

Green Building Case Studies in Islington and Beyond



Green Building Case Studies in Islington and Beyond

There are many great examples of good practice in green buildings completed in Islington. There are also examples to learn from and be inspired by elsewhere in London. Summaries of key projects are provided below with links to further information.

Islington Case Studies:

Ecology Centre, Drayton Park: This building, set within the Gillespie Park nature reserve, is used to deliver educational and community events, teaching children and adults about local biodiversity and sustainable practices. The building benefits from onsite wind, biomass and solar thermal renewable energy generation systems allowing it to minimise, or eliminate, carbon emissions from its use. Other key features include use of European softwood from sustainable sources, water saving features and recycling of waste water through a reed bed system. For more information see the [London 21 website](#).

Highbury Grove school: This school, which is currently under development, received 'Highly Commended' in the 'Most Sustainable School Design' category of the 2008 'Excellence in Building Schools for the Future Awards'. It is also on course to achieve an 'Excellent' BREEAM (British Research Establishment Environmental Assessment Method) sustainable building rating. Low energy consumption and low carbon energy are at the core of the site's design which will reduce CO2 emissions by twenty per cent through the use of onsite renewable and low carbon technology. The sustainable design incorporates combined heat and power for highly efficient heat and electricity generation, biodiverse green roofs and solar shading to prevent the sun from excessively heating the building in summer. Water saving devices have been incorporated into the schools' design, including rainwater harvesting from the roof for use in toilet flushing and site irrigation. Pupils will be able to watch digital displays that monitor the energy generated on site. For more information see this [Islington Council press release](#).

The Muse, Newington Green: This is a super-insulated ecological house and architectural office designed and owned by architect Justin Bere (bere:architects). The building is highly energy efficient with triple glazing and low energy ventilation with heat recovery, which means very little heating is required. Other features include solar PV panels, biodiverse green roofs supporting a range of native species including small hawthorn trees, bat boxes, stag beetle sandpits and even bumble bee sleeping quarters! For more information see [Justin Bere's website](#) and/or a [Building magazine article](#).

Ropemaker: A new development on the edge of the City, Ropemaker is a 20 storey office building providing 593,000 sq ft (55,000m²) of space. Sustainability is central to the building's design, demonstrating that offices do not have to be energy guzzling glass boxes requiring high levels of energy-intensive air conditioning. A highly visible feature of Ropemaker is the double glazed cladding which is tilted away from the sun's path to reduce the energy required for cooling by up to 30%. Other sustainable design features include use of renewable energy technologies - solar thermal panels, solar photovoltaics (PV) and a biomass boiler; a large rainwater harvesting system; green roofs covering 60% of available space; use of recycled materials; and 270 bike racks with lockers and shower facilities. Ropemaker has a BREEAM 'Excellent' rating and won the Estates Gazette Green Award for Office Development of the Year. For more information see [British Land website](#).

John Thompson & Partners: John Thompson Architects have carried out a green refurbishment of their 1920s office building in Clerkenwell as a demonstration of sustainable office design. The installation of simple manually controlled openers on windows, doors and an existing stairwell roof vent has improved the building's natural ventilation. Fresh air is drawn in through windows, cooling the offices, while hot air rises up the stairwell and is extracted through the roof hatch. Solar panels (photovoltaic and solar thermal) were installed above south facing windows to provide additional shade, whilst generating hot water and electricity. Reflective paint has been used on the roof to reflect heat back from the building. Innovative 'phase change'

materials, which absorb heat during the day and release it at night, have also been incorporated within office roofs. Additional sustainable design features include: a majority of materials specified as Green Guide Class A, renewable, recycled or recyclable; spray taps and low flush toilets in all WCs and shower rooms to reduce water consumption; low energy light fittings with motion sensors and zoned control; and sourcing of mains electricity from 100% renewable sources.

Prior's Estate, off Pentonville Road: Through the EU-funded 'Resurgence' project and additional DTI funding, the roofs of three blocks on the Peabody Trust Prior's Estate were renovated and a massive photovoltaic installation of over 1000 square metres was installed generating a total output of 157 kW. At the time of installation in August 2003, this was the largest PV array at any single site in the UK. The life expectancy of these panels is in excess of 50 years, and they are recyclable at the end of their life. The time for the panels to generate sufficient electricity to equal the cost of the installation (i.e. the 'payback time') is estimated at 20 years. For more information see the [Resurgence project website](#) and/or a [Modern Building Services article](#).

Children's Centre, Paradise Park: This ecological building, set on the edge of Paradise Park, has a striking design incorporating a huge green wall - the biggest on a public building in the UK – which runs the full length of the front side of the building and is irrigated by recycled rain water. The green wall and a green biodiversity based 'rubble' roof provide wildlife habitats which complement the surrounding park, as well as providing aesthetic and cooling benefits. They support a wide diversity of plants chosen to provide a succession of highlights throughout the year including euphorbias, bergenias, geraniums and grasses. Recycled rainwater is used to irrigate the green wall, helping to keep management costs down and reduce mains water demand. Good use of natural daylight and ventilation and well-insulated building fabric further help to lower management costs. The building incorporates a community café linking the Centre with the park and the wider community. It was a finalist in the Prime Minister's Better Public Building Awards 2008. For more information see [an Islington Council press release](#) and the [Better Public Building website](#).

Freightliners Farm strawbale café and classroom, Sheringham Road: The café building was built by farm volunteers out of traditionally jointed green oak with straw bale insulated walls and a green roof. The café seats around 24 people with outdoor seating for a further 20 in the garden. The farm also includes an open classroom which provides shelter for groups visiting the Farm when it is too hot or raining. The structure is timber frame and cordwood construction, and the green roof has been left for nature to take over. For more information see the [Freightliners Farm](#) and [Islington Gardeners](#) web pages.

Renovated Victorian Eco-home, Islington: The following three renovation projects are examples of heritage and energy conservation aims being jointly achieved. 70a Aubert Park is a Victorian ground floor terraced flat. After detailed survey and analysis work, 24 measures for improving the sustainability of the property were selected for installation and each was assessed for its installed cost and for its carbon saving effectiveness. The best measures were found to be installation of low energy lighting throughout, draught proofing of windows, cracks/gaps and chimney, insulation of external walls, and incorporation of a high efficiency boiler. A rainwater harvesting system to flush the WC was also installed, with excess water used to irrigate the garden.

Other London Case Studies:

BowZed, Tower Hamlets: This development of four flats, designed by the same architectural practice that designed the famous BedZed in Beddington, south London, was claimed to be the only 'carbon neutral' commercially-built development in the UK in 2007. Features include extremely high levels of insulation including triple glazing, high thermal mass and passive design to ensure rooms receive heat from the sun, which together result in little need for central heating; photovoltaic solar cells and a wind turbine that are reported to meet the majority of occupants' annual electricity demand; a wood pellet boiler to supply hot water and back-up heating; rainwater harvesting for toilet flushing and plant irrigation; and wind assisted heat exchange ventilation. For more information see the [Zedfactory](#) and [Brick Development Association](#) websites.

Greenwich Millennium Village, Greenwich: This large scale development is under continuing construction but when it is complete in 2015 it will comprise over 2,700 homes, community facilities and commercial space. Greenwich Millennium Village (GMV) was the first of the Government's 'Millennium Communities' projects whose aims included cutting energy used during constructing 50%, energy consumption by 20%, water consumed by 20%, and waste disposal by 50%. GMV aims to go further, cutting primary energy use by 80% using low energy building techniques and renewable energy technologies. The new housing at GMV was the first substantial private development in the UK to achieve an Ecohomes excellent rating. Homes benefit from large high performance windows, high thermal insulation standards, and materials selected to ensure environmental impacts are minimised. A combined heat and power system provides a low carbon source of heat and electricity. For further information see the [Urban Design Compendium](#) and [Wikipedia](#).

Renovated Victorian Eco-home 1, Camden: A private semi-detached Victorian house in a conservation area was transformed in 2007, reducing its carbon footprint by 60%. Works undertaken to improve energy efficiency included improved internal wall insulation, a new fully insulated roof, underfloor insulation, double glazing and draught proofing. Heat is provided by an efficient condensing boiler complemented by solar hot water panels on the rear extension; power to the panels water pumps is provided by solar PV panels. Other improvements include an upgraded ventilation system with heat recovery, water saving features (e.g. rainwater harvesting for garden irrigation, dual flush toilets), low energy lighting and energy monitoring. For further information see the [Sustainable Development Commission](#) website.

Renovated Victorian Eco-home 2, Camden: For further information on a similar eco-refurbishment project to that above, led by Camden Council, University College London and the Sustainable Energy Academy and claiming an 80% reduction in the carbon emissions of the property, see [Camden Council's website](#).