

		Our ref: HGY/2023/2584 Contact: Valerie Okeiyi Date: 28/04/2025
Town and Country Act 1990 (As amended)		
Location:	13 Bedford Road, Wood Green, London, N22 7AU	
Proposal:	Demolition of the existing building and the erection of a new mixed-use development up to five storeys high with commercial uses (Use Class E) at ground level, 12no. self-contained flats (Use Class C3) to upper levels and plant room at basement level. Provision of cycle parking, refuse, recycling and storage. Lift overrun, plant enclosure and pv panels at roof level	

Carbon Management Response 26/09/2024

In preparing this consultation response, we have reviewed:

- Energy and Sustainability Assessment prepared by EAL Consult (revised Feb 2024)
- Overheating Assessment rev I prepared by EAL Consult (this revision has superseded the Overheating Assessment as originally included in the Energy and Sustainability Assessment)
- Biodiversity Net Gain Assessment by Arbtch (dated 11/04/24)
- Sustainability section in Design and Access Statement prepared by CG Architects (dated March 2024)
- GLA Carbon Emissions Reporting Spreadsheet.xlsx
- Noise Impact Assessment by Stinton Jones Consulting Engineer (dated June 2022)
- Relevant supporting documents.

Missing required information:

- BREEAM Pre-Assessment for the commercial units

1. Summary

The development achieves a reduction of 89% carbon dioxide emissions on site, which is supported in principle. However, the submitted reports requires amendments and the energy modelling does not fully represent the total proposed residential area. Therefore, further clarification is required in regards to the Energy and Overheating strategy.

Carbon Management cannot currently support this application for the following reasons:

- The Energy and Sustainability Assessment is not in line with the GLA Energy Assessment Guidance 2022. The baseline for residential units has only included the carbon emissions of 9 units, not all 12 units. Incorrect parameters are modelled under Baseline and Be Lean scenarios.
- Overheating assessment must use Central London weather file, instead of London Gatwick weather file. The assessment has not considered the recommendations from the Noise Impact Assessment.
- The application fails to comply with the Local Plan Policy SP4 as it lacks a BREEAM Pre-Assessment, demonstrating that at least a rating of 'Very Good' can be achieved, aiming for 'Excellent'.

Further information needs to be provided to address this objection, in relation to Energy the Energy Strategy, Overheating Strategy and Sustainability (BREEAM). This should be addressed prior to the determination of the application.

2. Energy Strategy

Policy SP4 of the Local Plan Strategic Policies, requires all new development to be zero carbon (i.e. a 100% improvement beyond Part L (2021)). The London Plan (2021) further confirms this in Policy SI2.

The overall predicted reduction in CO₂ emissions for the development shows an improvement of approximately 89% in carbon emissions with SAP10.2 carbon factors, from the Baseline development model (which is Part L 2021 compliant). This represents an annual saving of approximately 7.4 tonnes of CO₂ from a baseline of 8.3 tCO₂/year.

London Plan Policy SI2 requires major development proposals to calculate and minimise unregulated carbon emissions, not covered by Building Regulations. The calculated unregulated emissions have not been provided.

<i>Site-wide (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO₂ / year)	CO₂ savings (Tonnes CO₂ / year)	Percentage savings (%)
Part L 2021 baseline	8.3		
Be Lean	2.9	5.4	65%
Be Clean	2.9	0	0%
Be Green	0.9	1.9	23%
Cumulative savings		7.4	89%
Carbon shortfall to offset (tCO₂)	0.9		
Carbon offset contribution	£95 x 30 years x 0.9 tCO ₂ /year = £2669.5		
10% management fee	£270		

	Residential			Non-residential		
<i>(SAP10.2 emission factors)</i>	Total regulated emissions (tCO₂/ year)	CO₂ savings (tCO₂ / year)	Percentage savings (%)	Total regulated emissions (tCO₂/ year)	CO₂ savings (tCO₂/ year)	Percentage savings (%)
Part L 2021 Baseline	7.0			1.3		
Be Lean savings	1.6	5.4	77%	1.3	0	3%
Be Clean savings	1.6	0	0%	1.3	0	0%
Be Green savings	0.1	1.5	22%	0.9	0.4	31%
Cumulative savings		6.9	99%		0.5	35%
Carbon shortfall to offset (tCO₂)	0.1			0.9		

SAP sheets of Flat 4, 5 and 11 of all stages have been submitted as a representative section of dwellings. BRUKL sheets of all stages for both commercial units have also been provided.

Actions:

- GLA Carbon Emissions Reporting Spreadsheet has only included the Part L outputs for Flat 4 to 12 but with Flat 1 to 3 missing. Applicant should also include the outputs of all flats and update the total regulated emissions and percentage savings across all stages.
- The total residential area represented by the modelling (~519 sq.m) is less than the actual proposed GIA of 808 sq.m. Therefore, the results reported by the GLA carbon emission spreadsheet does not fully represent the proposed residential part of the development. Please amend.

Energy Use Intensity (EUI) / Space Heating Demand (SHD)

Applications are required to report on the total Energy Use Intensity (EUI) and Space Heating Demand (SHD), in line with the GLA Energy Assessment Guidance (June 2022). The Energy Strategy should follow the reporting template set out in Table 5 of the guidance, including what methodology

has been used. EUI is a measure of the total energy consumed annually, but should exclude on-site renewable energy generation and energy use from electric vehicle charging.

	Proposed Development	GLA Benchmark
Building type	Residential	Residential
EUI	2.4 kWh/m ² /year	Meets GLA benchmark of 35kWh/m ² /year
SHD	6.8 kWh/m ² /year	Meets GLA benchmark of 15 kWh/m ² /year
Methodology used	Part L1 SAP 10.2	

	Proposed Development	GLA Benchmark
Building type	Commercial	Residential/School/Office/Hotel/All other non-residential
EUI	54.7 kWh/m ² /year	Meets benchmark of 55 kWh/m ² /year
SHD	6.0 kWh/m ² /year	Meets GLA benchmark of 15 kWh/m ² /year
Methodology used	Part L2 SBEM	

Actions:

- The submitted EUIs have not included unregulated energy. Please update the figures to include unregulated energy for both residential and commercial.
- Residential: Energy Use Intensity should include the energy required for space heating, but currently the proposed EUI is smaller than SHD. Applicant to check if they have modelled the development correctly and revise their EUI and SHD figures accordingly.

Energy – Lean

The applicant has proposed a side-wide saving of 5.4 tCO₂ in carbon emissions (65%) through improved energy efficiency standards in key elements of the build.

The residential has a saving 5.4 tCO₂ in carbon emissions (77%) through improved energy efficiency standards. This goes beyond the minimum 10% set in London Plan Policy SI2, so this is supported.

The commercial only has a saving of 0.0 tCO₂ in carbon emissions (3%) through improved energy efficiency standards. This is below the 15% reduction set in London Plan Policy SI2. However, the calculations at Be Lean Stage for the commercial require clarifications and revision.

The following u-values, g-values and air tightness are proposed:

Floor u-value	0.18 W/m ² K
External wall u-value	0.15 W/m ² K
Roof u-value	0.11 W/m ² K
Door u-value	0.8 W/m ² K
Window u-value	0.8 W/m ² K
G-value	TBC
Air permeability rate	3 m ³ /hm ² @ 50Pa (residential) 8 m ³ /hm ² @ 50Pa (commercial)
Ventilation strategy	Residential: Natural ventilation Commercial: TBC
Waste Water Heat recovery	TBC
Thermal bridging	Bespoke values (refer to ES for details)
Low energy lighting	100%
Heating system (efficiency / emitter)	Residential: TBC Commercial: ASHPs
Thermal mass	High

Improvement from the target fabric energy efficiency (TFEE)	14% improvement, from 34.26 to 29.36 MWh/year
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Actions:

Residential:

- Be Lean stage should be modelled using gas boilers with notional efficiency (~89.50) to match the notional building. Please update Be Lean worksheet for all residential units and amend the carbon reduction figure accordingly.
- The East elevation has a high proportion of glazed area. Please consider following the LETI Climate Emergency Design Guide principles in façade design.
- The proposed U-values of window and doors are 0.8 W/m²K, this can be achieved by using triple-glazing and this is supported. However, the windows and doors as shown on the elevations are shown as double-glazed which cannot achieve the required U-value. Applicant to ensure the proposal and the energy modelling are aligned.
- The proposed air permeability rate is 8 m³/hm² @ 50Pa for the commercial units, this is the maximum permissible rate under Part L. Applicant should improve the target air tightness of the commercial units.
- Table 10 of ES has indicated the proposed G-value of glazing is 1.6 W/m²K. This is incorrect, as G-value is a coefficient between 0-1 and without unit.
- Noise Impact Assessment has recommended mechanical ventilation to the bedrooms facing Redford Road. Please consider mechanical ventilation with heat recovery to further reduce heat losses.
- At the interfaces where terraces form the roofs of the floors below, applicant to ensure the section has allowed sufficient depth for insulation to achieve the required U-value while allowing level access to the terrace. Parapet and terrace junctions should be carefully detailed to minimise thermal bridges. Please provide indicative details to demonstrate this.
- Please confirm if Waste Water Heat recovery will be provided.
- High thermal mass has been identified as part of the Overheating Strategy. Please provide the principles of the proposed high thermal mass construction.

Commercial:

- Be Lean stage has been modelled with proposed building systems and the proposed efficiency of the ASHP has also been included at Be Lean stage. The proposed heating system and the notional efficiency figures should be used for the modelling for Be Lean. The actual efficiency figure shall only be used under Be Green scenario as per GLA energy assessment guidance. Applicant to revise their BRUKL modelling.
- The energy consumption of cooling is higher in the Actual Building than the Notional Building, please can applicant explain the reason?
- Please can applicant confirm if notional PVs have been included in the Baseline modelling?
- Please confirm if the commercial shopfront will have the same U-value 0.8 W/m²K as the windows and doors.
- Please confirm the ventilation strategy for the commercial units.
- The display lights in the commercial units modelled in BRUKL worksheets have low efficiency. Please use high efficiency LED lighting.

Overheating is dealt with in more detail below.

Energy – Clean

London Plan Policy SI3 calls for major development in Heat Network Priority Areas to have a communal low-temperature heating system, with the heat source selected from a hierarchy of options (with connecting to a local existing or planned heat network at the top). Policy DM22 of the Development Management Document supports proposals that contribute to the provision and use of Decentralised Energy Network (DEN) infrastructure. It requires developments incorporating site-wide communal energy systems to examine opportunities to extend these systems beyond the site boundary to supply energy to neighbouring existing and planned future developments. It requires developments to prioritise connection to existing or planned future DENs.

The applicant is not proposing any Be Clean measures. The site is not within reasonable distance of a proposed Decentralised Energy Network (DEN). A Combined Heat and Power (CHP) plant would not be appropriate for this site.

Energy – Green

As part of the Be Green carbon reductions, all new developments must achieve a minimum reduction of 20% from on-site renewable energy generation to comply with Policy SP4.

The application has reviewed the installation of various renewable technologies. The report concludes that air source heat pumps (ASHPs) and solar photovoltaic (PV) panels are the most viable options to deliver the Be Green requirement. A total of 1.9 tCO₂ (23%) reduction of emissions are proposed under Be Green measures.

The solar array peak output is proposed to be 13.25 kWp. The amount of renewable electricity produced per year and the corresponding carbon reduction have not been provided. A total of 33 panels would be mounted on the flat roof area facing south.

Residential: The communal ASHP systems (min. SCOP of 4.95 for water temperature at 35 / SCOP of 3.52 for water temperature at 55) will provide hot water and heating to the dwellings through underfloor heating.

Commercial: Proposed heat pump system has a COP of 350%, EER of 350% and SEER of 650%.

All ASHPs will be located at the roof level with plant enclosure.

Actions:

- The Energy Statement has mentioned a PV output of 13.25 kWp in section 4d of the document; however section 7 has mentioned there is additional PV outputs of 8.26 kWp for the commercial units. Applicant to clarify their PV proposal.
- Please provide the assumed efficiency and angle of the panels.
- Please provide some commentary on how the available roof space has been maximised to install solar PV.
- While the roof space should be maximised for install solar PV, applicant also to ensure there is adequate space for green roof beneath the PV panels to grow and zoning should be allowed for the installation of fall restraint system.
- Please confirm if the ASHPs will provide 100% of demand or if any electric immersion heater will be provided.
- Please provide details on the plant enclosure.

Energy – Be Seen

London Plan Policy SI2 requests all developments to 'be seen', to monitor, verify and report on energy performance. The GLA requires all major development proposals to report on their modelled and measured operational energy performance. This will improve transparency on energy usage on sites, reduce the performance gap between modelled and measured energy use, and provide the applicant, building managers and occupants clarity on the performance of the building, equipment and renewable energy technologies.

The applicant should install metering equipment on site, with sub-metering by dwelling and non-residential unit. A public display of energy usage and generation should also be provided in the main entrance area to raise awareness of residents/businesses.

- Please confirm that sub-metering will be implemented for residential and commercial units.
- What are the unregulated emissions and proposed demand-side response to reducing energy: smart grids, smart meters, battery storage?
- Demonstrate that the planning stage energy performance data has been submitted to the GLA webform for this development: (<https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance/be-seen-energy-monitoring-guidance/be-seen-planning-stage-webform>)

3. Carbon Offset Contribution

A carbon shortfall of 0.9 tCO₂/year remains. The remaining carbon emissions will need to be offset at £95/tCO₂ over 30 years.

4. Overheating

London Plan Policy SI4 requires developments to minimise adverse impacts on the urban heat island, reduce the potential for overheating and reduce reliance on air conditioning systems. Through careful design, layout, orientation, materials and incorporation of green infrastructure, designs must reduce overheating in line with the Cooling Hierarchy.

In accordance with the Energy Assessment Guidance, the applicant has undertaken a dynamic thermal modelling assessment for the commercial and residential units in line with CIBSE TM52 and TM59 accordingly, but it has used TM49 weather files for the London Gatwick Weather data. As noted in our pre-app comments and the planning validation check-list, **Central London weather file** must be used instead, as it represents more accurately the urban heat island effect.

The cooling hierarchy has been followed in the design.

Residential:

The report has modelled all habitable rooms (kitchen/living and bedrooms) of all flats for a naturally ventilated building.

The DSYs used for modelling are:

DYS 1 (2020), DYS 2 (2020), DYS 3 (2020).

Commercial:

The report has modelled all units including WCs and corridor.

The DSYs used for modelling have not been provided.

It is unclear if the testing results for DYS 1 (2020), DYS 2 (2050) and DYS 2 (2080) at the last page of the Overheating Assessment are for the commercial units.

The Overheating Assessment has not incorporated the recommendations from the Noise Assessment Report. The recommendations are as below:

- The noise levels of bedrooms facing Bedford Road have exceeded the acoustic recommendations. These windows will be closed at night and therefore cannot provide the purge ventilation to the rooms to prevent overheating in summer. The rooms should be provided with mechanical ventilation to provide 4 air changes per hour.
- The living rooms facing Bedford Road can be ventilated by open windows but should be provided with means of background ventilation with acoustic vents.
- Windows at the rear elevation (West elevation) can be opened for ventilation at any time without disruptive noise.

Results are listed in the table below.

Domestic: CIBSE TM59	Predominantly naturally ventilated		Predominantly mechanically ventilated	Number of corridors pass
	Criterion A (<3% hours)	Criterion B for bedrooms (less than 33 hours) *	Number of habitable rooms pass (<3% hours)	
DSY1 2020s	Pass	Pass	-	-
DSY2 2020s	Pass	Pass	-	-
DSY3 2020s	Pass	Pass	-	-
DSY1 2050s	-	-	-	-
DSY2 2050s	-	-	-	-
DSY3 2050s	-	-	-	-
DSY1 2080s	-	-	-	-
DSY2 2080s	-	-	-	-
DSY3 2080s	-	-	-	-

* Applicant to clarify the assessment Criterion for bedrooms

Non-domestic: CIBSE TM52	Number of habitable spaces that pass at least 2 out of 3 criteria 1: hours of exceedance 2: daily weighted exceedance 3: upper limit temperature
DSY1 2020s **	All pass
DSY2 2020s	-
DSY3 2020s	-
DSY1 2050s	-
DSY2 2050s	-
DSY3 2050s	-
DSY1 2080s	-
DSY2 2080s	-
DSY3 2080s	-

** Applicant has not provided which DYS has been used for assessment.

All spaces pass the overheating requirements for 2020s DSY1 using London Gatwick Weather data. In order to pass this, the following measures will be built:

- Natural ventilation, with windows 100% openable
- External horizontal louvres / brise soleils above windows to the East façade
- External green walls to the west façade
- Projecting balconies from the floor above to the south facade
- No active cooling for residential units

Revised Overheating Assessment is required using the correct weather file and incorporating the recommendations from the Noise Assessment Report.

Actions:

- Redo the overheating modelling with the Central London weather file.
- Please amend the overheating modelling in response to the Noise Assessment Report and indicate the requirements (e.g. acoustic vents) on the elevations.
- Specify the ventilation strategy, including: floorplans showing which habitable spaces will be predominantly naturally ventilated or mechanically ventilated, specification of the proposed mechanical ventilation (efficiency and air changes), window opening areas.
- If there are limitations on openable windows, applicants are required to submit two separate overheating analyses: one with openable windows and one with closed windows (for details see GLA Energy Assessment Guidance 8.10 and Haringey's Key Overheating Planning Application Requirements document). This is to ensure that passive measures have been maximised and the façade design has been optimised regardless of the constraints posed by the site's location.
- Please clarify which assessment criterion has been used for table 4, 5 and 6. Criterion A has been indicated on the tables, but Criterion B should be used for assessment of bedrooms according to TM59 guidance.
- Please confirm if the communal corridors serving the flats are external and therefore not been modelled.
- Please confirm if active cooling has not been proposed for the commercial units.
- Undertake further modelling for the residential units and commercial units (if applicable):
 - o For Residential: Model the DSY1 for the 2050s and 20280s.
 - o For Commercial: Model the 2020s DSY 2 and 3 and DSY1 for the 2050s and 20280s. Ensure the design has incorporated as many mitigation measures to pass these more extreme and future weather files as far as feasible. Any remaining overheating risk should inform the future retrofit plan.
- Set out a retrofit plan for future and more extreme weather files, demonstrating how these measures can be installed, how they would reduce the overheating risk, what their lifecycle replacement will be, and who will be responsible for overheating risk.
- Demonstrate how the future mitigation measures will improve the overheating results.

- Confirm who will own the overheating risk when the building is occupied (not the residents).
- This development should have a heatwave plan / building user guide to mitigate overheating risk for occupants.

5. Sustainability

Policy DM21 of the Development Management Document requires developments to demonstrate sustainable design, layout and construction techniques. The sustainability section in the report sets out the proposed measures to improve the sustainability of the scheme, including transport, health and wellbeing, materials and waste, water consumption, flood risk and drainage, biodiversity, climate resilience, energy and CO2 emissions and landscape design.

Summary of proposal:

- Water efficient measures have been proposed to reduce water consumption by 50% in both residential and commercial units. Total internal water consumption will not exceed 105 litres/person/day.
- A minimum of 80% of construction waste will be diverted from landfill rate.
- A minimum of 90% of demolition waste will be diverted from landfill rate.
- A pre-demolition survey has been carried out confirming 80% of materials are recyclable.
- The development will ensure all timber will be FSC certified. At least 80% of building materials will be responsibly sourced, materials rated with an A or B in the BRE Green Guide to Specification will be preferred.
- At least 20% of total value of materials will derive from recycled or with reused content.
- Steel will have high recycled content and concrete will use 50% GGBS.

Residential: Total 26 bike spaces in the sheltered bike store have been provided.

Commercial: 2 spaces have been provided in a sheltered store.

Action:

- Set out how surface water runoff will be reduced, that it will be separated from wastewater and not discharged into the sewer.

Non-Domestic BREEAM Requirement

Policy SP4 requires all new non-residential developments to achieve a BREEAM rating 'Very Good' (or equivalent), although developments should aim to achieve 'Excellent' where achievable.

The applicant has not prepared a BREEAM Pre-Assessment Report for the commercial units.

Actions:

- Please submit the BREEAM Pre-Assessment report.

Urban Greening / Biodiversity

All development sites must incorporate urban greening within their fundamental design and submit an Urban Greening Factor Statement, in line with London Plan Policy G5. London Plan Policy G6 and Local Plan Policy DM21 require proposals to manage impacts on biodiversity and aim to secure a biodiversity net gain. Additional greening should be provided through high-quality, durable measures that contribute to London's biodiversity and mitigate the urban heat island impact. This should include tree planting, shrubs, hedges, living roofs, and urban food growing. Specifically, living roofs and walls are encouraged in the London Plan. Amongst other benefits, these will increase biodiversity and reduce surface water runoff.

The Biodiversity Net Gain calculation shows a net gain of 100%, which is above the 10% requirement as set out in the Environment Act 2021.

The Urban Greening Factor of the development is 0.4 through the implementation of green roof with a min. 150mm deep substrate and green wall.

Actions:

- Set out what urban greening and biodiversity enhancement measures will be proposed (e.g. green infrastructure, bird boxes, bat boxes etc to connect to the green spaces around the site, living roofs, living walls, etc.)
- Please consider planting of species rich native flora to maximise the biodiversity value of the site as highlighted in the Biodiversity Net Gain Assessment.

Living roofs and walls

All development sites must incorporate urban greening within their fundamental design, in line with London Plan Policy G5.

The development is proposing living roofs and walls in the development. All landscaping proposals and living roofs should stimulate a variety of planting species. Mat-based, sedum systems are discouraged as they retain less rainfall and deliver limited biodiversity advantages. The growing medium for extensive roofs must be 120-150mm deep, and at least 250mm deep for intensive roofs (these are often roof-level amenity spaces) to ensure most plant species can establish and thrive and can withstand periods of drought. Living walls should be rooted in the ground with sufficient substrate depth.

Living roofs are supported in principle, subject to detailed design. Details for living roofs will need to be submitted as part of a planning condition.

Actions:

- Further details of the living green wall are required. Please provide the details of the proposed green wall system, the base detail including substrate build-up, the planting species, irrigation provision, access and maintenance strategy.
- Applicant to ensure there is sufficient build-up on the roof and parapet height to accommodate a minimum substrate depth.

6. Planning Conditions

To be secured (with detailed wording TBC)

7. Planning Obligations Heads of Terms

- Be Seen commitment to uploading energy data
- Energy Plan
- Sustainability Review
- Estimated carbon offset contribution (and associated obligations) of £2669.5 (indicative), plus a 10% management fee; carbon offset contribution to be re-calculated at £2,850 per tCO₂ at the Energy Plan and Sustainability stages.

Carbon Management Response 23/01/2024

In preparing this consultation response, we have reviewed:

- Energy and Sustainability Assessment rev 1 prepared by EAL Consult (date Oct 2024) – this includes an updated Overheating Assessment in the appendix
- TM54 Operational Energy Assessment by AJIBS Design UK Limited
- BREEAM Pre-Assessment for commercials prepared by EAL Consult (dated Jul 2023)
- GLA Carbon Emissions Reporting Spreadsheet rev 1.xlsx
- GLA Be Seen Spreadsheet.xlsm
- Relevant supporting documents.

1. Summary

The development achieves a reduction of 82% carbon dioxide emissions on site, which is supported in principle. Applicant has corrected their calculation methodology in accordance with GLA Energy

Assessment Guidance, hence there is a slight reduction of overall carbon dioxide emissions from 89% as previously reported. Applicant must provide clarifications on Overheating Strategy prior to determination. Planning conditions have been recommended to secure the benefits of the scheme.

2. Energy Strategy

The development shows an overall predicted reduction of approximately 82% in carbon emissions with SAP10.2 carbon factors from 89% previously, as the applicant has now included the previous missing emissions of flat 1-3. This represents an annual saving of approximately 10.1 tonnes of CO₂ from a baseline of 12.3 tCO₂/year. The Be Lean reduction has also reduced to 28% from the previous 65%, as the applicant has now modelled correctly using gas boiler as the heating system for Be Lean stage.

<i>Site-wide (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO₂ / year)	CO₂ savings (Tonnes CO₂ / year)	Percentage savings (%)
Part L 2021 baseline	12.3		
Be Lean	8.9	3.4	28%
Be Clean	8.9	0	0%
Be Green	2.2	6.7	54%
Cumulative savings		10.1	82%
Carbon shortfall to offset (tCO₂)	2.2		
Carbon offset contribution	£95 x 30 years x 2.2 tCO ₂ /year = £6,288		
10% management fee	£628		

	Residential			Non-residential		
<i>(SAP10.2 emission factors)</i>	Total regulated emissions (tCO₂/year)	CO₂ savings (tCO₂ / year)	Percentage savings (%)	Total regulated emissions (tCO₂/year)	CO₂ savings (tCO₂/year)	Percentage savings (%)
Part L 2021 Baseline	10.7			1.6		
Be Lean savings	7.9	2.8	26%	1.0	0.6	39%
Be Clean savings	7.9	0	0%	1.0	0	0%
Be Green savings	1.5	6.4	60%	0.7	0.3	17%
Cumulative savings		9.2	86%		0.9	56%
Carbon shortfall to offset (tCO₂)	1.5			0.7		

Applicant has modelled all flats and the GLA Carbon Emissions Reporting Spreadsheet has included all dwelling units.

Energy Use Intensity (EUI) / Space Heating Demand (SHD)

	Proposed Development*	GLA Benchmark
Building type	Residential	Residential
EUI	7.8 kWh/m ² /year	Meets GLA benchmark of 35kWh/m ² /year
SHD	2.8 kWh/m ² /year	Meets GLA benchmark of 15 kWh/m ² /year
Methodology used	Part L1 SAP 10.2	

	Proposed Development*	GLA Benchmark
Building type	Commercial	Residential/School/Office/Hotel/All other non-residential
EUI	967 kWh/m ² /year	Does not meet benchmark of 55 kWh/m ² /year
SHD	6.0 kWh/m ² /year	Meets GLA benchmark of 15 kWh/m ² /year
Methodology used	Part L2 SBEM	

* The result from the ES has been used for the above two tables.

Applicant has also submitted a TM54 Operational Energy Assessment which has included unregulated energy use. The report has indicated the annual energy consumption for the residential part of the building is approximately 117kWh/m², with consumption in the retail approximately 171kWh/m². This is different to the results reported from the ES.

Actions:

- Both the EUI and SHD of the residential units are exceptionally low, applicant to confirm if they are the correct information.
- The EUI of the commercial units from the ES is exceptionally high possibly due to potential mathematical error. Applicant to provide the corrected EUI or explanation.
- Applicant to clarify why the annual energy consumptions for residential and commercial are so different to that in ES.

Energy – Lean

The applicant has proposed a side-wide saving of 3.4 tCO₂ in carbon emissions (28%) under Be Lean: a saving 2.8 tCO₂ for the residential (26%), and a saving of 0.6 tCO₂ for the commercial (39%). Both areas comply with London Plan Policy SI2.

The following u-values, g-values and air tightness have been improved from previous submission or further clarifications have been provided:

Window u-value	0.8 W/m ² K (this will include shopfront of commercial units)
G-value	0.5
Air permeability rate	5 m ³ /hm ² @ 50Pa (commercial)
Ventilation strategy	Residential: MVHR Commercial: Natural ventilation
Waste Water Heat recovery	Included
Thermal bridging	Y-value of 0.140 aligning with enhanced construction detail.
Heating system (efficiency / emitter)	Residential: Gas boiler under Be Lean Stage Commercial: Gas boiler under Be Lean Stage
Thermal mass	188.6 kJ/m ² K Medium/high – although this thermal mass needs to be exposed internally to function as a buffer
Improvement from the target fabric energy efficiency (TFEE)	16% improvement, from 33.42 to 28.12 MWh/year

Actions:

Residential:

- At the interfaces where terraces form the roofs of the floors below, applicant to ensure the section has allowed sufficient depth for insulation to achieve the required U-value while allowing level access to the terrace. Parapet and terrace junctions should be carefully detailed to minimise thermal bridges. Please provide indicative details to demonstrate this, this will be conditioned.
- Applicant clarified WWRS has not been proposed in the meeting, However the provision of WWRS has been included in the modelling of Be Lean and Be Green stages. Applicant to revise SAP worksheets to reflect the actual proposal.

Commercial:

- The floor U-value has been modelled as 0.13W/m²K as shown in BRUKL worksheet instead of 0.18W/m²K as stated in ES. Better (lower) U-value is supported, but applicant should clarify.
- The heating system of the commercial units has been incorrectly modelled as gas boiler system. The commercial units should be modelled with the proposed buildings system (i.e. combined heat and cooling system) at Be Lean stage but using the notional efficiency figures. The actual efficiency figure shall only be used under the Be Green scenario as per the GLA energy assessment guidance.

Energy – Green

A total of 6.7 tCO₂ (54%) reduction of emissions are proposed under Be Green measures.

The solar array peak output is proposed to be 11.16 kWp covering 55.m² roof space (9.16 kWp apportioned to the residential, and 2 kWp to the commercial). PV panels will be mounted on the flat roof facing south at 15 degrees. The amount of renewable electricity produced per year, the corresponding carbon reduction and the number of PV panels have not been provided.

Space heating for the commercial units will be provided by a combined heating and cooling system.

Actions:

- The solar array peak output has been reduced from previous 13.25 kWp to the current proposal of 11.16 kWp. Applicant to clarify the reason and also to provide a roof plan to demonstrate the number of PV panels has been optimized while allowing sufficient space for plant equipment and roof maintenance.
- Please confirm the amount of renewable electricity produced per year by PV panels (in kWh/year) and the proposed inverter capacity.
- Please confirm if the commercial units will each have their own PV array and benefit from its generation independently. It may be worth apportioning more of the PV array to the commercial units as they will use electricity during the daytime.
- The roof space should be maximised to deliver its requirements and benefits.
 - o Please provide details on the plant enclosure.
 - o There should be adequate space for the green roof beneath the PV array to grow.
 - o Space should be allowed for the installation of fall restraint system.
 - o Please demonstrate and confirm that the roof space has maximised its PV provision.

Energy – Be Seen

The applicant has confirmed that both residential and non-residential units will be installed with their own sub-meter and smart metering equipment, with display of energy usage and generation to raise awareness of occupants. The applicant has now also submitted the planning stage Be Seen spreadsheet.

3. Carbon Offset Contribution

A carbon shortfall of 2.2 tCO₂/year remains. The remaining carbon emissions will need to be offset at £95/tCO₂ over 30 years plus 10% management fee.

4. Overheating

The applicant has revised their overheating assessment using the Central London weather file.

Recommendations from Noise Assessment Report has now been incorporated:

- The noise levels of bedrooms facing Bedford Road have exceeded the acoustic recommendations. These windows will be closed at night and therefore cannot provide the purge ventilation to the rooms to prevent overheating in summer. The rooms should be provided with mechanical ventilation to provide 4 air changes per hour.
- The living rooms facing Bedford Road can be ventilated by open windows but should be provided with means of background ventilation with acoustic vents.

Residential:

The report has modelled all habitable rooms (kitchen/living and bedrooms) of all flats for a naturally ventilated building. Corridors are external and therefore not modelled. It has stated options have been considered for the scenarios with windows open:

1. Windows open, no internal blinds;
2. Windows closed, no internal blinds with limited cooling from the MVHR of 18 W/m²;
3. As scenario 3, (DSY2);
4. As scenario 3, (DSY3).

However, it is unclear which scenario (1-3) has been modelled for DSY1 using 2020s weather files.

Commercial:

The proposal has only been modelled with a mechanical cooling scenario. All spaces pass with all three criteria.

Residential	Commercial
Proposed mitigation measures to pass the overheating requirements for 2020s DSY1: - Natural ventilation, with windows 100% openable facing Alexandra Park Road - Bedrooms facing Bedford Road: Windows closed with mechanical ventilation providing 4 air changes per hour - Living room facing Bedford Road: Ventilated by open windows but provided with background ventilation with acoustic vents. - External horizontal louvres / brise soleils above windows to the East façade - External green walls to the west façade - Projecting balconies from the floor above to the south facade - No active cooling for residential units	Proposed mitigation measures: - Non-openable windows, mechanical ventilation (no details). - Active cooling (no details).
A future retrofit plan has been proposed with the following measures: - Solar shading and window films - Enhanced natural ventilation such as automated window actuators for nighttime ventilation and cross-ventilation - High-performance insulation for roof and external walls, such as reflective roof coatings - MVHR - Low-energy cooling units as a back-up	

Actions:

- The cooling hierarchy has not been followed correctly, so the overheating strategy cannot be supported. Internal blinds cannot be used to comply with the overheating criteria. Scenario 2 is therefore discounted. The applicant should demonstrate the performance of the dwellings with the following scenarios, with modelling results in an appendix:
 - o Openable windows (unconstrained) and any mitigation measures to meet the minimum DSY1 2020s weather file.
 - o Policy compliant scenario (constrained): Bedroom windows closed at night and background ventilation for LKD rooms to meet noise mitigation recommendations.
 - This scenario should then be modelled with sub-scenarios to demonstrate how the cooling hierarchy is being followed by integrating mitigation measures in the order of the hierarchy. i.e. external shading (movable / fixed) prior to modelling any additional ventilation or active cooling. This is to ensure that passive measures have been maximised and the façade design has been optimised regardless of the constraints posed by the site's location
 - o Future compliance: modelling future mitigation measures to pass more extreme weather files (2020s DSY2-3; 2050s DSY1 etc). This should just show what measures can be taken and what their effect would be.
- Thereafter, the applicant should confirm the list of measures proposed in order for all spaces to pass 2020s DSY1. For details see GLA Energy Assessment Guidance 8.10 and Haringey's Key Overheating Planning Application Requirements document.

- The future retrofit plan should not include MVHR, as MVHR has already been included as part of the current proposal. Future insulation retrofitting for walls is technically difficult, it is recommended to improve the currently proposed external wall U-values.
- Commercial: As a baseline, the applicant should model commercial units without active cooling first, ensuring all passive measures have been maximised before modelling for active cooling. For example, this could include an awning. The capacity of the ventilation and cooling demand (if required), should also be provided.

5. Sustainability

Applicant has provided additional information on measures to reduce surface water runoff and overall discharge, this includes green roofs, planting and a small soakaway will be included to adsorb any excess surface water not controlled by the on-site greening measures.

Action:

- Applicant to confirm if any remaining surface water runoff will be separated from wastewater and not discharged into the sewer.

Non-Domestic BREEAM Requirement

The pre-assessment outlined that the proposed development could achieve a BREEAM “Excellent” rating of a minimum score of 74.14%, this is subject to further evidence being submitted to the BRE to obtain a Design Stage certificate demonstrating Excellent can be achieved.

Urban Greening / Biodiversity

A biodiverse green roof of up to 96m² has been included along with an area of green wall. Applicant has confirmed effort will be made to plant species rich in native flora. The further information sent by the applicant has not addressed our previous comments.

Actions:

- Applicant to consider further incorporating biodiversity enhancement measures such as wildlife boxes such as bird boxes and bat boxes.
- Applicant is encouraged to consider incorporate in-built planters in external terraces to provide planting opportunities for the residents.
- Applicant to ensure there is sufficient build-up on the roof and parapet height to accommodate a minimum substrate depth of 150mm. Further details of the living green wall will be conditioned.

6. Planning Conditions

The following conditions are recommended to secure the benefits of the scheme, and have been drafted to address the outstanding matters above. It is expected that clarifications and remodelling of overheating is provided prior to a decision, upon which conditions will be edited.

Energy Strategy

The development hereby approved shall be constructed in accordance with the Energy and Sustainability Assessment rev 1 by EAL Consult (date Oct 2024) delivering a minimum 82% improvement on carbon emissions over 2021 Building Regulations Part L, with high fabric efficiencies, communal air source heat pumps (ASHPs) and a minimum 11.16 kWp solar photovoltaic (PV) array.

(a) Prior to above ground construction, details of the Energy Strategy shall be submitted to and approved by the Local Planning Authority. This must include:

- *Confirmation of how this development will meet the zero-carbon policy requirement in line with the Energy Hierarchy;*
- *Confirmation of the necessary fabric efficiencies to achieve a minimum 28% reduction;*
- *Details to reduce thermal bridging including the parapet and terrace junctions;*
- *Location, specification and efficiency of the proposed ASHPs (Coefficient of Performance, Seasonal Coefficient of Performance, and the Seasonal Performance Factor), with plans showing the ASHP pipework and noise and visual mitigation measures;*

- Specification and efficiency of the proposed Mechanical Ventilation and Heat Recovery (MVHR), with plans showing the rigid MVHR ducting and location of the unit;
- Details of the PV, demonstrating the roof area has been maximised, with the following details: a roof plan; the number, angle, orientation, type, and efficiency level of the PVs; how overheating of the panels will be minimised; their peak output (kWp) and annual energy generation (kWh/year); inverter capacity; and how the energy will be used on-site before exporting to the grid;
- Specification of any additional equipment installed to reduce carbon emissions, if relevant;
- A metering strategy.

The development shall be carried out strictly in accordance with the details so approved prior to first operation and shall be maintained and retained for the lifetime of the development.

(b) The solar PV arrays/air source heat pumps must be installed and brought into use prior to first occupation of the relevant block. Six months following the first occupation of that block, evidence that the solar PV arrays have been installed correctly and are operational shall be submitted to and approved by the Local Planning Authority, including photographs of the solar array, installer confirmation, an energy generation statement for the period that the solar PV array has been installed, and a Microgeneration Certification Scheme certificate. The solar PV array shall be installed with monitoring equipment prior to completion and shall be maintained at least annually thereafter.

(c) Within six months of first occupation, evidence shall be submitted to the Local Planning Authority that the development has been registered on the GLA's Be Seen energy monitoring platform.

Reason: To ensure the development reduces its impact on climate change by reducing carbon emissions on site in compliance with the Energy Hierarchy, and in line with London Plan (2021) Policy SI2, and Local Plan (2017) Policies SP4 and DM22.

Overheating

Prior to the above ground commencement of the development, an updated Overheating Report shall be submitted to and approved by the Local Planning Authority. The submission shall assess the overheating risk, confirm the mitigation measures, and propose a retrofit plan. This assessment shall be based on the Energy and Sustainability Assessment rev 1 by EAL Consult (date Oct 2024) as a starting point, taking into account the outstanding requirements at application stage.

This report shall include:

- Revised and further modelling of units modelled based on CIBSE TM52 and TM59, using the CIBSE TM49 London Weather Centre files for the DSY1-3 (2020s) and DSY1 2050s and 2080s, high emissions, 50% percentile with openable and closed window scenarios;
- Demonstrating the mandatory pass for DSY1 2020s can be achieved following the Cooling Hierarchy and in compliance with Building Regulations Part O, demonstrating that any risk of crime, noise and air quality issues are mitigated appropriately evidenced by the proposed location and specification of measures by following the Cooling Hierarchy;
- Modelling of mitigation measures required to pass current and future weather files, clearly setting out which measures will be delivered before occupation and which measures will form part of the retrofit plan;
- Confirmation that the retrofit measures can be integrated within the design (e.g., if there is space for pipework to allow the retrofitting of cooling and ventilation equipment), setting out mitigation measures in line with the Cooling Hierarchy;
- Confirmation who will be responsible to mitigate the overheating risk once the development is occupied.

(b) Prior to occupation of the development, details of internal blinds to all habitable rooms and any external shading (if applicable) must be submitted for approval by the local planning authority. This should include the fixing mechanism, specification of the blinds, shading coefficient, etc. Occupiers must retain internal blinds for the lifetime of the development, or replace the blinds with equivalent or better shading coefficient specifications.

(c) Prior to occupation, the development must be built in accordance with the overheating measures as approved in part (a) and retained thereafter for the lifetime of the development:

- *Openable windows;*
- *Fixed internal blinds with white backing;*
- *Window g-values of 0.5 or better;*
- *Mechanical ventilation (4ach) to bedroom windows facing Bedford Road;*
- *Hot water pipes insulated to high standards.*
- *Any further mitigation measures as approved by or superseded by the latest approved Overheating Strategy.*

REASON: In the interest of reducing the impacts of climate change, to enable the Local Planning Authority to assess overheating risk and to ensure that any necessary mitigation measures are implemented prior to construction, and maintained, in accordance with London Plan (2021) Policy SI4 and Local Plan (2017) Policies SP4 and DM21.

Sustainability Strategy

Prior to above ground commencement of development, details of the sustainability strategy shall be submitted to and approved by the Local Planning Authority. This shall include specifications, plans and sections that demonstrate sustainable design, layout, construction techniques and proposed measures to improve the sustainability of the scheme including but not limited to sustainable transport, health and wellbeing, reduction of material use and waste, water consumption, and flood risk, drainage improvements, and biodiversity enhancement.

The report shall include:

- *Urban greening and biodiversity enhancement measures;*
- *Details on cycle parking facilities;*
- *A target percentage for responsibly sourced, low-impact materials used during construction;*
- *Justification for the demolition of the existing buildings in terms of its impact on the whole life carbon of the development and the circular economy principles;*
- *Details on how surface water runoff will be reduced and overall sustainable drainage strategy;*
- *Climate Change mitigation measures to be considered for the external spaces and the impact of the increase in severity and frequency of weather events on the building structures.*

Reason: To ensure the development provides the maximum provision towards increasing the level of sustainability in line with London Plan (2021) policies G6, SI7 and Haringey Local Plan Policy SP4, DM21, DM25, and DM29.

Living roofs and walls

(a) Prior to the above ground commencement of development, details of the living roofs and living wall must be submitted to and approved in writing by the Local Planning Authority. Living roofs must be planted with flowering species that provide amenity and biodiversity value at different times of year. Plants must be grown and sourced from the UK and all soils and compost used must be peat-free, to reduce the impact on climate change. The submission shall include:

- i) A roof plan and relevant floor plan identifying where the living roofs will be located; and a ground floor plan identifying where the living walls will be rooted in the ground;*
- ii) A section demonstrating settled substrate levels of no less than 120mm for extensive living roofs (varying depths of 120-180mm), and no less than 250mm for intensive living roofs (including planters on amenity roof terraces);*
- iii) Roof plans annotating details of the substrate: showing at least two substrate types across the roofs, annotating contours of the varying depths of substrate*
- iv) Details of the proposed type of invertebrate habitat structures with a minimum of one feature per 30m² of living roof: substrate mounds and 0.5m high sandy piles in areas with the greatest structural support to provide a variation in habitat; semi-buried log piles / flat stones for invertebrates with a minimum footprint of 1m², rope coils, pebble mounds of water trays;*
- v) Details on the range and seed spread of native species of (wild)flowers and herbs (minimum 10g/m²) and density of plug plants planted (minimum 20/m² with root ball of plugs*

25cm³) to benefit native wildlife, suitable for the amount of direct sunshine/shading of the different living roof spaces. The living roofs will not rely on one species of plant life such as Sedum (which are not native);

vi) Roof plans and sections showing the relationship between the living roof areas and photovoltaic array; and

vii) Management and maintenance plan, including frequency of watering arrangements.

(b) Prior to the occupation of 90% of the dwellings, evidence must be submitted to and approved by the Local Planning Authority that the living roofs have been delivered in line with the details set out in point (a). This evidence shall include photographs demonstrating the measured depth of substrate, planting and biodiversity measures. If the Local Planning Authority finds that the living roofs have not been delivered to the approved standards, the applicant shall rectify this to ensure it complies with the condition. The living roofs shall be retained thereafter for the lifetime of the development in accordance with the approved management arrangements.

Reason: To ensure that the development provides the maximum provision towards the creation of habitats for biodiversity and supports the water retention on site during rainfall. In accordance with London Plan (2021) Policies G1, G5, G6, SI1 and SI2 and Local Plan (2017) Policies SP4, SP5, SP11 and SP13.

Biodiversity measures

(a) Prior to the commencement of development, details of ecological enhancement measures and ecological protection measures shall be submitted to and approved in writing by the Council. This shall detail the biodiversity net gain, plans showing the proposed location of ecological enhancement measures, a sensitive lighting scheme, justification for the location and type of enhancement measures by a qualified ecologist, and how the development will support and protect local wildlife and natural habitats. This assessment shall be based on the Biodiversity Net Gain Assessment by Arbtech (dated 11/04/24) achieving a net gain of 100% on site.

(b) Prior to the occupation of development, photographic evidence and a post-development ecological field survey and impact assessment shall be submitted to and approved by the Local Planning Authority to demonstrate the delivery of the ecological enhancement and protection measures is in accordance with the approved measures and in accordance with CIEEM standards.

Development shall accord with the details as approved and retained for the lifetime of the development.

Reason: To ensure that the development provides the maximum provision towards the creation of habitats for biodiversity and the mitigation and adaptation of climate change. In accordance with London Plan (2021) Policies G1, G5, G6, SI1 and SI2 and Local Plan (2017) Policies SP4, SP5, SP11 and SP13.

Urban greening factor

Prior to completion of the construction work, an Urban Greening Factor calculation should be submitted to and approved by the Local Planning Authority demonstrating a target factor of 0.4 has been met through greening measures.

Reason: To ensure that the development provides the maximum provision towards the urban greening of the local environment, creation of habitats for biodiversity and the mitigation and adaptation of climate change. In accordance with London Plan (2021) Policies G1, G5, G6, SI1 and SI2 and Local Plan (2017) Policies SP4, SP5, SP11 and SP13.

BREEAM

a) Prior to commencement on site for the relevant non-residential unit, a Design Stage Assessment and evidence that the relevant information has been submitted to the BRE for a design stage accreditation certificate must be submitted to the Local Planning Authority confirming that the development will achieve a BREEAM "Excellent" outcome (or equivalent), aiming for "Outstanding". This should be accompanied by a tracker demonstrating which credits are being targeted, and why other credits cannot be met on site.

- b) Within 6 months of commencement on site, the Design Stage Accreditation Certificate must be submitted. The development shall then be constructed in strict accordance with the details so approved, shall achieve the agreed rating and shall be maintained as such thereafter for the lifetime of the development.
- c) Prior to occupation, the Post-Construction Stage Assessment and tool, and evidence that this has been submitted to BRE should be submitted for approval, confirming that the development has achieved a BREEAM "Excellent" outcome (or equivalent), subject to certification by BRE.
- d) Within 6 months of occupation, the Post-Construction certificate issued by the Building Research Establishment must be submitted to the local authority for approval, confirming this standard has been achieved.

In the event that the development fails to achieve the agreed rating for the development, a full schedule and costings of remedial works required to achieve this rating shall be submitted for our written approval with 2 months of the submission of the post construction certificate. Thereafter the schedule of remedial works must be implemented on site within 3 months of the Local Authority's approval of the schedule, or the full costs and management fees given to the Council for offsite remedial actions.

Reason: In the interest of addressing climate change and securing sustainable development in accordance with London Plan (2021) Policies SI2, SI3 and SI4, and Local Plan (2017) Policies SP4 and DM21.

Carbon Management Response 28/04/2025

In preparing this consultation response, we have reviewed:

- Energy and Sustainability Assessment rev 3 prepared by EAL Consult (date Feb 2025) - including an updated Overheating Assessment in the appendix
- GLA Carbon Emissions Reporting Spreadsheet rev 2.xlsx
- GLA Be Seen Spreadsheet rev 1.xlsm
- TM54 Operational Energy Assessment rev 1 by AJIBS Design UK Limited (dated 10 Feb 2025)

1. Summary

The overall reduction of carbon dioxide emissions on site has not changed from the previous revision, it achieves a reduction of 82%, which is supported in principle. This response details the clarifications and changes. Planning conditions have been revised to reflect the proposed changes to secure the benefits of the scheme.

2. Energy Strategy

The applicant has revised the energy modelling of the commercial units at Be Lean stage using the corrected heating system, therefore the distribution of carbon reductions across Be Lean and Be Green stages for the commercial units have been changed.

There is no change to the carbon reduction for the residential units, and the overall site-wide carbon reduction has also not changed.

Amendments in [blue](#):

<i>Site-wide (SAP10.2 emission factors)</i>			
	Total regulated emissions (Tonnes CO ₂ / year)	CO ₂ savings (Tonnes CO ₂ / year)	Percentage savings (%)
Part L 2021 baseline	12.0		
Be Lean	9.0	2.9	24%
Be Clean	9.0	0	0%
Be Green	2.2	6.8	57%
Cumulative savings		9.8	82%
Carbon shortfall to offset (tCO ₂)	2.2		

Carbon offset contribution	£95 x 30 years x 2.2 tCO ₂ /year = £6,288
10% management fee	£628

Amendments in [blue](#):

	Residential			Non-residential		
<i>(SAP10.2 emission factors)</i>	Total regulated emissions (tCO ₂ /year)	CO ₂ savings (tCO ₂ /year)	Percentage savings (%)	Total regulated emissions (tCO ₂ /year)	CO ₂ savings (tCO ₂ /year)	Percentage savings (%)
Part L 2021 Baseline	10.7			1.3		
Be Lean savings	7.9	2.8	26%	1.1	0.2	12%
Be Clean savings	7.9	0	0%	1.1	0	0%
Be Green savings	1.5	6.4	60%	0.7	0.4	33%
Cumulative savings		9.2	86%		0.6	45%
Carbon shortfall to offset (tCO₂)	1.5			0.7		

Energy Use Intensity (EUI) / Space Heating Demand (SHD)

The applicant has revised their incorrect EUIs and SHDs in their previous ES to the following:

	Proposed Development	GLA Benchmark
Building type	Residential	Residential
EUI	103.05 kWh/m ² /year	Does not meet GLA benchmark of 35 kWh/m ² /year
SHD	9.21 kWh/m ² /year	Meets GLA benchmark of 15 kWh/m ² /year
Methodology used	Part L1 SAP 10.2	

	Proposed Development	GLA Benchmark
Building type	Commercial	All other non-residential
EUI	182.75 kWh/m ² /year	Does not meet benchmark of 55 kWh/m ² /year
SHD	21.61 kWh/m ² /year	Meets GLA benchmark of 15 kWh/m ² /year
Methodology used	Part L2 SBEM	

Actions:

- Both the EUIs and SHDs of the residential units and the commercial units have been revised, but the EUIs are still very high. Potentially they are still not being modelled correctly, applicant to clarify why the EUIs are so high.

Energy – Lean

Residential:

The applicant has confirmed Waste Water Heat Recovering (WWHR) will now be included as part of the proposal to align with the energy modelling which has included WWHR.

Commercial:

The applicant has corrected the energy modelling at Be Lean stage using the proposed building system with an efficiency of 3.0.

Actions:

- As noted in the previous comment, the BRUKL worksheet has shown the floor U-value has been modelled as 0.13 W/m²K instead of 0.18 W/m²K as stated in ES. The applicant has now remodelled with a floor U-value of 0.10 W/m²K, however this has not corrected the inconsistency. Applicant should align the energy modelling with the proposed efficiency of the building fabric.

Energy – Green

The applicant has proposed to apportion some of the PV array to the commercial to maximize the use of electricity generated during the daytime. This is supported.

Total solar array peak output	11.16 kWp
Apportioned to the residential units	9.16 kWp
Apportioned to the commercial units	2 kWp

Energy – Be Seen

The applicant has updated the GLA Be Seen Spreadsheet to match with the current design proposal.

3. Carbon Offset Contribution

There is no change from the previous revision. A carbon shortfall of 2.2 tCO₂/year remains. The remaining carbon emissions will need to be offset at £95/tCO₂ over 30 years plus 10% management fee.

4. Overheating

The OH report has been corrected to model scenarios following the cooling hierarchy, and internal blinds are no longer modelled despite being proposed as they cannot be used to comply with the overheating criteria.

Residential:

The revised scenarios and their subsequent results are as follows:

DSY 1 2020s	Criteria A	Criteria B
Scenario 1: (Unconstrained) with openable windows and passive mitigation measures	All pass	All pass
Scenario 2: (Constrained) Policy-compliant with bedroom windows closed at night and background ventilation only to LKD.	All fail	All fail
Scenario 3: Scenario 2 + external shading (brise soleil)	All fail*	All fail
Scenario 4: Scenario 3 + mechanical cooling	All pass	All pass

** The overheating result in Scenario 3 has improved from Scenario 2 with the incorporation of external shading, the results of some first floor units just marginally over the threshold of criteria A.*

Commercial:

The report has modelled the following scenarios:

Scenario 1: Without active cooling

Scenario 3: With active cooling

All rooms pass all three criteria using DSY 1 2020s and DSY 2 2050s weather files, but all two commercial units fail to meet the requirement at the 2080s scenario (DSY 3).

Residential	Commercial
Proposed mitigation measures to pass the overheating requirements for 2020s DSY1: - Natural ventilation, with windows 100% openable facing Alexandra Park Road - Bedrooms facing Bedford Road: Windows closed with mechanical ventilation providing 4 air changes per hour	Proposed mitigation measures: - Retractable awnings; - Non-openable

- Living room facing Bedford Road: Ventilated by open windows but provided with background ventilation with acoustic vents. - External horizontal louvres / brise soleils above windows to the East façade - External green walls to the west façade (not modelled) - Projecting balconies from the floor above to the south facade - Mechanical cooling (no details) - Internal blinds (This is not included in the modelling)	- windows, mechanical ventilation (no details). - Active cooling (no details).
A future retrofit plan has been proposed with the following measures: - Further improvements to external shading - Use of higher-performance glazing - Additional passive ventilation measures	

Actions:

- No details of the mechanical cooling for the residential units and commercial units have been provided. This will be conditioned.
- Applicant should explore the potential to increase the projection of the external solar shading to minimise the cooling demand of the development.

5. Planning Obligations Heads of Terms

- Be Seen commitment to uploading energy data
- Energy Plan
- Sustainability Review
- Estimated carbon offset contribution (and associated obligations) of £6,288 (indicative), plus a 10% management fee; carbon offset contribution to be re-calculated at £2,850 per tCO2 at the Energy Plan and Sustainability stages.

6. Planning Conditions

The following conditions have been revised to secure the benefits of the scheme.

Only the revised conditions have been included below (changes marked in red/bold), for the rest of conditions without changes please refer to our previous comments.

Energy Strategy

The development hereby approved shall be constructed in accordance with the Energy and Sustainability Assessment rev 3 by EAL Consult (dated Feb 2025) delivering a minimum 82% improvement on carbon emissions over 2021 Building Regulations Part L, with high fabric efficiencies, communal air source heat pumps (ASHPs) and a minimum 11.16 kWp solar photovoltaic (PV) array.

(a) Prior to above ground construction, details of the Energy Strategy shall be submitted to and approved by the Local Planning Authority. This must include:

- *Confirmation of how this development will meet the zero-carbon policy requirement in line with the Energy Hierarchy;*
- *Confirmation of the necessary fabric efficiencies to achieve a minimum **24%** reduction;*
- ***Specification of the waste water heat recovery system, and the layout of the pipework;***
- *Details to reduce thermal bridging including the parapet and terrace junctions;*
- *Location, specification and efficiency of the proposed ASHPs (Coefficient of Performance, Seasonal Coefficient of Performance, and the Seasonal Performance Factor), with plans showing the ASHP **centralised plant, interface units in flats**, pipework and noise and visual mitigation measures;*
- *Specification and efficiency of the proposed Mechanical Ventilation and Heat Recovery (MVHR), with plans showing the rigid MVHR ducting and location of the unit;*
- *Details of the PV, demonstrating the roof area has been maximised, with the following details: a roof plan; the number, angle, orientation, type, and efficiency level of the PVs; how overheating of the panels will be minimised; their peak output (kWp) and annual energy generation (kWh/year); inverter capacity; and how the energy will be used on-site before exporting to the grid;*

- Specification of any additional equipment installed to reduce carbon emissions, if relevant;
- A metering strategy.

The development shall be carried out strictly in accordance with the details so approved prior to first operation and shall be maintained and retained for the lifetime of the development.

(b) The solar PV arrays/air source heat pumps must be installed and brought into use prior to first occupation of the relevant block. Six months following the first occupation of that block, evidence that the solar PV arrays have been installed correctly and are operational shall be submitted to and approved by the Local Planning Authority, including photographs of the solar array, installer confirmation, an energy generation statement for the period that the solar PV array has been installed, and a Microgeneration Certification Scheme certificate. The solar PV array shall be installed with monitoring equipment prior to completion and shall be maintained at least annually thereafter.

(c) Within six months of first occupation, evidence shall be submitted to the Local Planning Authority that the development has been registered on the GLA's Be Seen energy monitoring platform.

Reason: To ensure the development reduces its impact on climate change by reducing carbon emissions on site in compliance with the Energy Hierarchy, and in line with London Plan (2021) Policy SI2, and Local Plan (2017) Policies SP4 and DM22.

Overheating

Prior to the above ground commencement of the development, an updated Overheating Report shall be submitted to and approved by the Local Planning Authority. The submission shall assess the overheating risk, confirm the mitigation measures, and propose a retrofit plan. This assessment shall be based on the Energy and Sustainability Assessment rev 3 by EAL Consult (dated Feb 2025) and **passive mitigation measures as a minimum should include brise soleils and retractable awnings in accordance with 1544/07 rev A Elevations as proposed by CG Architects (dated Mar 2024).**

This report shall include:

- Revised and further modelling of units modelled based on CIBSE TM52 and TM59, using the CIBSE TM49 London Weather Centre files for the DSY1-3 (2020s) and DSY1 2050s and 2080s, high emissions, 50% percentile with openable and closed window scenarios;
- Demonstrating the mandatory pass for DSY1 2020s can be achieved following the Cooling Hierarchy and in compliance with Building Regulations Part O, demonstrating that any risk of crime, noise and air quality issues are mitigated appropriately evidenced by the proposed location and specification of measures by following the Cooling Hierarchy;
- Modelling of mitigation measures required to pass current and future weather files, clearly setting out **how the proposed mechanical cooling demand will be reduced, and** which measures will be delivered before occupation and which measures will form part of the retrofit plan;
- **Details of the external brise soleils and retractable awnings in accordance with 1544/07 rev A Elevations as proposed by CG Architects (dated Mar 2024); drawings should include dimensions and specifications of the brise soleils and retractable awnings;**
- **Details of internal blinds to all habitable rooms, including the fixing mechanism, specification of the blinds, shading coefficient;**
- **Details of mechanical cooling for the residential and commercial units, including the active cooling demand on an area-weighted average in MJ/m² and MY/year, specifications and efficiency of the equipment.**
- Confirmation that the retrofit measures can be integrated within the design (e.g., if there is space for pipework to allow the retrofitting of cooling and ventilation equipment), setting out mitigation measures in line with the Cooling Hierarchy;
- Confirmation who will be responsible to mitigate the overheating risk once the development is occupied.

(b) Prior to occupation, the development must be built in accordance with the overheating measures as approved in part (a) and retained thereafter for the lifetime of the development:

- Openable windows;

- **External shading / brise soleil;**
- **Retractable awnings (for the commercial units);**
- Fixed internal blinds with white backing;
- Window g-values of 0.5 or better;
- Mechanical ventilation (4ach) to bedroom windows facing Bedford Road;
- **Background ventilation with acoustic vents to living rooms facing Bedford Road;**
- Hot water pipes insulated to high standards.
- Any further mitigation measures as approved by or superseded by the latest approved Overheating Strategy.

REASON: In the interest of reducing the impacts of climate change, to enable the Local Planning Authority to assess overheating risk and to ensure that any necessary mitigation measures are implemented prior to construction, and maintained, in accordance with London Plan (2021) Policy SI4 and Local Plan (2017) Policies SP4 and DM21.