

ENERGY STATEMENT

40-42 Parker Street, London.

Savills.

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Introduction

This report briefly describes studies which have been undertaken to identify an appropriate sustainable energy strategy for development at 40-42 Parker Street, London.

The design, as it stands at this point, has been described in the STROMA SAP calculation tool. This program assesses the dwelling design's compliance with the Building Regulations Approved Document Part L1A, which came into force in England/Wales on 1st October 2010. The related drawings are as provided by Peek Architecture & Design Ltd. The development consists of 3x new build apartments on the new 4th & 5th storeys of the building.

The feasibility studies undertaken in this report have been structured in accordance with the Mayor of London's Energy Hierarchy (Be Lean, Be Clean, Be Green). The developer and design team are committed to delivering a development with low environmental impact. Issues of sustainability will be constantly monitored and optimized throughout the design and operation of the development. The target is to for the new build apartments to achieve **Code for Sustainable Homes Level 4**.

Policy context

National Policy

Planning Policy Statement 1: Delivering Sustainable Development places an emphasis on high quality, mixed use, inclusive urban design and the provision of a healthy, accessible and secure environment. The publication of the supplement to PPS 1 - Planning and Climate Change (December 2007) strengthens the emphasis on sustainable development, and requires new developments to "secure the highest viable resource and energy efficiency and reduction in emissions."

Planning Policy Statement 22: Renewable Energy calls for local authorities to actively encourage renewable energy development through local planning policies. The UK Government is also supporting renewable energy through market mechanisms, such as the Renewables Obligation. The UK Energy White Paper 'Our Clean Energy Future' has set an ambitious target for the UK to reduce its carbon emissions by 60% from 2000 levels by 2050 and to source 20% of its energy from renewable energy by 2020.

Local Policy

The Mayors SPD will require applicants to demonstrate that their development will achieve Code for Sustainable Homes Level 4.

Summary of Conclusion

In order to achieve Code Level 4, the new flats are built to a high performing thermal envelope, including a Green Roof, and heating by individual Air Source Heat Pumps. Each flat achieves a carbon reduction in excess of 25% to current Building Regs; and all flats achieve in excess of 68 credits, therefore all achieving Code Level 4.

Energy Reduction targets and technologies

The approach to energy usage and efficiency at this development assumes the following hierarchy:

- **Lean**
- **Clean,** and
- **Green.**

Providing **Lean** energy involves taking action to reduce the demand for energy use in the first instance, through good design practice, such as thermal mass, use of solar gains and maximisation of daylighting, as well as through efficient operational procedures. **Clean** energy provision involves specifying and designing the most energy-efficient appliances and systems for the task. **Green** energy involves the use of renewable sources and technologies, to replace the current reliance on burning fossil fuels and thereby reduce the emission of CO₂ and other greenhouse gases.

Lean: The location, massing, and orientation of buildings, and specification of construction materials, all have a bearing on how a building interacts with, and performs in response to, its environment, and therefore how much energy is needed to maintain comfortable conditions for building occupiers. Policy 122 of the Local Plan identifies the need to design for energy efficiency in this way.

Clean: The specification of low energy appliances and lighting can reduce energy demand from a development and careful specification, to meet these ends, will be used at this site.

Green: The Supplementary Planning Document (SPD) on Energy Efficiency and Conservation May 2004 lists a number of renewable energy technologies which may be appropriate for sites, including wind and solar energy and combined heat and power (CHP). The SPD notes that CHP is to be encouraged in high density, mixed use developments. Current good practice for the assessment of renewable technologies is contained within the document: London Renewables Toolkit- integrating energy into new developments (Greater London Authority. 2004).

Energy Efficiency Measures

The following energy efficiency measures were adopted to achieve the required target performance for development at Parker Street:

Design Air permeability rate: 5 m³/hr/m²;

External walls U values to 0.25 W/m²K

Window U values to 1.5 W/m²K

Green Roof to 0.18W/m²K

Heating Method: Air Source Heat Pumps

The flats achieved the following carbon emission results:

	Target Emission Rate (kg CO ₂ /m ² /yr)	Dwelling Emission Rate (kg CO ₂ /m ² /yr)	% Carbon Reduction
Flat 1	28.64	20.65	27.9%
Flat 2	30.13	21.36	29.1%
Flat 3	33.09	22.41	32.3%

The following results were achieved in the Code for Sustainable Homes Assessment:

	Score Assessment
ENE Energy & CO ₂ Emissions	51.1%
WAT Water	66.7%
MAT Materials	75.0%
SUR Surface Water Run-Off	50.0%
WAS Waste	100.0%
POL Pollution	100.0%
HEA Health & Wellbeing	91.7%
MAN Management	100.0%
ECO Ecology	55.6%

A full Code for Sustainable Homes Pre-Assessment, & SAP reports for each flat, accompany this Statement.