

POST COMPLETION ENERGY STATEMENT REPORT

FOR

OAKWOOD LODGE

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POST COMPLETION ENERGY STATEMENT REPORT OAKWOOD LODGE

EXECUTIVE SUMMARY

This report has been compiled to validate the energy performance of the completed development at Oakwood Lodge, Wythenshawe, in accordance with our original recommendations report 1689-ESR-001-B.

The recommendations report provided a final summary model based on the most beneficial measures for the site, these being:

- Enhanced thermal envelope
- Photovoltaics to building roofs (assumed 15m² per dwelling)
- Air source heat pumps generating heating and hot water

Combining these measures achieved estimated site-wide energy and carbon savings as recorded in *Table 4.0*, below.

Whole Site Model	Annual Energy Demand kWh / Year	% Saving	Annual Carbon Emissions kgCO ₂ / Year	% Saving
Base Model	119280	N/A	29581	N/A
Combined Model	32206	73%	15087	49%

Table 4.0: Combined Model Results

Energy Performance Certificates (EPC) and SAP calculation reports have been provided for the completed development, produced by Elmhurst Energy. These record all residential units achieving an EPC rating of 'A' and exceeding the 49% combined carbon saving targeting in the recommendations report.

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OAKWOOD LODGE

1.0 INTRODUCTION

1.1 Brief

This report has been compiled to validate the energy performance of the completed development at Oakwood Lodge, Wythenshawe, in accordance with our original recommendations report 1689-ESR-001-B.

Energy Performance Certificates (EPC) and SAP calculation reports have been provided for the completed development, produced by Elmhurst Energy. These record all residential units achieving an EPC rating of 'A' and exceeding the carbon savings targeting in the recommendations report, therefore meeting or exceeding related Planning and Building Control requirements.

2.0 ENVIRONMENTAL STANDARDS

2.1 General

The findings of the initial recommendations report were incorporated into the final design for the development. EPC and SAP reports have been provided to validate the energy and carbon performance of the design against the savings targeted.

The scheme was designed and constructed in accordance with the National Energy Hierarchy, incorporating the need to reduce energy use, then supply energy efficiently and finally to utilise renewable energy where feasible.

2.2 Local Planning Requirements

The development is required to comply with Manchester City Council's Local Development Framework Core Strategy Development Plan Document. As this report considers energy use and carbon emissions relating to the proposed dwellings, it is concerned with the following elements of the Core Strategy:

Policy EN4

All development must follow the principle of the Energy Hierarchy, being designed:

- To reduce the need for energy through design features that provide passive heating, natural lighting and cooling.
- To reduce the need for energy through energy efficient features such as improved insulation and glazing.
- To meet residual energy requirements through the use of low and zero carbon energy generating technologies.

Policy EN6

As the development comprises more than 10No individual units it is expected to meet the requirements set out in Table 12.1 of the Core Strategy (unless it can be shown that this is not viable).

For this development the requirement is to achieve a 15% reduction in carbon emissions over Part L 2010 requirements.

Appendix A of the Core Strategy provides guidance and explanatory notes for demonstrating compliance with EN6. This report has been compiled in accordance with this guidance.

3.0 CONCLUSIONS

Detailed energy performance data and the supporting system inputs are recorded in the Elmhurst Energy “BREL”, “Combined Report” and “EPC” documents for each individual unit.

The development incorporated the following measures, as recommended in the original energy statement report:

1. Building elements exceeding Building Regulations minimum standards of thermal performance
2. Air source heat pumps delivering heating and hot water
3. Photovoltaic panels

The SAP and EPC results are tabulated in *Table 3.0*, below.

TIMBER CLOSE, MANCHESTER								
Address No.	TARGET RATE			DWELLING RATE			% SAVING	
	Emission Rate kgCO ₂ /m ²	Primary Energy KWH _{PE} /m ²	Fabric Energy Efficiency kWh/m ²	Emission Rate kgCO ₂ /m ²	Primary Energy KWH _{PE} /m ²	Fabric Energy Efficiency kWh/m ²	Emission Rate kgCO ₂ /m ²	Primary Energy KWH _{PE} /m ²
No.1	10.69	55.74	35.2	-0.33	11.62	33.8	103.1%	79.2%
No.2	11.13	58.11	37.3	-0.19	13.02	35.9	101.7%	77.6%
No.3	10.14	52.84	35.1	-0.57	11.32	34.1	105.6%	78.6%
No.4	10.25	53.43	35.6	-0.53	11.69	34.9	105.2%	78.1%
No.5	10.8	56.33	35.7	-0.3	11.96	34.7	102.8%	78.8%
No.6	10.92	57.0	36.3	-0.26	12.36	35.1	102.4%	78.3%
No.7	10.92	53.65	35.8	-0.26	13.26	35.1	102.4%	75.3%
No.8	10.41	54.26	36.3	-0.22	13.64	35.7	102.1%	74.9%
No.9	10.8	56.33	35.7	-0.3	11.96	34.7	102.8%	78.8%
No.10	10.92	57.0	36.3	-0.26	12.36	34.7	102.4%	78.3%
No.11	10.8	56.33	35.7	-0.3	11.96	34.6	102.8%	78.8%
No.12	10.92	57.0	36.3	-0.26	12.36	35.3	102.4%	78.3%
No.13	10.38	54.13	36.3	10.11	15.64	35.3	98.9%	71.1%
No.14	10.22	53.27	35.6	0.06	15.1	34.7	99.4%	71.7%
No.15	10.69	55.72	35.0	-0.57	10.23	34.0	105.3%	81.6%
No.16	10.69	55.72	35.0	-0.57	10.23	33.8	105.3%	81.6%
No.17	10.92	57.0	36.3	-0.26	12.36	35.2	102.4%	78.3%
No.18	10.8	56.33	35.7	-0.3	11.96	34.6	102.8%	78.8%
No.19	10.92	57.0	36.3	-0.26	12.36	35.2	102.4%	78.3%
No.20	10.8	56.33	35.7	-0.3	11.96	34.4	102.8%	78.8%

Table 3.0 – SAP & EPC Results

The SAP and EPC results show that all properties achieved the following:

- EPC 'A' Rating
- Carbon emission saving of 98.9% or more over target
- Primary energy saving of 71.1% or more over target
- Fabric efficiency rating better than target

The scheme complies with local Planning and Building Regulations targets and exceeds the targeted energy and carbon performance identified in the original energy statement report.