



CWC

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consulting

58 Mosley Street

NABERS – Additional Photovoltaic requirement

Report

Date: 28/11/2023

Ref: 2698-CWC-XX-RP-N-0004

Revision Record

Date	Reference	Revision	Prepared By	Checked By	Authorised By
28/11/2023	2698-CWC-XX-RP-N-0004	0	P Johnson	-	P Johnson
			PJ		PJ

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1.0 Introduction

58 Mosley Street aims to lead in sustainable design and construction, aspiring to attain a 5-star NABERS UK Design for Performance rating. The proposed photovoltaic installation plays a pivotal role in achieving this target, contributing significantly to the creation of an energy-efficient office space for the future.

CWC has been entrusted with the responsibility of conducting the NABERS assessment and proposing solutions embedded within the Mechanical and Electrical (M&E) design, including the placement of the photovoltaic array on the roof. Engaging in an iterative design process with the broader design team and subjecting the proposal to independent assessment, it is recommended to enhance the quantity of photovoltaics currently slated for installation on the roof of 58 Mosley Street in Manchester. This strategic adjustment is aimed at optimising the sustainability and energy efficiency of the building.

2.0 NABERS assessment

Based on the findings from the stage 3 NABERS assessment and report, it has been identified that the initial Photovoltaic (P.V.) proposal provided only a 15.8% margin to attain the targeted 5-star NABERS rating.

According to the NABERS Guide to Design for Performance, it is recommended to achieve a margin of approximately 25% above the targeted rating. This allowance is essential to accommodate the detailed design phase (RIBA stage 4) of the design process, where margins may diminish due to the finer details of the design.

In adherence to NABERS assessment requirements, and to ensure the confidence of achieving the targeted 5-star result, NABERS CWC engaged an independent assessor, Darren Coppins BEng CEng MCIBSE MASHRAE BEMP Chartered Engineer & Director, to conduct a review before submission to the BRE.

The Independent Design Reviewer, after scrutinising the design, simulations, and associated risks, recommended a design margin of approximately 25%. This aligns with NABERS recommendations, where projects typically implement a modelling margin of ~25%. Notably, the current Photovoltaic allowance (370m²) specified at the planning stage falls short of this recommendation, with only a 15.8% margin, as flagged by the independent assessor.

To meet the recommended 25% spare margin as advised by the independent assessor and in accordance with the NABERS guide, we propose an additional 177m² of photovoltaic panels as shown on the revised plans. This adjustment brings the assessment result to 24.4% above a 5-star rating, aligning with NABERS guidance.

It's important to highlight that the independent assessor has reviewed and accepted the proposed Photovoltaic allowance and the associated margin, instilling confidence in achieving the desired 5-star NABERS rating.

3.0 Conclusion

Hence, the conclusion drawn from this report is that the building has the potential to secure a 5-star NABERS rating, particularly when the building reaches a state of substantial occupancy and has been effectively managed throughout the phases of construction, commissioning, and operation. This recommendation is grounded in the proposed augmentation of the photovoltaic area by 177m², elevating the total PV coverage from 370m² to approximately 547m².