Addendum to the Energy & Sustainability Statement Report ref: 1470 Ref 02 Rev 'F' Dated – 14th November 2023

Rev 01

07/06/2024

Holiday Inn London - Camden Lock

30 Jamestown Rd, London NW1 7BY

Prepared for: 4C Group

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Issue	Date	Issue Details	Changes	Prepared by	Reviewed by	Approved by
0	14/05/2024	For Comments		MA		
01	07/06/2024	For Comments	Carbon Calculation added	MA		

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Content

1. Background

Energylab Consulting Ltd. has been tasked with reviewing the initial energy strategy proposed for the Holiday Inn, Camden, specifically for the 11 additional rooms on the 5th floor.

The previous Energy Strategy was conducted by Sabinus Building Services Limited on November 14, 2023. The document reference is: 1470 Ref 02 Rev 'F' Dated – November 14, 2023.

The original plan aimed to add 11 extra guest rooms on the 5th floor by expanding the existing wings and incorporating the plant room into the new structure. The plant room was planned to be relocated to a new 6th floor.

The current plan has been significantly simplified, with minimal extensions to the wings of the existing 5th floor. The plant room will remain in place and be repurposed. The 11 additional guest rooms will be created by redesigning the larger rooms on the existing 5th floor and expanding the floor to accommodate approximately 5 new guest rooms.

2. Executive Summary

The revised simplified plan entails adding a small extension to the existing 5th floor wings, which will accommodate approximately 5 new rooms. The extension will cover an area of around 132 sqm. This is a significant reduction compared to the previous proposed extension, which was approximately 199 sqm and included a new 6th floor for a plant room.

Due to its smaller size, the additional extension does not need to comply with the energy efficiency standards for new builds or the zero-carbon planning target. These targets are more applicable to larger extensions where there are fewer restrictions in implementing energy efficiency measures. The Building Regulations, Camden Planning, and London Plan have established a threshold for compliance with these targets, which are as follows:

- Building Regulations: The new extension must be both larger than 100 sqm and account for more than 25% of the existing area.
- Planning: The new build must have an area between 500 and 1000 sqm.

None of these requirements apply to the simplified new scheme.

The smaller extension will be designed in accordance with the energy efficiency requirements outlined in Part L 2021 for existing buildings. The energy efficiency and carbon reduction approach for the extension will follow the London Plan Energy hierarchy:

1. The focus will be on reducing energy demand by improving the thermal performance of the facade, surpassing the recommended performance stated in the Part L 2021 guidance for refurbished developments.
2. Energy will be provided efficiently through the use of efficient systems and appropriate controls.
3. A renewable and low carbon system based on Air Source Heat Pump principles will be proposed for space heating and cooling.

The project design team's holistic approach to sustainability also includes principles of the circular economy and reducing the life cycle carbon impact of any proposed services strategy. The goal is to specify new systems that can potentially utilise the existing services infrastructure, such as the domestic hot water system, cold-water system pipework, and ventilation ductwork. These existing systems will undergo thorough examination and evaluation to ensure they meet the new requirements and comply with current regulations.

3. Project Description

The proposed development is located in London, in the Borough of Camden at 30 Jamestown Rd, Camden, London NW1 7BY.

The planned project involves constructing a small side extension on the current level 5, creating new guest rooms on level 5 and upgrading the existing plant equipment, specifically the space heating/cooling and ventilation systems on level 5 and the mezzanine level plant room.

The scope of work in summary:

1. Level 5 (Guest rooms): The larger guest rooms will be transformed into additional smaller guest rooms through a remodelling process. Furthermore, the floor will be expanded to accommodate approximately addition of 5 new rooms.
2. Level 5 (Plant - existing): The current air-cooled chiller, 3 Air Handling Units (AHU), existing CHP flue, gas fired boilers, and hot water cylinders along with any related components will be removed. A new riser will be installed between grid lines 4 and 5.
3. Level 5 (Plant -New): installation of new VRV system, installation of new AHUs, installation of new hot water cylinders including any ancillaries associated with these systems. This would also include the re-routing of the existing kitchen extract duct and inline fan to allow more space to the VRV system installation.
4. Level Basement (Plant): Removal of the CHP and any associated ancillaries. UKPN substation rooms require attention in terms of ventilation provision.

4. The Energy Hierarchy

4.1 Be Lean - Reduce Energy Demand

A variety of measures have been implemented to enhance the energy efficiency of the 5th building fabric extension and services design.

- The level-5 extension windows have been enhanced with an improved 'g' value of 0.19
- The thermal performance of the building fabric in the extension has been upgraded, surpassing the standards set by the Building Regulations. This aligns with the guidelines stated in CC1 section 8, which focuses on energy efficiency in existing buildings
- The extension also boasts good air tightness achieved through meticulous design and construction techniques
- Additionally, the ventilation systems in place have low specific fan powers and include heat recovery capabilities.
- To further conserve energy, low energy lighting has been installed, and where suitable, automatic lighting control systems have been implemented to optimise both occupancy and daylight control

4.2 Step 2 - Be Clean - Supply Energy Efficiently

Please refer to section 3.1 of the Energy & Sustainability Statement provided by Sabinus Building Services Limited, reference number 1470 Ref 02 Rev 'F' dated November 14th, 2023. For further details, please see Appendix A.

The proposal aims to replace the current outdated and inefficient ventilation system with a more efficient Air Handling Units (AHUs) that incorporates a suitable heat recovery mechanism. This will help minimise energy wastage and ensure the efficient delivery of fresh air to all relevant areas.

Additionally, the proposal aims to replace the existing hot water cylinders with a new and efficient system that includes the appropriate level of insulation. This will help minimise energy wastage and ensure the efficient delivery of hot water.

The lighting is also being improved to modern energy efficient fittings.

4.3 Step 3 - Be Green - Renewable Energy

The proposal is to utilise a new renewable and low carbon ASHP technology based on a Variable Refrigerant Volume (VRV) system to provide space heating and cooling.

The VRV system could be 400% more efficient in delivering space heating compared to the existing system.

The new system will be installed in place of the existing outdated air-cooled chiller located within the existing 5th floor plant room.

5. Carbon Reduction Calculations

As the proposed development is a refurbishment of an existing building (Renew of the building services serving the existing building) with a relatively very small extension to the 5th floor, it will be assessed in line with the relevant paragraphs of section 6 of the GLA Energy Assessment Guidance (June 2022). *Where major refurbishments are being carried out, an estimate of the CO2 savings from the refurbishment of the building will be expected. To provide this, applicants are required to estimate the CO2 emission baseline performance of the existing building using Building Regulations approved compliance software.*

The design team has chosen to implement the above, even though it is not mandatory or relevant to this project, in order to showcase and measure the potential decrease in carbon emissions resulting from the suggested sustainable design strategy.

The carbon reduction calculations have clearly identified the carbon footprint after each stage of the energy hierarchy:

- Baseline: Existing building using BRs approved compliance software
- After energy demand reduction (be lean)
- After heat network connection (be clean)
- After renewable energy (be green).

The report confirms that the energy and carbon reduction strategy under the climate change mitigation measures proposed for the proposed development is in line and in compliance with the relevant and applicable targets and requirements listed within the following planning policies of the Camden Council and the London Plan:

1. Camden Council's Design Guidance B Report 2022
2. Camden Local Plan 2017
3. The London Plan 2021 relevant planning policies within chapter 9, i.e. Energy Hierarchy and carbon reduction targets
4. GLA Energy Assessment Guidance June 2022

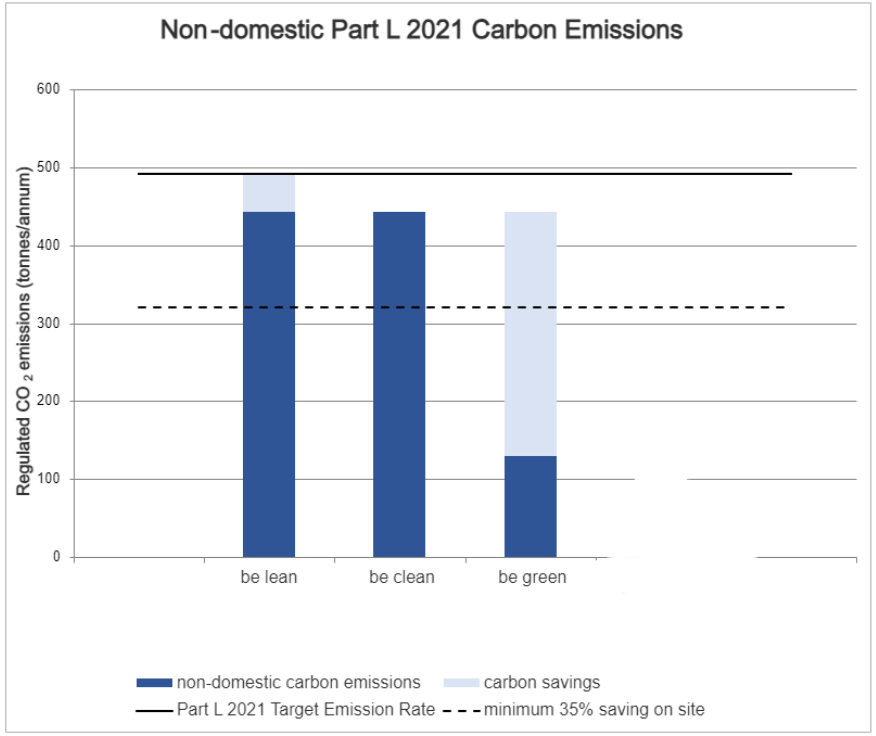
In line with the aforementioned planning policies, as described earlier, a baseline target emission rate has been established and the energy reductions have then been calculated in line with the London Plan Energy Hierarchy.

Table 1 displays the percentage reductions in CO2 emissions and the improvements against the baseline O2 emission of the existing building.

	Regulated non-residential carbon dioxide savings	
	(Tonnes CO2 per annum)	(%)
Be lean: savings from energy demand reduction	49.2	10%
Be clean: savings from heat network	0.0	0%
Be green: savings from renewable energy	313.5	64%
Total Cumulative Savings	362.7	**74%**

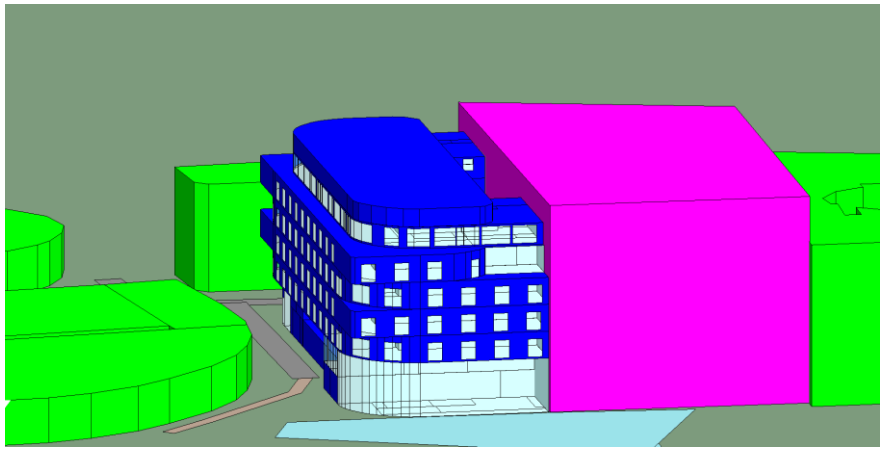
As a refurbishment of an existing building (Renew of the building services serving the existing building) with a relatively very small extension to the 5th floor is not held to the net-zero carbon reduction target criteria, this criterion is only applicable to new build major developments only (not applicable to the proposed development). Figure 2 below displays predicted CO2 reductions across each phase of the London Plan Energy Hierarchy.

The refurbishment would have the potential to achieve a total reduction of **74%** against the baseline CO2 emissions.



The design team is committed and working to the circular economy principles to repurpose, refurbish and reuse any existing material where technically feasible, in turn, reducing the carbon footprint of the development compared to 'all new' approaches. Furthermore, the proposed development will adopt a number of sustainable design and

construction measures to further promote reduced carbon emissions and sustainability.



6. Conclusion

The new limited and simplified extension to the existing 5th floor has been designed in line with the relevant and appropriate Building Regulations and Planning policies that are appropriate for this small extension.

The project design team's holistic approach to sustainability also includes principles of the circular economy and reducing the life cycle carbon impact of any proposed services strategy. The goal is to specify new systems that can potentially utilise the existing services infrastructure, such as the domestic hot water system, cold-water system pipework, and ventilation ductwork. These existing systems will undergo thorough examination and evaluation to ensure they meet the new requirements and comply with current regulations.

The carbon reduction targets and renewables technologies outlined in the initial Energy Statement provided by Sabinus Building Services Limited on November 14, 2023 may not be entirely applicable and is unlikely to be economically and/or technically viable. Specifically, the following aspects are highlighted:

1. The new simplified extension is not mandated to adhere to Part L 2021 regulations for new constructions. Nevertheless, it has been developed in accordance with the energy efficiency recommendations of Part L 2021 for an existing building with a minor extension.
2. The new simplified extension is not required to meet the zero-carbon objective. Nonetheless, it has been structured in alignment with the GLA energy hierarchy approach. Consequently, the following are not obligatory to achieve the zero-carbon target:
    a. The installation of PV on the roof
    b. The utilisation of ASHP to deliver hot water to the additional 5 new rooms
    c. The payment of a Cash in-lieu contribution amounting to £10,214

The refurbishment would have the potential to achieve a total reduction of **74%** against the baseline CO2 emissions.