

CLIENT	Higgins Construction
PROJECT	Cricklewood Gate
ARCHITECT	Hunters
VALUE	£40 million
WORK SCOPE	Construction of mixed use development comprising 230 apartments and 1327m2 of commercial space.



Cricklewood Gate is a 'brownfield' mixed use development by A2 Dominion Housing Group, comprising of 3 blocks, ranging from 3 to 6 storeys, totalling 230 residential units, multi storey basement car park, 1327m2 of commercial space at ground level, crèche and management suite within podium levels.

The Brief

NLG Associates have been appointed by Higgins Construction to engineer complete building services design involving mechanical, electrical and public health services, in accordance with the employers requirements, providing advice on Code for Sustainable Homes (CfSH) energy requirements for CO2 emissions reductions and energy efficiency.

Objectives

The aim of the project is to achieve level-4 rating of CfSH was accomplished by analysing various Low/Zero Carbon (LZC) technologies together with client's energy statement to reduce 44% of the baseline site wide CO2 emissions. Calculation results demonstrated a combination of renewable energy source and Low carbon technology as Combined Heat and Power (CHP) will deliver the sustainability objectives of the development.

NLG Associates performed calculations to suggest 1040 No. Photo Voltaic (PV) panels will be required, and can be accommodated together with optimised roof PV panels layout. Approximately 10.5% reduction of site wide CO2 emissions was achieved generating 189kWp electricity through renewable energy. Financial modelling indicates the installation will achieve payback in 9 years approximately. It is estimated as one of the largest PV installation in the United Kingdom.

Combined Heat and Power (CHP) unit was calculated as the most appropriate low carbon technology for achieving approximately 27% reduction of the site wide CO2 emissions. CHP unit of 110 kW electricity and 180kW thermal output was considered as the most suitable to provide the benefits of district heating strategy. The development will also incorporate measures to interface with the neighbouring proposed Brent Cross Cricklewood Regeneration (BXC) scheme which will generate fuel for the CHP facility through residual, non recyclable waste.

Passive measures involving enhanced building fabric and provision of Mechanical Ventilation with Heat Recovery (MVHR) will deliver the remaining 6.5% reduction in site wide CO2 emissions to achieve CfSH level 4.

Electrical services design comprising of lighting, small power, lightning protection and media cable requirements were calculated and accommodated. NLG Associates scope of works, and specifications together with drawings, schematics and sections enabled the client, developer and other design team members for the full coordination of building services and architectural layout of the flats.