

Update Report (April 2024)

Introduction

This report has been prepared to assess the evidence provided for the partial discharge of Condition 8 of Outline Application 14/02121/OUT amended by 22/03492/NMA and S106 Schedule 11 (Zero Carbon) from 23/02786/OBL for Phase 2 of Himley Village, which builds upon the previous Summary Report by Bioregional from October 2023. Additional information and evidence has been provided by Hydrock in the document titled Energy Strategy Addendum, dated 15 February 2024, which this Update Report assesses.

The addendum provided by Hydrock partially addresses Condition 8 but does not address Conditions 13, 20 and 36. Therefore, additional information is expected and required to discharge the conditions not addressed in the Energy Strategy Addendum. The Addendum primarily addresses points made from the 'Summary Report' from October 2023 in relation to S106 Schedule 11 (Zero Carbon) from 23/02786/OBL.

Energy Strategy Addendum – response to Schedule 11

Section 1.2 of the Energy Strategy Addendum clarifies that localised heat pumps will be installed over a connection to the gas-powered NW Bicester heat network. The original statement from 2014 that a district heating connection will be made has been acknowledged to be an outdated approach by Hydrock and therefore will not be pursued.

It is welcomed that a more efficient air-source-heat-pump has been selected, with a winter efficiency of 342%. As stated in the Addendum, hot water demand has significantly reduced as a result of the upgrade. However, the increased energy use for heating in Figure 2 has not been explained in the text, which is unexpected due to the increase heat pump efficiency, which should result in less energy consumption for heating purposes. **Further clarity here would be beneficial.**

A reduction in unregulated energy has been achieved from 23.3 kWh/m²/year to 18.65 kWh/m²/year through updating occupancy profiles and equipment efficiencies. It has not been made clear what these changes to occupancy profiles are and what efficiency improvements to specific appliances have been assumed to achieve the reduction in unregulated energy. **Further information and detail is required by Hydrock to clarify and evidence the significant reduction.**

Overall reduction to total operational carbon emissions is stated to be 103%, indicating that this includes both regulated and unregulated energy, therefore achieving a true zero carbon definition. However, this is **not clear in the Addendum and should be made clear.**

Additionally, no comparison of the improved Energy Use Intensity value to 46 kWh/m²/year has been made against the solar PV output, which would determine whether a true zero carbon definition has been achieved. A **comparison should be made between the overall energy consumption of the buildings against the predicted solar PV output**, where the latter should be equal to or exceed the former, represented as kWh/year. The comparison should be provided alongside a carbon balance spreadsheet, which was stated as missing in the Summary Report (October 2023) and has not been provided alongside the Energy Strategy Addendum. A **carbon balance spreadsheet should be provided by Hydrock**, including the balance of energy consumption against solar PV output to explicitly demonstrate how the true zero carbon definition is achieved.

Detailed information on the level of solar PV output on each dwelling type should be provided. Where differences occur, these should be explicitly stated so that any variation in anticipated energy bills between

dwelling types can be determined. To mitigate any disparity between dwelling types, energy sharing opportunities should be explored.

Conclusion

Overall, the approach to complying with the true zero carbon definition is satisfactory because energy demand has been reduced to high performance levels. However, further information, outlined in the main text above, remains necessary to confirm that the predicted performance levels are appropriately set up to be delivered in practice.

Other outstanding points from the October 2023 Summary Report that have not been addressed by the Energy Strategy Addendum are listed below. Further information/evidence should be submitted alongside other requirements made in this update report.

- Clarity on whether SAP10.1 or SAP10.2 carbon factors have been used.
- No Net Zero Carbon Implementation Strategy has been issued.
- Clarity on the link of the information provided to the wider masterplan.

It is not recommended that Condition 8 or Schedule 11 are discharged until further information stated in this report are addressed to explicitly demonstrate true zero carbon throughout the development.