TWIN EARTH

Energy Strategy (Briefing note)

17 Charterhouse Street

On behalf of: Anglo American and De Beers

November 2017

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BRIEFING NOTE

This Briefing Note sets out a revised approach to calculating the carbon emissions reduction for the redevelopment of 17 Charterhouse Street. The note has been developed following feedback from Camden Council on the 1st issue of the Energy Statement (dated 9th August 2017) and a subsequent design workshop with Jenna Litherland and Gabriel Berry-Khan held on the 23rd November 2017.

The note summarises the following:

- Contextual information on which areas of the development fall under Part L2A (i.e. new extensions / infill areas) as opposed to areas which are undergoing refurbishment and therefore fall under the requirements of Part L2B.
- A revised approach to calculate the carbon reduction offset shortfall for the Charterhouse Street Block portion of the development based on inclusion of areas that are being assessed against Part L2A only.
- Details of the previous approach to calculating the carbon reduction offset shortfall based on the inclusion of all areas (new and refurbished) within the Charterhouse Street block – as detailed in the initial 'Energy and Sustainability Consultation Response' from Camden issued in October 2017.

Following the submission of the Energy Statement dated 9th August 2017, all calculations have been updated to allow for 100% of the space and hot water heating demand being met by air source heat pumps. The initial energy statement assumed a 70:30 split between air source heat pumps and gas boilers which has now been superseded following further design development to exclude gas boilers.

Policy context:

POLICY REQUIREMENT: NEW BUILD MAJOR NON-RESIDENTIAL (AND DEEP REFURBISHMENTS ASSESSED UNDER PART L2A)

Applicants must submit an energy statement showing how the development will meet the following policy requirements:

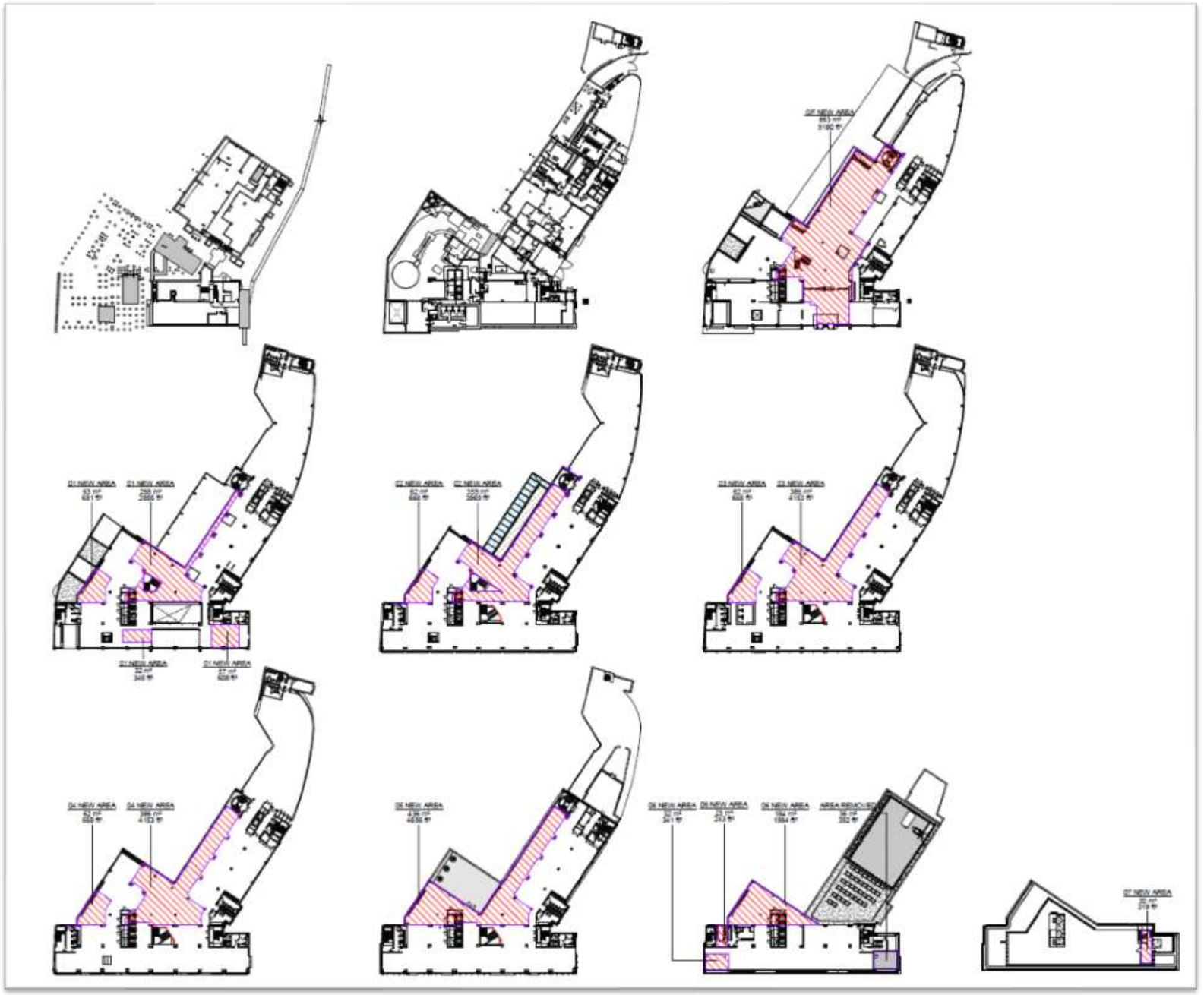
- Follow the hierarchy of energy efficiency, decentralised energy and renewable energy technologies set out in the London Plan (2011) Chapter 5 (particularly Policy 5.2) to secure a minimum 35% reduction in regulated CO2 emissions below the maximum threshold allowed under Part L 2013 in **the new build parts of the development**. GLA guidance on preparing energy assessments and CPG3 should be followed. [NOTE: Decentralised Energy Priority Areas are shown on this map]
- Follow the hierarchy of energy efficiency, decentralised energy and renewable energy technologies set out in the London Plan (2011) Chapter 5 (particularly Policy 5.2) to achieve the fullest contribution to CO2 reduction in the refurbished parts of the development. GLA guidance on preparing energy assessments and CPG3 should be followed. In particular, improvements should be sought on the minimum building fabric targets set in Part L of the building regulations
- CC1 requires all developments to achieve a 20% reduction in CO2 emissions through renewable technologies (the 3rd stage of the energy hierarchy) wherever feasible, and this should be demonstrated through the energy statement.
- Where the London Plan carbon reduction target cannot be met on-site, we may accept the provision of measures elsewhere in the borough or a financial contribution (charged at £60/tonne CO2/ yr over a 30 year period), which will be used to secure the delivery of carbon reduction measures elsewhere in the borough. Further information on this can be found here.

Pre-Application feedback from Camden Development Control (Planning Services) was received on 7 June 2017. The feedback includes the following relating to energy use and carbon emissions:

- Where any refurbished parts are considered to be a 'deep' refurbishment and therefore assessed under Part L2A, it will need to meet the 35% reduction target for a new build.
- The fullest contribution to CO2 reduction in the refurbished parts of the development. In particular, improvements should be sought on the minimum building fabric targets set in Part L of the building regulations

New v's refurbished areas

Pre-application advice from Camden states that areas that fall under building regulation Part L2A must meet a minimum 35% reduction target below the maximum threshold under Part L2A 2013 (i.e. new build carbon reduction target emissions rate). The following figure indicates the 'new' (extended and infill) areas that must meet building regulation Part L2A -as shown by the red hatched areas. All existing areas are being refurbished, and therefore fall under the requirements of building regulation Part L2B.



Revised approach to calculating the carbon reduction offset shortfall

The following table summarises the carbon emissions reductions for each area of the building – broken down into areas that are defined as 'new build' (i.e. areas that fall under Part L2A) and areas that are being refurbished (i.e. areas that fall under Part L2B).

	Charterhouse block - new build areas (Part L2A)		Charterhouse block - refurbished (Part L2B)		Saffron Hill block - refurbished (Part L2B)		Overall area weighted reductions	
	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage
Baseline	90	N/A	679	N/A	199	N/A	968	N/A
Be Lean	80	10.2%	217	68.0%	77	61.1%	375	61.2%
Be Clean	80	-	217	-	77	-	375	-
Be Green	73	9.1%	192	11.9%	75	3.4%	340	9.5%
TOTAL REDUCTION	16	18.4%	488	71.8%	124	62.4%	628	64.9%
Shortfall	14.9	**£26,839**	N/A	N/A	N/A	N/A	-	-

A detailed breakdown of the modelling assumptions, including BRUKL reports for each stage of the energy hierarchy is included in the updated Energy Statement (dated 24th November 2017).

Carbon Offset

The carbon offset shortfall has been calculated for the new build areas, as shown in the previous section. The carbon emissions shortfall has been calculated to be 14.9 tonnes per annum, or 447 tonnes over 30 years.

Based on a cost of carbon of £60 per lifetime tonne, the carbon offset is £26,839.

Previous approach to calculating the carbon reduction offset shortfall

The following table summarises the carbon emissions reductions calculations based on the approach as detailed in the initial 'Energy and Sustainability Consultation Response' from Camden issued in October 2017. This approach assumes that all areas within the Charterhouse block (new and existing floor plates) fall under Part L2A, and therefore are subject to the carbon offset payment. This calculation has been updated to allow for 100% air source heat pumps to supply space heating and hot water following further design development.

	New build areas (Part L2A) + refurbished areas (Part L2B)		Saffron Hill Block (Part L2B)		Overall area weighted reductions	
	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage	Total tCO2	% reduction at each stage
Baseline	331	N/A	199	N/A	530	N/A
Be Lean	291	12.0%	78	61%	369	30%
Be Clean	291	-	78	-	369	-
Be Green	264	9.4%	78	0%	341	7%
TOTAL REDUCTION	67	20.3%	122	61.1%	189	35.6%
Shortfall	48.7	**£ 87,655**	N/A	N/A	-	-

Carbon Offset

The carbon offset shortfall has been calculated for the new build areas, as shown in the previous section. The carbon emissions shortfall has been calculated to be 48.7 tonnes per annum, or 1461 tonnes over 30 years.

Based on a cost of carbon of £60 per lifetime tonne, the carbon offset is £87,655.