would be required to produce any significant electrical savings. As the development is close to existing buildings the installation of any such turbine would be unfeasible.	No

From brief assessment of the various renewable technologies available we can see that air source heat pumps and solar PV panels would be the most feasible renewable technologies to install.

4.4.2 Air Source Heat Pumps

As discussed under the Be Lean section, the building is to be both heated and cooled from an air conditioning system. Under the Be Green stage of the assessment the actual proposed heating and cooling efficiencies can now be used within the calculation.

The air conditioning system will have at least a heating SCOP value of 4.00 and a cooling SEER value of 6.00.

4.4.3 Solar PV Panels

There is sufficient roof space to allow for at least 80 No. PV panels to be installed. We have assumed that these would be 500-Watt panels providing a total system size of 40 kW. If following detailed design stages more solar PV will be able to feasibly fit on the roof, then this will be explored and implemented. PV on the other side of the roof is likely to suffer from overshadowing, which is why only one part of the roof has been considered.

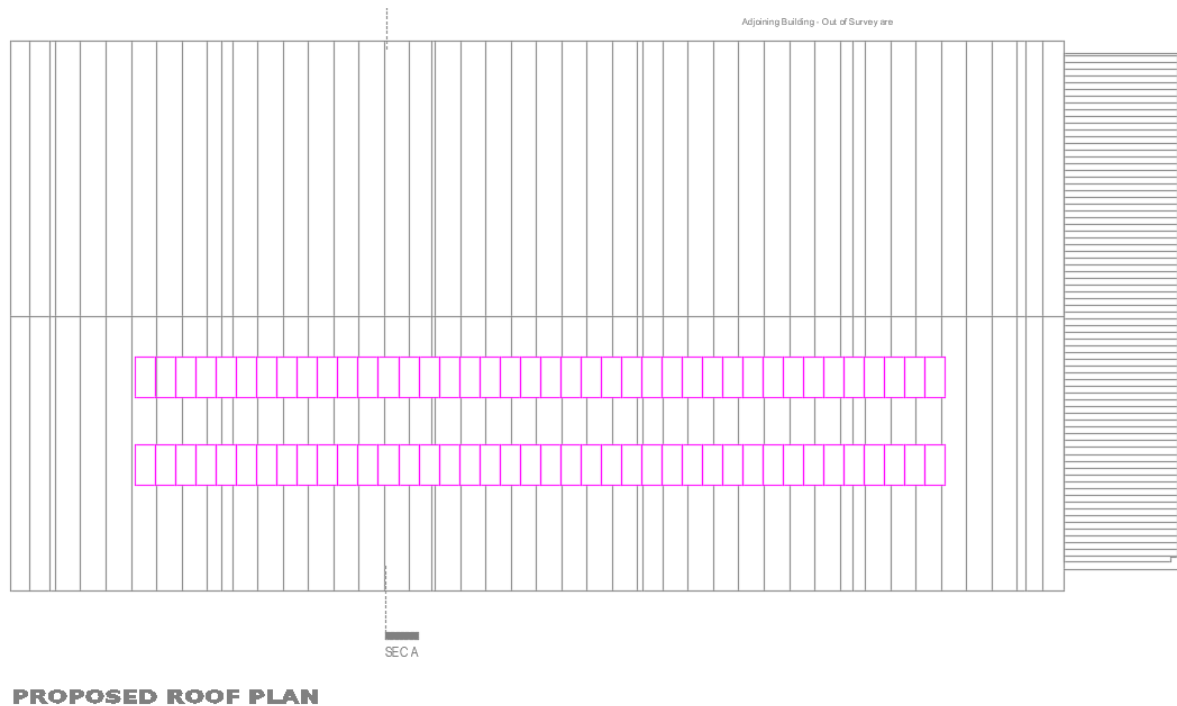


Figure 6 - Indicative Solar PV Layout

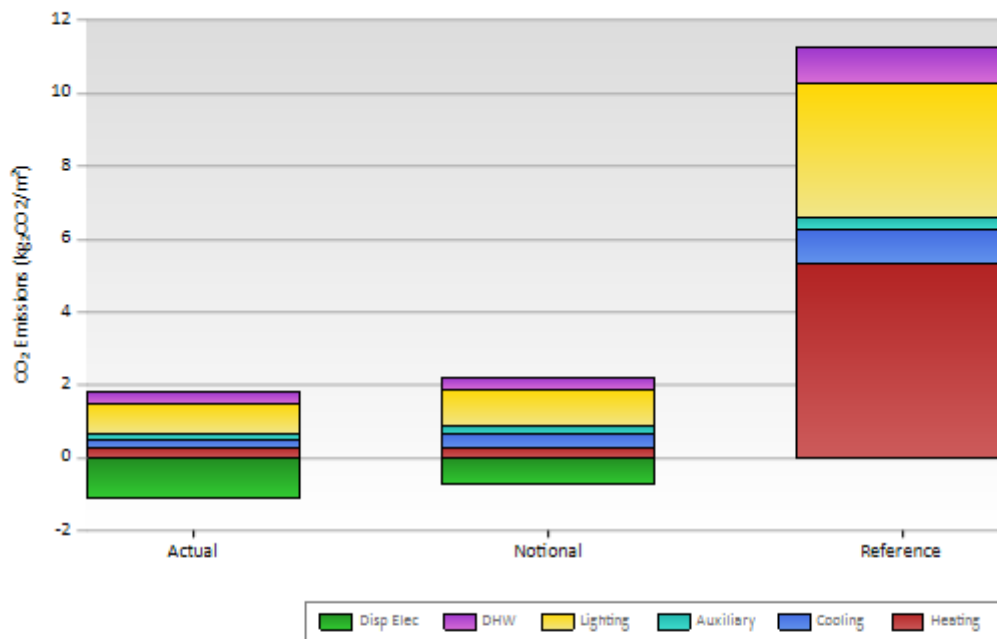
4.4.4 Be Green Stage Results

The results in figure 7 below show total carbon emissions in kgCO₂/m² for the proposed design at the Be Green stage.

The Be Green Stage Results show that the total carbon emissions will be 0.67 kgCO₂/m² (2.72 tonnes) compared to 1.41 kgCO₂/m² (5.71 tonnes) for the baseline. This is an improvement of 52%, therefore comfortably meeting the 35% energy efficiency target of the London Plan and even the further aspirational target of at least 50%.

The building would also receive an extremely good EPC rating of an A (4).

The Part L BRUKL Documents and predicted EPCs for the development at each stage of the energy hierarchy can be found within the appendices.



	Actual	Notional	Reference
Heating (kg ₂ CO ₂ /m ²)	0.28	0.27	5.32
Cooling (kg ₂ CO ₂ /m ²)	0.20	0.37	0.97
Auxiliary (kg ₂ CO ₂ /m ²)	0.17	0.21	0.29
Lighting (kg ₂ CO ₂ /m ²)	0.83	1.04	3.71
DHW (kg ₂ CO ₂ /m ²)	0.29	0.27	0.99
Displaced Electricity (kg ₂ CO ₂ /m ²)	-1.11	-0.75	0.00
Equipment (kg ₂ CO ₂ /m ²) *	3.91	3.81	3.91
Total (kg₂CO₂/m²)	0.67	1.41	11.28
Total Floor Area (m ²)	4053.50	4053.50	4053.50

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

Figure 7 - Be Green Stage Results

4.5 Carbon Offset Payment

The final results show that the development would still be emitting 2.72 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:

$$2.72 \text{ Tonnes} \times £95 \times 30 \text{ years} = £7,752$$

5.0 Sustainability

5.1 Overheating

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

5.1.1 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 solar gain G-Values will reduce the amount of heat transferring through to the occupants.

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

Mechanical supply and extract ventilation system have also been proposed for the main occupied rooms of the development.

By following the above overheating/cooling strategy the risk of internal overheating to the development would be minimised.

This would also help to reduce the amount of comfort cooling required by the occupants by 29% in comparison to the Part L baseline building under the London Plan.

5.2 Water Efficiency

All taps, toilets and showers will be specified that are considered to be low water use.

The more stringent maximum fittings consumption optional requirement level figures from Part G will be targeted. The table below provides typical consumption figures for each fitting.

Table 2.2 Maximum fittings consumption optional requirement level	
Water fitting	Maximum consumption
WC	4/2.6 litres dual flush
Shower	8 l/min
Bath	170 litres
Basin taps	5 l/min
Sink taps	6 l/min
Dishwasher	1.25 l/place setting
Washing machine	8.17 l/kilogram

Figure 8 - Maximum Fittings Consumption for Water Efficiency

Additional water saving measures such as ensuring that the building is on a water meter will also be installed.

5.3 Circular Economy

A Circular Economy is one where materials are retained in use at their highest value for as long as possible and are then reused or recycled, leaving a minimum of residual waste.

The end goal is to retain the value of materials and resources indefinitely, with no residual waste at all. This is possible, requiring transformational change in the way that buildings are designed, built, operated, and deconstructed.

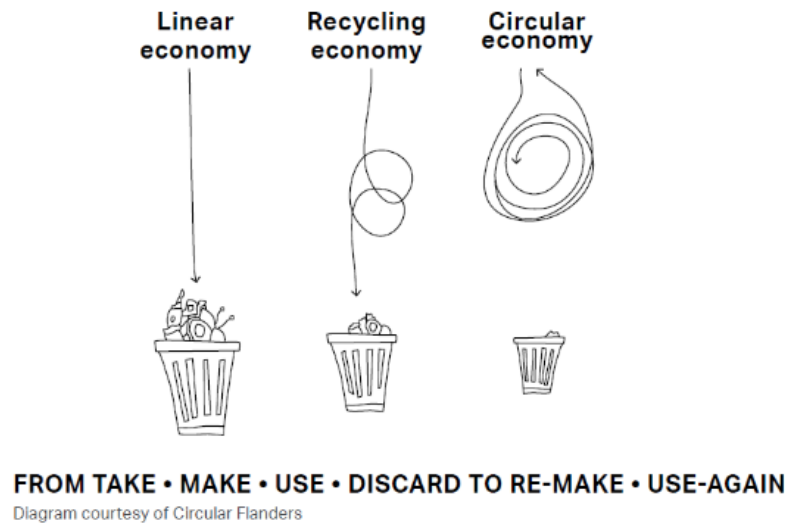


Figure 9 - Circular Economy Diagram

The project team's circular economy aspirations can be summarised as follows:

- Retain and upgrade the existing building wherever feasible, with particular emphasis on the primary structure and external walls, thereby avoiding the embodied carbon associated with wholesale demolition and reconstruction.
- Minimise new material demand by designing efficient structural interventions, optimising spans and using non-loadbearing partitions to enable flexible layouts over time.
- Select materials with low environmental impact, high recycled content and strong potential for future reuse or recycling, including aluminium, steel, timber from certified sources and products with Environmental Product Declarations.
- Organise the building into clear layers – structure, envelope, services and fit-out – to support future adaptation, maintenance and replacement without disturbing long-life elements.
- Implement robust construction-phase resource efficiency and waste management measures, including setting ambitious targets for waste reduction, reuse and recycling.
- Provide well-designed storage and collection arrangements for operational waste.
- Lay the groundwork for the creation of a digital material passport for the building, enabling AI-driven optimisation of maintenance, refurbishment and eventual deconstruction.

5.3.1 Construction Waste

Any demolition will be reused and recycled where possible. A demolition audit will be carried out before any works progress on site to identify which materials can be recycled. The development will also consider the concept of the waste hierarchy shown below in both demolition and when constructing the proposed development.

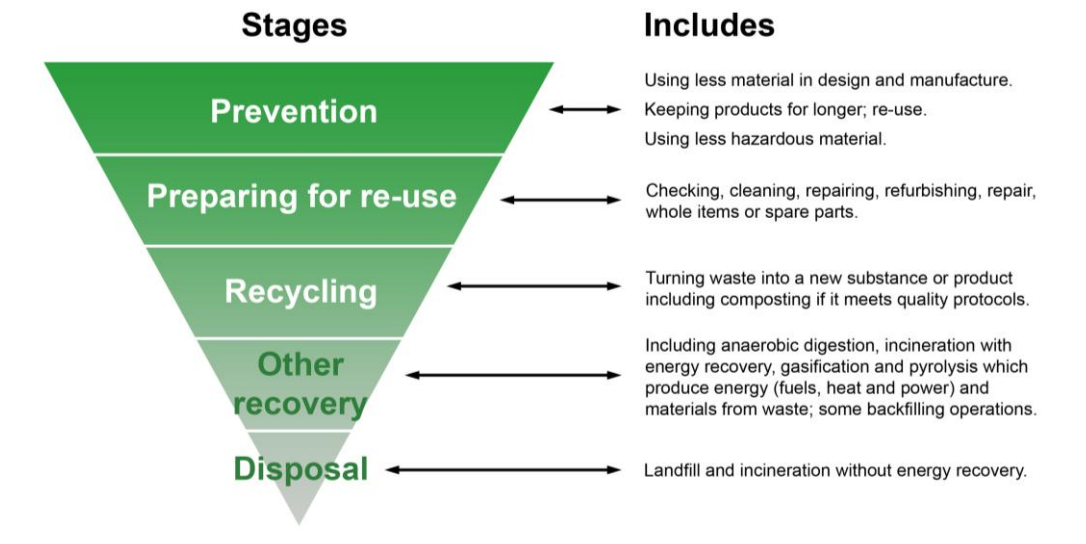


Figure 10 - Waste Hierarchy Diagram

The following principles and indicative targets are proposed:

- Set a target to divert at least 95% of non-hazardous construction and demolition waste from landfill, with an emphasis on reuse and high-value recycling.
- Segregate key waste streams on site (e.g. metals, timber, inert materials, plasterboard, packaging) to maximise recycling rates.
- Work with suppliers to minimise packaging and, where possible, adopt take-back schemes for pallets, cable reels and other reusable items.
- Use off-site prefabrication where practical to reduce on-site waste and improve quality.
- Monitor waste arisings and destinations through a simple reporting framework, with regular feedback to the project team.
- Include measures to control dust, noise and water pollution.
- Beneficial use of excavation arisings on or off-site to the greatest extent possible (noting that excavation is expected to be limited).

5.3.2 On-Site Waste Management

In terms of on-site waste management, the building will have access to waste and recycling bins at ground floor level within easy access to the Road for collection. Please see the architects' drawings for more details.

5.3.3 Materials

It is the design team's intention to minimise waste during the construction process through careful consideration of materials and construction methodology. The development, wherever possible, will use non-toxic, low embodied carbon materials and manufacturers will be chosen that can demonstrate their products are sustainably sourced and manufactured.

Reuse and Recycled Content:

- Reuse structural elements in situ as far as practicable and design new interventions to work with the existing grid.
- Target a minimum of 10% of total material value from recycled or reused content, with an aspiration to exceed this where suitable products are available.
- Use cement replacement (e.g. GGBS or PFA) in any new concrete elements where structural and durability requirements allow.
- Specify insulation, plasterboard, and other bulk materials with verified recycled content.

Design for Disassembly:

- Specify an aluminium curtain wall system with mechanically fixed, demountable components rather than wet-jointed systems, to facilitate future removal and recycling.
- Use mechanical fixings (screws, bolts, clips) in preference to adhesives and wet trades for key junctions, especially where different material types meet.
- Avoid unnecessary composite systems that are difficult to separate at end-of-life.
- Ensure that material and product information, including fixing methods and deconstruction sequences, are recorded in the O&M manuals and, in future, within a digital material passport.

Responsible Sourcing:

- Specify timber from FSC or PEFC certified sources.
- Prioritise products with Environmental Product Declarations (EPDs) and those from manufacturers with robust take-back or recycling schemes.
- Require contractors and suppliers to provide documentation demonstrating responsible sourcing in line with recognised schemes.

5.3.4 Building in Layers

A useful way to understand a building or development is in terms of 'layers' where each layer has its own life cycle, life span, and relevant design approaches and solutions.

To support reuse and recycling, the different layers of the proposed development will be independent, accessible, and removeable whilst maintaining their value as far as feasibly practical.

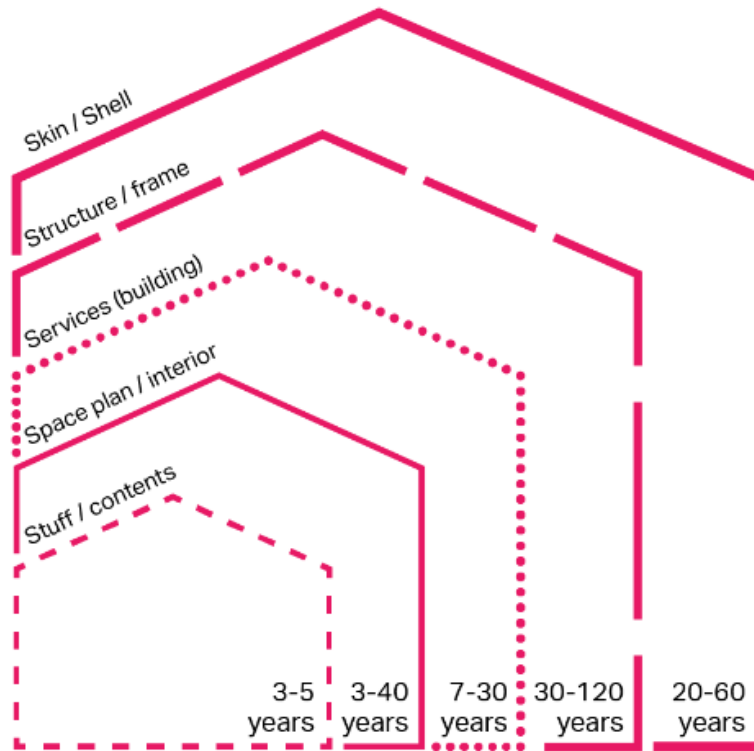


Figure 11 - Building Layers and their Indicative Lifespans

The building has been designed to accommodate change over time with minimal structural intervention, supporting a circular economy approach.

Key measures include:

- Use of non-loadbearing partitions to define internal spaces, enabling future reconfiguration of layouts as needs change.
- Selection of durable external materials and robust details to minimise premature replacement and repair.
- Capacity within service routes and risers for future upgrades, such as low-carbon heating technologies, enhanced ventilation, or additional data cabling.

These measures help extend the service life of the building, reduce lifecycle replacement demands and support long-term resilience to changing needs and environmental conditions.

5.4 Air Quality

The proposed development will use air source heat pumps or direct electric heaters for its heat generation, which unlike gas boilers, have no harmful on-site emissions. The development will therefore be at least air quality neutral.

The Contractor will also be encouraged to meet the standards of the Considerate Constructors Scheme which requires, amongst other things, that dust emissions, noise pollution, and the potential for ground contamination are minimised during demolition and construction phases.

5.5 Biodiversity and Sustainable Drainage

The site is already fully developed and therefore there is little scope for improving biodiversity however, where possible the development will incorporate planting areas to help biodiversity / urban greening.

As the site is already fully developed, the proposed design would not make drainage at the site any worse than before development. Any planting areas incorporated will help to improve sustainable drainage.

5.6 Access to Public Transport

The proposed development location also has a good PTAL rating of 4, this indicates that it has good access to local public transport options, promoting more sustainable methods of transport.

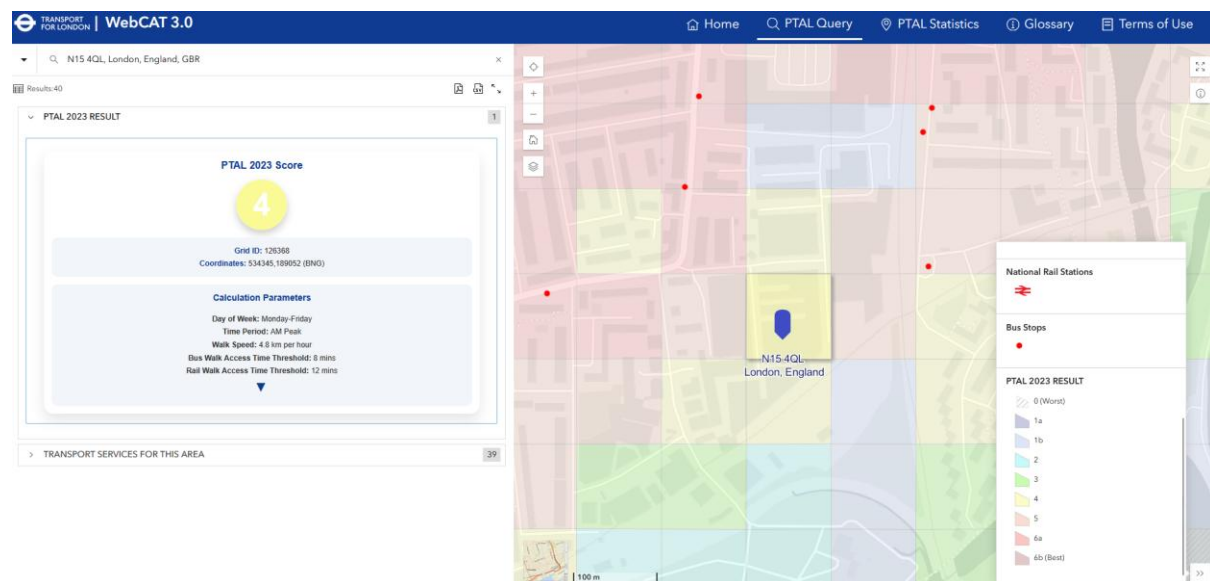


Figure 12 - PTAL Rating and Map

The development will also have secure storage for 8 No. Bicycles helping to promote more sustainable methods of transport. Please see the architects' drawings for more details.



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

Project name

Be Lean - Unit 11 High Cross Centre**As designed****Date:** Wed Dec 10 14:26:33 2025

Administrative information

Building Details

Address: Unit 11 High Cross Centre, London,

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:** "v9.5.7"**Interface to calculation engine:** TAS**Interface to calculation engine version:** v9.5.7**BRUKL compliance module version:** v6.1.e.1**Foundation area [m²]:** 1351.17The CO₂ emission and primary energy rates of the building must not exceed the targets**The building does not comply with England Building Regulations Part L 2021**

Target CO ₂ emission rate (TER), kgCO ₂ /m ² annum	1.41
Building CO ₂ emission rate (BER), kgCO ₂ /m ² annum	1.88
Target primary energy rate (TPER), kWh _{PE} /m ² annum	14.95
Building primary energy rate (BPER), kWh _{PE} /m ² annum	20.46
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 -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	External Wall - Clad
Floors	0.18	0.18	0.18	Ground Floor
Pitched roofs	0.16	-	-	No pitched roofs in project
Flat roofs	0.18	0.14	0.14	Roof
Windows** and roof windows	1.6	1.2	1.2	Win 3
Rooflights***	2.2	-	-	No rooflights in project
Personnel doors^	1.6	1.2	1.2	Ent Door 1a
Vehicle access & similar large doors	1.3	1.3	1.3	Roller Door
High usage entrance doors	3	-	-	No high usage entrance doors in project

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* 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/m²K

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- MVHR - AC (40 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.64	4.4	-	-	0.8
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					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

2- Extract - Elec (30 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

3- Nat Vent - Elec

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

1- Elec POU HW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	1	0
Standard value	1	N/A

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		Zone	Standard
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1			
Workshop	-	-	-	1.2	-	-	-	-	-	-	-	N/A
Canteen	-	-	-	1.2	-	-	-	-	-	-	-	N/A
Staff Room	-	-	-	1.2	-	-	-	-	-	-	-	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
Racking	-	-	-	1.2	-	-	-	-	-	-	N/A
Workshop Toilets	-	-	-	-	-	0.5	-	-	-	-	N/A
Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
Kitchen Toilets	-	-	-	-	-	0.5	-	-	-	-	N/A
Main Entrance	-	-	-	1.2	-	-	-	-	-	-	N/A
Office 1	-	-	-	1.2	-	-	-	-	-	-	N/A
Office 2	-	-	-	1.2	-	-	-	-	-	-	N/A
Meeting Room	-	-	-	1.2	-	-	-	-	-	-	N/A
Tea Room	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 1	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 1 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 1 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 2	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 3	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 4	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 5	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 6	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 6 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 6 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 7	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 8	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 8 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 8 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 9	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 10	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 11	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 12	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 13	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 14	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 10 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 10 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - FWC 1	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - FWC 2	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - MWC	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Communal Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Office 1	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office 2	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office 3	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office 4	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office Toilets	-	-	-	-	-	0.5	-	-	-	-	N/A
2nd - Unit 17	-	-	-	1.2	-	-	-	-	-	-	N/A
2nd - Unit 17 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
2nd - Unit 17 Kitchen	-	-	-	-	-	0.5	-	-	-	-	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	
2nd - Unit 18	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 19	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 20	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 21	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 22	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 22 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 22 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 23	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 24	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 24 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 24 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 25	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 26	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 26 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 26 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 27	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 28	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 29	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 30	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - FWC 1	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - FWC 2	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - MWC	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Communal Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Commual Kitchen	-	-	-	-	-	0.5	-	-	-	-	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
Workshop		140	-	-
Canteen		140	-	-
Staff Room		140	-	-
Racking		140	-	-
Racking Entrance		140	-	-
Workshop Toilets		140	-	-
Stairs 1		140	-	-
Corridor 1		140	-	-
Corridor 2		140	-	-
Store 1		140	-	-
Bin Store		140	-	-
Cycle Store		140	-	-
Kitchen		140	-	-
Kitchen Toilets		140	-	-
Store 2		140	-	-

General lighting and display lighting		General luminaire		Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]	
	Standard value	95	80	0.3	
Main Entrance		140	95	-	
Store 3		140	-	-	
Corridor 3		140	-	-	
Office 1		140	-	-	
Office 2		140	-	-	
Meeting Room		140	-	-	
Tea Room		140	-	-	
1st - Unit 1		140	-	-	
1st - Unit 1 Toilet		140	-	-	
1st - Unit 1 Kitchen		140	-	-	
1st - Unit 2		140	-	-	
1st - Unit 3		140	-	-	
1st - Unit 4		140	-	-	
1st - Unit 5		140	-	-	
1st - Unit 6		140	-	-	
1st - Unit 6 Toilet		140	-	-	
1st - Unit 6 Kitchen		140	-	-	
1st - Unit 7		140	-	-	
1st - Unit 8		140	-	-	
1st - Unit 8 Toilet		140	-	-	
1st - Unit 8 Kitchen		140	-	-	
1st - Unit 9		140	-	-	
1st - Unit 10		140	-	-	
1st - Unit 11		140	-	-	
1st - Unit 12		140	-	-	
1st - Unit 13		140	-	-	
1st - Unit 14		140	-	-	
1st - Unit 10 Toilet		140	-	-	
1st - Unit 10 Kitchen		140	-	-	
1st - Corridor 1		140	-	-	
1st - FWC 1		140	-	-	
1st - FWC 2		140	-	-	
1st - MWC		140	-	-	
1st - Store 1		140	-	-	
1st - Communal Kitchen		140	-	-	
1st - Corridor 2		140	-	-	
1st - Office 1		140	-	-	
1st - Office 2		140	-	-	
1st - Office 3		140	-	-	
1st - Office 4		140	-	-	
1st - Office Toilets		140	-	-	
2nd - Unit 17		140	-	-	
2nd - Unit 17 Toilet		140	-	-	

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
	Standard value	95	80	0.3
2nd - Unit 17 Kitchen		140	-	-
2nd - Unit 18		140	-	-
2nd - Unit 19		140	-	-
2nd - Unit 20		140	-	-
2nd - Unit 21		140	-	-
2nd - Unit 22		140	-	-
2nd - Unit 22 Toilet		140	-	-
2nd - Unit 22 Kitchen		140	-	-
2nd - Unit 23		140	-	-
2nd - Unit 24		140	-	-
2nd - Unit 24 Toilet		140	-	-
2nd - Unit 24 Kitchen		140	-	-
2nd - Unit 25		140	-	-
2nd - Unit 26		140	-	-
2nd - Unit 26 Toilet		140	-	-
2nd - Unit 26 Kitchen		140	-	-
2nd - Unit 27		140	-	-
2nd - Unit 28		140	-	-
2nd - Unit 29		140	-	-
2nd - Unit 30		140	-	-
2nd - Corridor 1		140	-	-
2nd - FWC 1		140	-	-
2nd - FWC 2		140	-	-
2nd - MWC		140	-	-
2nd - Communal Toilet		140	-	-
2nd - Commual Kitchen		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?
Workshop	NO (-82%)	NO
Canteen	NO (-85%)	NO
Staff Room	N/A	N/A
Racking	N/A	N/A
Main Entrance	NO (-82%)	NO
Office 1	NO (-74%)	NO
Office 2	NO (-74%)	NO
Meeting Room	N/A	N/A
Tea Room	N/A	N/A
1st - Unit 1	NO (-69%)	NO
1st - Unit 1 Kitchen	N/A	N/A
1st - Unit 2	NO (-31%)	NO
1st - Unit 3	NO (-65%)	NO
1st - Unit 4	NO (-77%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
1st - Unit 5	NO (-43%)	NO
1st - Unit 6	NO (-83%)	NO
1st - Unit 6 Kitchen	N/A	N/A
1st - Unit 7	N/A	N/A
1st - Unit 8	NO (-73%)	NO
1st - Unit 8 Kitchen	N/A	N/A
1st - Unit 9	N/A	N/A
1st - Unit 10	NO (-71%)	NO
1st - Unit 11	N/A	N/A
1st - Unit 12	N/A	N/A
1st - Unit 13	NO (-77%)	NO
1st - Unit 14	N/A	N/A
1st - Unit 10 Kitchen	N/A	N/A
1st - Office 1	NO (-81%)	NO
1st - Office 2	NO (-70%)	NO
1st - Office 3	NO (-81%)	NO
1st - Office 4	NO (-81%)	NO
2nd - Unit 17	NO (-80%)	NO
2nd - Unit 17 Kitchen	N/A	N/A
2nd - Unit 18	NO (-56%)	NO
2nd - Unit 19	N/A	N/A
2nd - Unit 20	NO (-71%)	NO
2nd - Unit 21	N/A	N/A
2nd - Unit 22	NO (-83%)	NO
2nd - Unit 22 Kitchen	N/A	N/A
2nd - Unit 23	N/A	N/A
2nd - Unit 24	NO (-79%)	NO
2nd - Unit 24 Kitchen	N/A	N/A
2nd - Unit 25	N/A	N/A
2nd - Unit 26	NO (-82%)	NO
2nd - Unit 26 Kitchen	N/A	N/A
2nd - Unit 27	N/A	N/A
2nd - Unit 28	N/A	N/A
2nd - Unit 29	NO (-77%)	NO
2nd - Unit 30	N/A	N/A

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]	4053	4053
External area [m ²]	4282	4282
Weather	LON	LON
Infiltration [m ³ /hm ² @ 50Pa]	3	3
Average conductance [W/K]	878	1097
Average U-value [W/m ² K]	0.2	0.26
Alpha value* [%]	30.95	15.95

* 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
100	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
	Storage or Distribution
	Hotels
	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/m²]

	Actual	Notional
Heating	1.97	1.76
Cooling	2.25	3.01
Auxiliary	1.26	1.58
Lighting	5.89	7.62
Hot water	2.12	2.02
Equipment*	28.21	28.21
TOTAL **	13.5	15.98

* 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/m²]

	Actual	Notional
Photovoltaic systems	0	5.86
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>5.86</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	45.9	61.49
Primary energy [kWh _{PE} /m ²]	20.46	14.95
Total emissions [kg/m ²]	1.88	1.41

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 SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] Split or multi-split system, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
Actual	6.9	49.4	0.7	3.1	1.7	2.64	4.4	2.64	4.4	
Notional	7	69.3	0.7	4.4	2.3	2.64	4.4	----	----	
[ST] Unflued radiant heater, [HS] Direct or storage electric heater, [HFT] Electricity, [CFT] Electricity										
Actual	52	0	14.5	0	0	1	0	1	0	
Notional	52.4	0	10.9	0	0	1.34	0	----	----	
[ST] Unflued radiant heater, [HS] Direct or storage electric heater, [HFT] Electricity, [CFT] Electricity										
Actual	12.5	0	3.5	0	0	1	0	1	0	
Notional	12.6	0	2.6	0	0	1.34	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



Unit 11 High Cross Centre
London

Certificate Reference Number:
4296-5082-3049-8629-9460

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

More energy efficient

A+

Net zero CO₂ emissions

A 0-25

11

This is how energy efficient the building is.

B 26-50

C 51-75

D 76-100

E 101-125

F 126-150

G Over 150

Less energy efficient

Technical information

Main heating fuel:	Grid Supplied Electricity
Building environment:	Air Conditioning
Total useful floor area (m ²):	4053
Building complexity:	Level 5
Building emission rate (kgCO ₂ /m ² per year):	1.88
Primary energy use (kWh _{PE} /m ² per year):	20.46

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 v9.5.7 using calculation engine TAS v9.5.7

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: 10 Dec 2025

Valid Until: 09 Dec 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: 8357-7039-1141-2705-6356

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

Project name

Be Green - Unit 11 High Cross Centre**As designed****Date:** Wed Dec 10 14:54:59 2025

Administrative information

Building Details

Address: Unit 11 High Cross Centre, London,

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:** "v9.5.7"**Interface to calculation engine:** TAS**Interface to calculation engine version:** v9.5.7**BRUKL compliance module version:** v6.1.e.1**Foundation area [m²]:** 1351.17The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² annum	1.41
Building CO ₂ emission rate (BER), kgCO ₂ /m ² annum	0.67
Target primary energy rate (TPER), kWh _{PE} /m ² annum	14.95
Building primary energy rate (BPER), kWh _{PE} /m ² annum	6.61
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-Limit}	U _{a-Calc}	U _{i-Calc}	First surface with maximum value
Walls*	0.26	0.18	0.18	External Wall - Clad
Floors	0.18	0.18	0.18	Ground Floor
Pitched roofs	0.16	-	-	No pitched roofs in project
Flat roofs	0.18	0.14	0.14	Roof
Windows** and roof windows	1.6	1.2	1.2	Win 3
Rooflights***	2.2	-	-	No rooflights in project
Personnel doors^	1.6	1.2	1.2	Ent Door 1a
Vehicle access & similar large doors	1.3	1.3	1.3	Roller Door
High usage entrance doors	3	-	-	No high usage entrance doors in project

U_{a-Limit} = Limiting area-weighted average U-values [W/(m²K)]U_{i-Calc} = Calculated maximum individual element U-values [W/(m²K)]U_{a-Calc} = Calculated area-weighted average U-values [W/(m²K)]

* 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/m²K

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- MVHR - AC (40 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	4	6	-	-	0.8
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					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

2- Extract - Elec (30 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

3- Nat Vent - Elec

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

1- Elec POU HW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	1	0
Standard value	1	N/A

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		Zone	Standard
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1			
Workshop	-	-	-	1.2	-	-	-	-	-	-	-	N/A
Canteen	-	-	-	1.2	-	-	-	-	-	-	-	N/A
Staff Room	-	-	-	1.2	-	-	-	-	-	-	-	N/A

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I	Zone	Standard
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1		
Racking	-	-	-	1.2	-	-	-	-	-	-	N/A
Workshop Toilets	-	-	-	-	-	0.5	-	-	-	-	N/A
Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
Kitchen Toilets	-	-	-	-	-	0.5	-	-	-	-	N/A
Main Entrance	-	-	-	1.2	-	-	-	-	-	-	N/A
Office 1	-	-	-	1.2	-	-	-	-	-	-	N/A
Office 2	-	-	-	1.2	-	-	-	-	-	-	N/A
Meeting Room	-	-	-	1.2	-	-	-	-	-	-	N/A
Tea Room	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 1	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 1 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 1 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 2	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 3	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 4	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 5	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 6	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 6 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 6 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 7	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 8	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 8 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 8 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 9	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 10	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 11	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 12	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 13	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 14	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Unit 10 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Unit 10 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - FWC 1	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - FWC 2	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - MWC	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Communal Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A
1st - Office 1	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office 2	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office 3	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office 4	-	-	-	1.2	-	-	-	-	-	-	N/A
1st - Office Toilets	-	-	-	-	-	0.5	-	-	-	-	N/A
2nd - Unit 17	-	-	-	1.2	-	-	-	-	-	-	N/A
2nd - Unit 17 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A
2nd - Unit 17 Kitchen	-	-	-	-	-	0.5	-	-	-	-	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	
2nd - Unit 18	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 19	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 20	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 21	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 22	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 22 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 22 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 23	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 24	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 24 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 24 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 25	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 26	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 26 Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 26 Kitchen	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Unit 27	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 28	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 29	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - Unit 30	-	-	-	1.2	-	-	-	-	-	-	N/A	
2nd - FWC 1	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - FWC 2	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - MWC	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Communal Toilet	-	-	-	-	-	0.5	-	-	-	-	N/A	
2nd - Commual Kitchen	-	-	-	-	-	0.5	-	-	-	-	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
Workshop		140	-	-
Canteen		140	-	-
Staff Room		140	-	-
Racking		140	-	-
Racking Entrance		140	-	-
Workshop Toilets		140	-	-
Stairs 1		140	-	-
Corridor 1		140	-	-
Corridor 2		140	-	-
Store 1		140	-	-
Bin Store		140	-	-
Cycle Store		140	-	-
Kitchen		140	-	-
Kitchen Toilets		140	-	-
Store 2		140	-	-

General lighting and display lighting		General luminaire		Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]	
	Standard value	95	80	0.3	
Main Entrance		140	95	-	
Store 3		140	-	-	
Corridor 3		140	-	-	
Office 1		140	-	-	
Office 2		140	-	-	
Meeting Room		140	-	-	
Tea Room		140	-	-	
1st - Unit 1		140	-	-	
1st - Unit 1 Toilet		140	-	-	
1st - Unit 1 Kitchen		140	-	-	
1st - Unit 2		140	-	-	
1st - Unit 3		140	-	-	
1st - Unit 4		140	-	-	
1st - Unit 5		140	-	-	
1st - Unit 6		140	-	-	
1st - Unit 6 Toilet		140	-	-	
1st - Unit 6 Kitchen		140	-	-	
1st - Unit 7		140	-	-	
1st - Unit 8		140	-	-	
1st - Unit 8 Toilet		140	-	-	
1st - Unit 8 Kitchen		140	-	-	
1st - Unit 9		140	-	-	
1st - Unit 10		140	-	-	
1st - Unit 11		140	-	-	
1st - Unit 12		140	-	-	
1st - Unit 13		140	-	-	
1st - Unit 14		140	-	-	
1st - Unit 10 Toilet		140	-	-	
1st - Unit 10 Kitchen		140	-	-	
1st - Corridor 1		140	-	-	
1st - FWC 1		140	-	-	
1st - FWC 2		140	-	-	
1st - MWC		140	-	-	
1st - Store 1		140	-	-	
1st - Communal Kitchen		140	-	-	
1st - Corridor 2		140	-	-	
1st - Office 1		140	-	-	
1st - Office 2		140	-	-	
1st - Office 3		140	-	-	
1st - Office 4		140	-	-	
1st - Office Toilets		140	-	-	
2nd - Unit 17		140	-	-	
2nd - Unit 17 Toilet		140	-	-	

General lighting and display lighting		General luminaire	Display light source	
Zone name		Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
	Standard value	95	80	0.3
2nd - Unit 17 Kitchen		140	-	-
2nd - Unit 18		140	-	-
2nd - Unit 19		140	-	-
2nd - Unit 20		140	-	-
2nd - Unit 21		140	-	-
2nd - Unit 22		140	-	-
2nd - Unit 22 Toilet		140	-	-
2nd - Unit 22 Kitchen		140	-	-
2nd - Unit 23		140	-	-
2nd - Unit 24		140	-	-
2nd - Unit 24 Toilet		140	-	-
2nd - Unit 24 Kitchen		140	-	-
2nd - Unit 25		140	-	-
2nd - Unit 26		140	-	-
2nd - Unit 26 Toilet		140	-	-
2nd - Unit 26 Kitchen		140	-	-
2nd - Unit 27		140	-	-
2nd - Unit 28		140	-	-
2nd - Unit 29		140	-	-
2nd - Unit 30		140	-	-
2nd - Corridor 1		140	-	-
2nd - FWC 1		140	-	-
2nd - FWC 2		140	-	-
2nd - MWC		140	-	-
2nd - Communal Toilet		140	-	-
2nd - Commual Kitchen		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?
Workshop	NO (-82%)	NO
Canteen	NO (-85%)	NO
Staff Room	N/A	N/A
Racking	N/A	N/A
Main Entrance	NO (-82%)	NO
Office 1	NO (-74%)	NO
Office 2	NO (-74%)	NO
Meeting Room	N/A	N/A
Tea Room	N/A	N/A
1st - Unit 1	NO (-69%)	NO
1st - Unit 1 Kitchen	N/A	N/A
1st - Unit 2	NO (-31%)	NO
1st - Unit 3	NO (-65%)	NO
1st - Unit 4	NO (-77%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
1st - Unit 5	NO (-43%)	NO
1st - Unit 6	NO (-83%)	NO
1st - Unit 6 Kitchen	N/A	N/A
1st - Unit 7	N/A	N/A
1st - Unit 8	NO (-73%)	NO
1st - Unit 8 Kitchen	N/A	N/A
1st - Unit 9	N/A	N/A
1st - Unit 10	NO (-71%)	NO
1st - Unit 11	N/A	N/A
1st - Unit 12	N/A	N/A
1st - Unit 13	NO (-77%)	NO
1st - Unit 14	N/A	N/A
1st - Unit 10 Kitchen	N/A	N/A
1st - Office 1	NO (-81%)	NO
1st - Office 2	NO (-70%)	NO
1st - Office 3	NO (-81%)	NO
1st - Office 4	NO (-81%)	NO
2nd - Unit 17	NO (-80%)	NO
2nd - Unit 17 Kitchen	N/A	N/A
2nd - Unit 18	NO (-56%)	NO
2nd - Unit 19	N/A	N/A
2nd - Unit 20	NO (-71%)	NO
2nd - Unit 21	N/A	N/A
2nd - Unit 22	NO (-83%)	NO
2nd - Unit 22 Kitchen	N/A	N/A
2nd - Unit 23	N/A	N/A
2nd - Unit 24	NO (-79%)	NO
2nd - Unit 24 Kitchen	N/A	N/A
2nd - Unit 25	N/A	N/A
2nd - Unit 26	NO (-82%)	NO
2nd - Unit 26 Kitchen	N/A	N/A
2nd - Unit 27	N/A	N/A
2nd - Unit 28	N/A	N/A
2nd - Unit 29	NO (-77%)	NO
2nd - Unit 30	N/A	N/A

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]	4053	4053
External area [m ²]	4282	4282
Weather	LON	LON
Infiltration [m ³ /hm ² @ 50Pa]	3	3
Average conductance [W/K]	878	1097
Average U-value [W/m ² K]	0.2	0.26
Alpha value* [%]	30.95	15.95

* 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
100	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
	Storage or Distribution
	Hotels
	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/m²]

	Actual	Notional
Heating	1.79	1.76
Cooling	1.65	3.01
Auxiliary	1.26	1.58
Lighting	5.89	7.62
Hot water	2.12	2.02
Equipment*	28.21	28.21
TOTAL **	12.72	15.98

* 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/m²]

	Actual	Notional
Photovoltaic systems	8.62	5.86
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>8.62</i>	<i>5.86</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	45.9	61.49
Primary energy [kWh _{PE} /m ²]	6.61	14.95
Total emissions [kg/m ²]	0.67	1.41

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 SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] Split or multi-split system, [HS] ASHP, [HFT] Electricity, [CFT] Electricity										
Actual	6.9	49.4	0.5	2.3	1.7	4	6	4	6	
Notional	7	69.3	0.7	4.4	2.3	2.64	4.4	----	----	
[ST] Unflued radiant heater, [HS] Direct or storage electric heater, [HFT] Electricity, [CFT] Electricity										
Actual	52	0	14.5	0	0	1	0	1	0	
Notional	52.4	0	10.9	0	0	1.34	0	----	----	
[ST] Unflued radiant heater, [HS] Direct or storage electric heater, [HFT] Electricity, [CFT] Electricity										
Actual	12.5	0	3.5	0	0	1	0	1	0	
Notional	12.6	0	2.6	0	0	1.34	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



Unit 11 High Cross Centre
London

Certificate Reference Number:
1439-5458-1691-7841-8619

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

More energy efficient

A+

Net zero CO₂ emissions

A 0-25

◀ 4

This is how energy efficient the building is.

B 26-50

C 51-75

D 76-100

E 101-125

F 126-150

G Over 150

Less energy efficient

Technical information

Main heating fuel:	Grid Supplied Electricity
Building environment:	Air Conditioning
Total useful floor area (m ²):	4053
Building complexity:	Level 5
Building emission rate (kgCO ₂ /m ² per year):	0.67
Primary energy use (kWh _{PE} /m ² per year):	6.61

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 v9.5.7 using calculation engine TAS v9.5.7

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: 10 Dec 2025

Valid Until: 09 Dec 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: 9790-1318-5239-5394-4495

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 for Non-Domestic

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	5.7	15.4
After energy demand reduction (be lean)	4.6	15.4
After heat network connection (be clean)	4.6	15.4
After renewable energy (be green)	2.7	15.4

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	1.2	20%
Be clean: savings from heat network	0.0	0%
Be green: savings from renewable energy	1.8	32%
Total Cumulative Savings	3.0	52%
Annual savings from off-set payment	2.7	-
	(Tonnes CO ₂)	
Cumulative savings for off-set payment	81	-
Cash in-lieu contribution (£)	7,739	

*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

