

1A & 1C Eynsham Drive, Abbey Wood

Energy and Sustainability Statement - Addendum

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Consultant: XCO2



ADDENDUM TO ENERGY AND SUSTAINABILITY STATEMENTS

8.863 – 1A & 1C EYNHAM DRIVE

06 September 2018 *by Marietta Gontikaki, reviewed by Lindsey Malcolm*

INTRODUCTION

This document presents a summary of the effects of the minor revisions to the proposals for *1A & 1C Eynham Drive* development scheme in the London Borough of Greenwich on the previously submitted Energy Statement (December 2017).

The revisions consist of the introduction of four duplex units on the ground floor of blocks A (two units) and C (two units) resulting in a small increase to the NIA of the residential part of the scheme; the total number of residential units remains the same. Full details of the changes proposed can be found in the accompanying DAS Addendum and associated Accommodation Schedule.

ENERGY STATEMENT ADDENDUM

The energy calculations for the domestic part of the development have been revised to take the proposed changes to the scheme into account; the calculations for the non-domestic element remain unaltered.

By implementing the three step Energy Hierarchy, the Regulated CO₂ emissions for the development have been reduced against a Part L 2013 compliant scheme through on site measures alone by:

- 35.3% (95.7 tonnes per annum) for the domestic part of the development;
- 35.9% (10.5 tonnes per annum) for the non-domestic part of the development; and
- 35.4% (106.2 tonnes per annum) across the whole site.

The proposed development complies with the London Plan CO₂ savings target of 35% overall.

To achieve 'zero carbon' for the residential portion of the scheme, 175.3 tonnes per annum of regulated CO₂, equivalent to 5,259 tonnes over 30 years, from the new-build domestic portion should be offset offsite.

The energy strategy for each step of the Energy Hierarchy as presented in the report of December 2017 remains the same, the only exception being the size of the PV array which needs to be increased by 1.9kWp (~10m²) to offset the small increase of carbon emissions resulting from the proposed changes.

In total, the PV shall comprise 108.3kWp (570m²) of horizontal roof mounted arrays with panels of 19% efficiency. For the purposes of this assessment, 89.3kWp (470m²) have been assumed to offset carbon emissions of the domestic part of the development and the remaining 19kWp (100m²) have been assumed to offset emissions of the non-domestic part of the development.

The tables in the following pages summarise the implementation of the Energy Hierarchy for the proposed scheme and detail the CO₂ emissions and savings against the baseline scheme for each step of the hierarchy; as well as the savings achieved through carbon offset.

Separate tables are presented for the domestic and non-domestic parts of the development; as well as for the site as a whole.

DOMESTIC CUMULATIVE SAVINGS

Table 1: CO₂ emissions after each step of the Energy Hierarchy for the domestic part of the development

	Carbon dioxide emissions for domestic buildings (tonnes CO ₂ per annum)	
	Regulated	Unregulated
Baseline	271.0	348.7
After energy demand reduction	268.6	348.7
After heat network/CHP	213.1	348.7
After renewable energy	175.3	348.7

Table 2: Regulated CO₂ savings from each stage of the Energy Hierarchy for the domestic part of the development

	Regulated domestic carbon dioxide savings	
	Tonnes CO ₂ per annum	% over baseline
Savings from energy demand reduction	2.4	0.9
Savings from heat network/CHP	55.6	20.5
Savings from renewable energy	37.8	13.9
Cumulative on-site savings	95.7	35.3
Cumulative for offset payments	5,259 tonnes over 30 years	

NON-DOMESTIC CUMULATIVE SAVINGS

Table 3: CO₂ emissions after each step of the Energy Hierarchy for the non-domestic part of the development

	Carbon dioxide emissions for non-domestic buildings (tonnes CO ₂ per annum)	
	Regulated	Unregulated
Baseline	29.2	8.9
After energy demand reduction	29.0	8.9
After heat network/CHP	26.5	8.9
After renewable energy	18.7	8.9

Table 4: Regulated CO₂ savings from each stage of the Energy Hierarchy for the non-domestic part of the development

	Regulated non-domestic carbon dioxide savings	
	Tonnes CO ₂ per annum	% over baseline
Savings from energy demand reduction	0.2	0.7
Savings from heat network/CHP	2.5	8.7
Savings from renewable energy	7.8	26.5
Cumulative on-site savings	10.5	35.9
Shortfall from 35% reduction	No shortfall present	

SITE-WIDE CUMULATIVE SAVINGS

Table 5: Site wide regulated CO₂ emissions and savings

	Total regulated emissions (tonnes CO ₂ /year)	Regulated CO ₂ savings (tonnes CO ₂ /year)	Percentage saving (%)
Baseline	300.3	-	-
Be Lean	297.7	2.6	0.9%
Be Clean	239.6	58.1	19.3%
Be Green	194.1	45.5	15.2%
Total		106.2	35.4%
Offset to zero carbon for domestic		5,259.0 tonnes over 30 years	
Offset for non-domestic to 35%		No shortfall present	