81 AVENUE ROAD

London NW8 6JD

SUSTAINABILITY STATEMENT

For Planning Application

Revision A – 7 Feb 2017

Rev A changes: Additional text for Cooling and for Materials

Abba Energy Ltd

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SUSTAINABILITY STATEMENT – FOR A PLANNING APPLICATION

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1 INTRODUCTION

1.1 This document was commissioned by the developer of 81 Avenue Road, Camden, in order to fulfil a London Borough of Planning Application requirement regarding the Local Authority's Policy DP22;

1.2 The proposed development is for the construction of a new large house, to replace one that is being demolished;

1.3 This report summarises the developer's strategic approach to Sustainability;

1.4 This document is written by Julian Williams BSc (Hons) DipARCH of Abba Energy Ltd, an assessor with seventeen years' consulting experience in Sustainability, BREEAM, Code, EcoHomes, Domestic Refurbishment and SAP / Building Regulations Part L and methodology. Mr Williams is also a CoRE Retrofit Co-Ordinator.

2 DP22 DESIGN ISSUES

2.1 The tabulated issues below are included within the design and address the related DP22 aspects:

DESIGN ISSUES	DESIGNED ELEMENTS
Layout of uses	Principal rooms (Reception room, Family room and Kitchen on South West side of the plan, with Study and Dining room to the North East
Floorplates size / depth	Floor plate depth shallow enough to enable Cross-Ventilation by Natural means
Floor to ceiling heights	Good ceiling heights to all floors
Location, size & depth of windows	Good size glazing to the South West for Passive Solar Gain. Numerous openable windows on opposing sides of the building allow Natural Ventilation.
Limiting excessive solar gain	Oversizing of openings has been avoided.
Reducing the need for artificial lighting	Good sized openings within design, larger at ground level to allow for local tree foliage
Shading methods, both on or around the building	Modest shading afforded by local tree foliage as well as internal shading from blinds and curtains
Optimising natural ventilation	For modern high comfort, high energy efficiency buildings, controlled ventilation, rather than uncontrolled NatVent, is best. However, the end-user should always have the freedom to open a window, with openable windows and good stack effect.

DESIGN ISSUES	DESIGNED ELEMENTS
Design for and inclusion of renewable energy technology	Included – please refer separate Energy Statement
Impact on existing renewable and low carbon technologies in the area	Not considered relevant for this scale of development
Sustainable urban drainage, including provision of a green or brown roof	Please refer to separate SUDs Drainage report and drawings
Adequate storage space for recyclable material, composting where possible	Both recycling and composting facilities will be incorporated at the Detailed Design Stage
Bicycle storage	Suitably accessible space will be formed within the property at Detail Design Stage
Measures to adapt to climate change	Openable windows throughout to enable natural ventilation. Some foliage shading from neighbouring trees. Pleasant external space provided. Pervious external space provided to enable water filtration
Impact on microclimate	The BMS may be used to limit over-use of the cooling system.

3 DP22 FABRIC & SERVICES ISSUES

3.1 The tabulated issues below are included within the design and address the related DP22 aspects:

DESIGN ISSUES	DESIGNED ELEMENTS
Level of insulation	Where possible, 150mm PUR insulation board. U-value range for opaque fabric 0.08 to 0.17 U-value range for openings 1.20 to 1.80
Choice of materials, including – responsible sourcing, re-use and recycled content	All timber will be 'Legally harvested and traded timber', as per the UK government's definition of legally sourced timber (as outlined in the Central Point of Expertise on Timber (CPET) 5th Edition report on the UK Government Timber Procurement Policy). The Contractor will be tasked with seeking to reuse the highest possible percentage of recycled material from the existing building, as far as reasonably practical within the constraints of

DESIGN ISSUES	DESIGNED ELEMENTS
	the design requirements of the new build. At detail design stage the project team will aim for at least two of the following five construction elements to achieve a Green Guide Rating of A+ to D: roof, external walls, internal walls (including separating walls); upper and ground floors; windows. As far as practicably and affordably possible the Principal Contractor will source materials in accordance with ISO14001, BES6001 and FSC/PEFC certification, as relevant. As far as practicably and affordably possible, the development will incorporate suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the following internal and external building and landscaping elements: 1. Foundation/substructure/lowest floor/retaining walls 2. External walls 3. Roof/balconies
Air tightness	Air Permeability of 3m3/m2/hr@50Pa
Efficient heating, cooling and lighting systems	Minimum 89% efficient boiler, with Time & Temperature Control and Weather Compensation. The house has been efficiently designed to reduce the need for active cooling. Under the SAP Part L calculations for cooling carried out, no requirement for cooling has been identified. However, in providing a high quality internal environment, two important factors must be taken into account: 1- SAP is known to underestimate overheating; 2- numerous openable windows on multiple facades increase the potential for external noise intrusion, unwelcome particulate matter, pollen and other external contaminants, reduce security and increase the risk of crime. Therefore, whilst the design of the proposed new house means that active cooling is unlikely to be required, nevertheless the installation of equipment for active cooling, a high efficiency VRV cooling system (EER 3.64; ESEER 6.83; COP 4.02), is an applicant choice for certainty, comfort and security. 100% Low Energy Internal lighting (at least 45 lumens per circuit Watt). Green roof.
Effective building management system	BMS will be integrated into the final design

DESIGN ISSUES	DESIGNED ELEMENTS
The source of energy used	Mains provision
Metering	The "Loop Energy" system will be installed. This is a relatively new-to-market and highly accessible monitoring system, which has been specifically designed for the home-occupier to monitor energy usage and bills (gas and electricity), as well as advise when savings can be made by 'switching'. It is intended that a similarly accessible Water Meter be sourced and installed, such as the Geo Ensemble, which is currently available only through Anglian Water.
Counteracting the heat expelled from plant equipment	The BMS may be used to limit over-use of the cooling system. Otherwise, this topic is more relevant for plant within commercial buildings.
Enhancement of / provision for biodiversity	As an existing inner urban site, there may be few opportunities for introducing an overall improvement in the total ecological value. However, the Landscaping Consultant will be instructed to advise upon expedient ways to increase the ecological value of the site species and features, with the aim of also increasing the diversity of local flora and fauna in the locality. An emphasis will be placed upon indigenous and low-water-demand species.
Efficient water use	Will meet the 105 litres PPPD Target. Please refer dedicated section within this report.
Re-use of water	Appropriate only for car washing and garden irrigation, which will be included if possible during the Detailed Design Stage Not CO2-efficient for Internal Water use (WCs, etc) when compared with Mains Water.
Educational elements, for example visible meters	With reference to the 'Metering' section above, the Loop system will have a dedicated 'pad' for constant monitoring and the Geo Ensemble has its own handheld display.
On-going management and review	Plant maintenance to be done on a regular basis in accordance with supplier recommendations / manufacturer instructions

4 WATER CALCULATION TABLE

4.1 Internal Water Calculations were carried out by the Author in accordance with standard methodology required by HM Government (DCLG);

4.2 These are Designed Water Usage calculations, done using DCLG's Water Efficiency Calculator;

4.3 The tabulated calculations demonstrate compliance with the Local Authority's Target of 105 litres per person per day;

4.4 The Water Efficiency Calculator for this development is issued as a separate document.

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