esconsultancy

New housing development London NW9

Challange

Our client purchased a former pub on a busy main road in North West London and proposed a redevelopment of the site involving 38 residential units on 5 floors, with a retail unit and car parking at the ground floor/basement level. The local planning authority required the development to meet Level 3 of the Code for Sustainable Homes and include a 20% contribution to the total energy demand from on-site renewables.

Approach

ES Consultancy created a baseline energy demand for the development based on current Building Regulations standards. Taking into account all aspects of the site and buildings we then prepared an energy strategy, which scoped all the possibilities for improving the energy performance of the building fabric, installing efficient heating systems and adding renewable energy technologies to meet the planning requirements. The architects' original strategy was drastically simplified and concentrated on the use of Gas Absorption Heat Pumps to provide heating and hot water, with solar thermal providing valuable pre-heating, and solar photovoltaics contributing to the electricity demand, all in addition to improvements in the building fabric U values and airtighness. The solar technologies were designed in such a way as to also provide shading to roof terraces and limit summer overheating to the higher flats. All this involved a range of Energy Solutions staff with expertise in the energy assessment of residential and commercial buildings as well as wider sustainability analysis.

Results

ES Consultancy's strategy resulted in a massive 44.3% overall reduction in CO_2 emissions over the baseline demand together with a 17.2% contribution from renewables, which together more than met the local planning authority's requirements. All this was achieved with a cost-effective investment in energy technology and at a fraction of the overall design fees.

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