

Project: **Endeavour House, Crawley Business Quarter, West Sussex, RH10 9LW**

Document: **Energy Statement**

Project No.: **2017 / 538**

Date: **7th March 2018**

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Appendix 1 - 'As Built' Energy Performance Certificate

1.0 Introduction

Freeman Beesley Ltd. have been commissioned by Croudace Properties Ltd. to produce an Energy Cost Saving Report for the proposed office redevelopment at Endeavour House, Crawley Business Quarter, Crawley, West Sussex.

Endeavour House is a circa 1998 building with a net internal floor area of 2096.1m² over 3 storeys of office space PLUS plant spaces on a 4th storey.

In 2017 Croudace Properties Ltd. commissioned a major refurbishment of the building that included new building services as set out in section 2 below.

The Bentley Hevacomp version V26.06.00.05 SBEM V5.3.a.0 computer software programme has been used to model the buildings CO₂ emissions and kWh energy consumption.

Section 2 of this document sets out the specification of the building services.

Sections 3 and 4 set out the energy and financial savings respectively when compared against typical office stock.

A conclusion is provided in Section 5.

2.0 Development Outline Specification

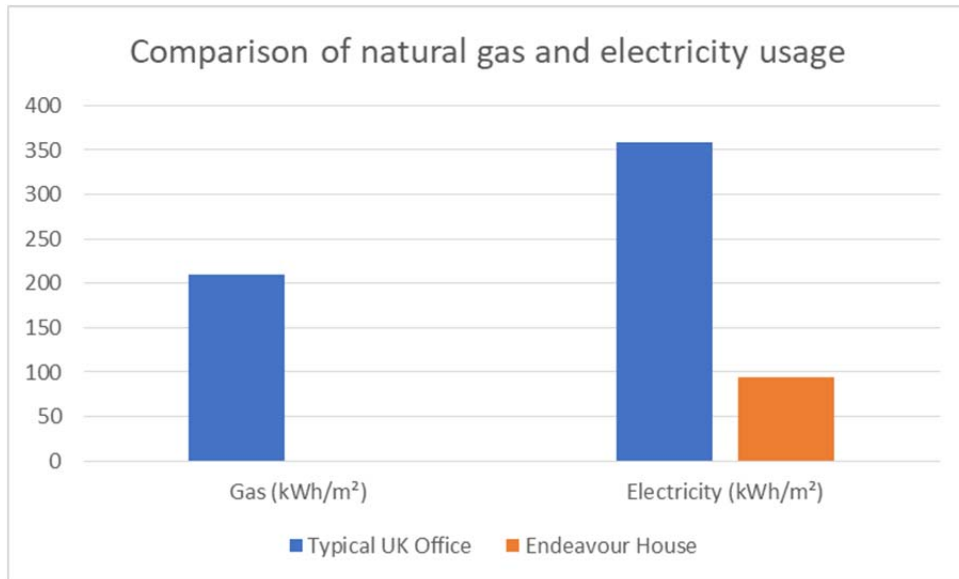
The new building services were designed to meet the required sustainability standards demanded by Croudace Properties Ltd.

2.1 Building Services

- Building Management System with Energy M&T (Monitoring and Targeting) Software.
- Power Factor = >0.9.
- High efficiency LED lighting C/W daylight and occupancy sensors.
- High efficiency VRV comfort cooling and heating systems serving the individual floors C/W energy metering on each floor.
- Low standing loss point of use instantaneous water heater.

3.0 Energy Savings Study

The reduced demand of fuel consumption of Endeavour House, Crawley Business Quarter, Crawley compared to a typical UK office building can be seen below:-



	Gas (kWh/m².year)	Electricity (kWh/m².year)
Typical UK Office	210**	358**
Endeavour House	0*	94.37*

Comparison of natural gas and electricity consumption

It is expected that consumption of natural gas will be 100% lower than a typical UK office building for Endeavour House, Crawley Business Quarter, Crawley, as all heating and cooling will be produced by electric heat pumps and all the hot water is produced by low loss electric water heater.

In addition, it is expected that consumption of electricity will be 74% lower than a typical UK office building for Endeavour House, Crawley Business Quarter, Crawley.

4.0 Financial Savings

A financial analysis has been performed to quantify the savings that will be made by the occupiers (energy bill payers) of Endeavour House, Crawley Business Quarter, Crawley as compared to occupiers of a typical UK office of the same gross internal floor area.

Energy costs have been modelled using the most recent and appropriate energy pricing information.

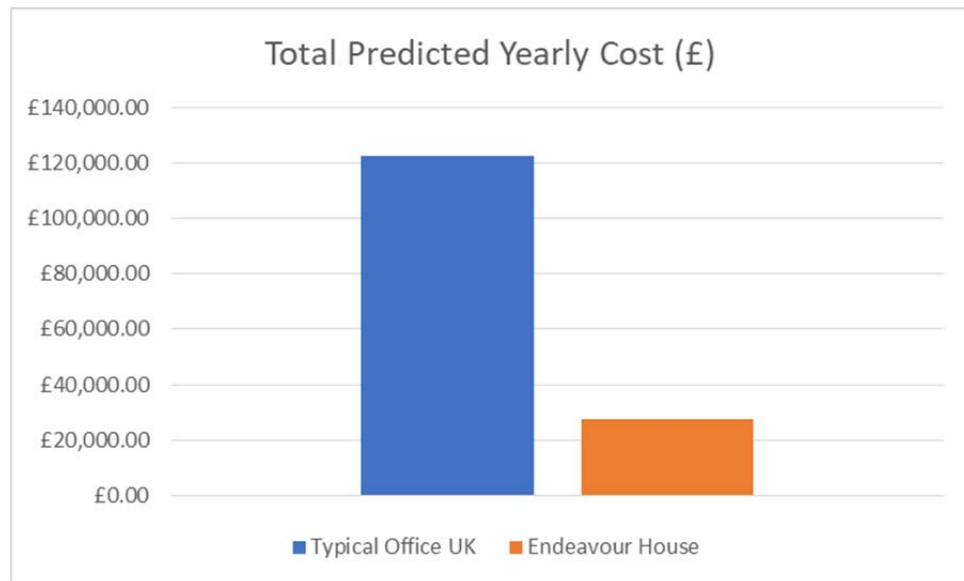
Potential occupants of Endeavour House, Crawley Business Quarter, Crawley can be assured that operating costs for the building due to energy bills will be drastically lower than offices typical of the UK's existing stock as demonstrated below:-

Comparative Energy Costs for Endeavour House, Crawley Business Quarter, Crawley

Energy Costs		Endeavour House, Crawley	Typical Benchmark Pre-2002 Office Building
Gas Consumption	=	0kWh*	506499kWh**
Electrical Consumption = Regulated	=	101637kWh*	863460kWh**
= Unregulated	=	125998kWh*	Included Above
		227635kWh	863460kWh**
Gas Cost			
kWh x 3.72p/kWh	=	£0.00	£18841.76
Electrical Cost			
kWh x 12p/kWh	=	£27316.20	£103615.20
TOTAL COST	=	£27316.20	£122456.96
÷ 2411.9m ²	=	£11.33 / m ²	£50.77 / m ²

* Data taken from Hevacomp SBEM model – As Designed

** Data taken from CIBSE Guide F for “A Prestigious Office with Standard Energy Use”



The above presents the total annual energy costs that are expected for Endeavour House, Crawley Business Quarter, Crawley. It denotes that savings can be made for occupiers of Endeavour House, Crawley Business Quarter, Crawley when compared to offices typical of the existing UK building stock.

5.0 Conclusion

This report has presented the results of an energy modelling exercise for Endeavour House, Crawley Business Quarter, Crawley. The analysis is based upon a model of the building based on the Government Approved National Calculation Method (NCM) therefore variations to the results could occur depending upon the actual usage patterns of the building.

It has been demonstrated through the financial analysis that significant energy cost savings could be made by potential occupiers of Endeavour House, Crawley Business Quarter, Crawley and annual energy bills will be less than 25% of that of a typical UK office building due to the exceptionally high and M&E services specification the building has been built to.

Appendix 1

'As Built' Energy Performance Certifi

Energy Performance Certificate

Non-Domestic Building



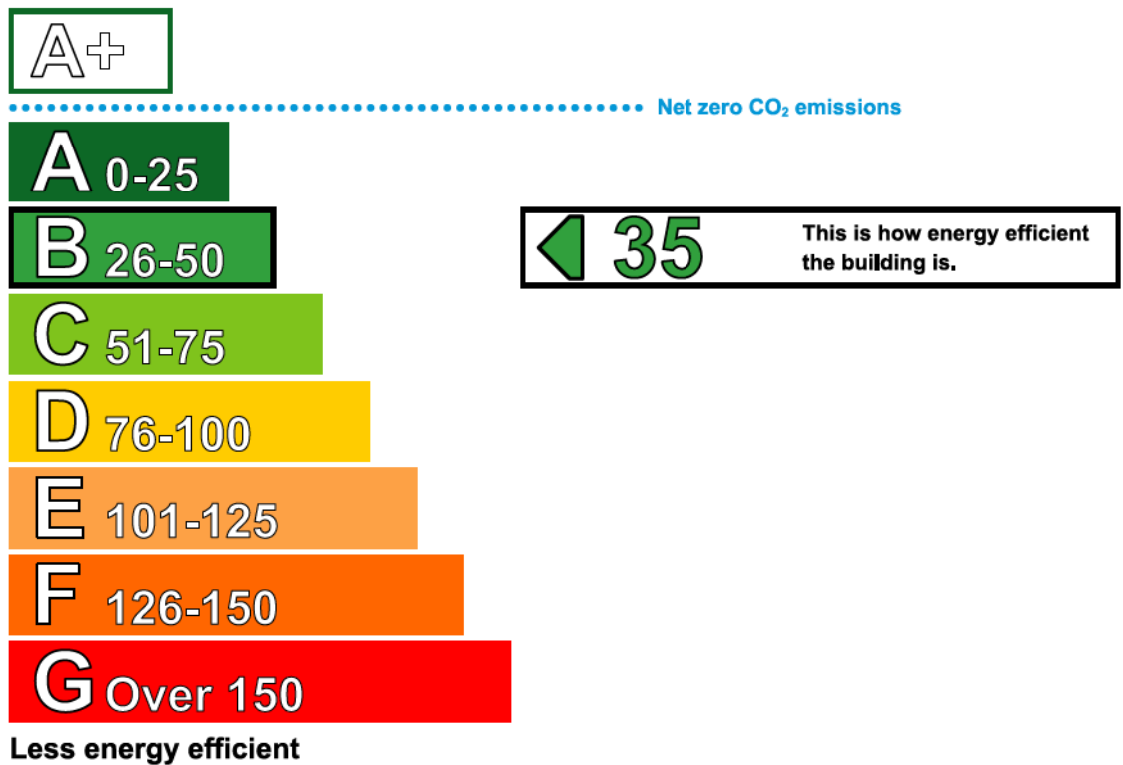
Endeavour House
Crawley Business Quarter
Manor Royal
CRAWLEY
RH10 9LW

Certificate Reference Number:
0070-0938-6639-2522-0006

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating

More energy efficient



Less energy efficient

Technical Information

Main heating fuel:	Grid Supplied Electricity
Building environment:	Air Conditioning
Total useful floor area (m ²):	2412
Building complexity (NOS level):	4
Building emission rate (kgCO ₂ /m ² per year):	21.87
Primary energy use (kWh/m ² per year):	129.37

Benchmarks

Buildings similar to this one could have ratings as follows:



Administrative Information

This is an Energy Performance Certificate as defined in the Energy Performance of Buildings Regulations 2012 as amended.

Assessment Software:	Design Database v26.06.00.05 using calculation engine SBEM v5.3.a.0
Property Reference:	723609560000
Assessor Name:	Ian Michael Pratt
Assessor Number:	LCEA015425
Accreditation Scheme:	CIBSE Certification Limited
Employer/Trading Name:	Freeman Beesley Ltd
Employer/Trading Address:	125 Victoria House
Issue Date:	07 Mar 2018
Valid Until:	06 Mar 2028 (unless superseded by a later certificate)
Related Party Disclosure:	Not related to the owner.

Recommendations for improving the energy performance of the building are contained in the associated Recommendation Report - 0220-7960-0438-6050-9020.

About this document and the data in it

This document has been produced following an energy assessment undertaken by a qualified Energy Assessor, accredited by CIBSE Certification Limited. You can obtain contact details of the Accreditation Scheme at cibsecertification.com.

A copy of this certificate has been lodged on a national register as a requirement under the Energy Performance of Buildings Regulations 2012 as amended. It will be made available via the online search function at www.ndepcregister.com. The certificate (including the building address) and other data about the building collected during the energy assessment but not shown on the certificate, for instance heating system data, will be made publicly available at www.opendatacommunities.org.

This certificate and other data about the building may be shared with other bodies (including government departments and enforcement agencies) for research, statistical and enforcement purposes. For further information about how data about the property are used, please visit www.ndepcregister.com. To opt out of having information about your building made publicly available, please visit www.ndepcregister.com/optout.

There is more information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government website at:

www.gov.uk/government/collections/energy-performance-certificates. It explains the content and use of this document, advises on how to identify the authenticity of a certificate and how to make a complaint.

Opportunity to benefit from a Green Deal on this property

The Green Deal can help you cut your energy bills by making energy efficiency improvements at no upfront costs. Use the Green Deal to find trusted advisors who will come to your property, recommend measures that are right for you and help you access a range of accredited installers. Responsibility for repayments stays with the property – whoever pays the energy bills benefits so they are responsible for the payments.

To find out how you could use Green Deal finance to improve your property please call 0300 123 1234.