



greenliving

A guide to sustainability at United House



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We think green

United House specialises in the construction and refurbishment of social housing and private residential development in London and the south east and is the largest housing PFI provider in the UK. As UK industry leaders in housing refurbishment, we are contracted to deliver more than 80,000 Decent Homes by 2010 – the vast majority of these with residents in occupation.

We are at the forefront of sustainable construction and have developed an affordable approach to low carbon refurbishment to help reduce fuel poverty and to mitigate the effects of climate change. Some of our recent eco-refurbishment projects are outlined in the following pages.

Our sustainability experts are developing new methods to achieve 80% carbon reduction in refurbished tower blocks and we are working on an initiative to build the first care home to PassivHaus standards in the UK.

Today, we are able to offer expert consultancy, planning, design, finance and construction services for low carbon refurbishment and new build.

Fresh, green thinking is at the heart of all we do.



Aubert Park, Islington

United House developed an exemplar affordable, low carbon refurbishment eco-home in a Victorian terraced property at Aubert Park in Islington using energy saving methods new to social housing. The 'Value Carbon' method was used to select the best value improvements that give the biggest cuts in household bills and carbon emissions for the lowest costs.

Through 'Value Carbon' a 70% reduction in carbon emissions was achieved and United House was able to demonstrate that a 50% cut in CO₂ can be achieved at one third of the cost of 70%.

Achievements:

- Carried out alongside Decent Homes
- 70% CO₂ saved
- EPC improved from E to B
- Annual fuel bill reduced by £300
- Installed cost of 24 eco measures - £22k
- But identified solution for £7k which saves 50% CO₂

Pilkington energiKare Legacy™

Vacuum glazing integrated into existing sash windows

Sempatap Magic Wall Paper™

To cover internal wall face of party wall adjoining upper floor flat stairwell

Data logging centre

15 thermocouples linked to USB data logger

Vent Axia (MVHR)

Whole house mechanical ventilation with heat recovery

Warmcel

Used under suspended floors

Ventilated chimneys

Chimney ventilation via basement area

Aerogel

All exterior & party walls lined with super insulating material

Baxi Micro CHP

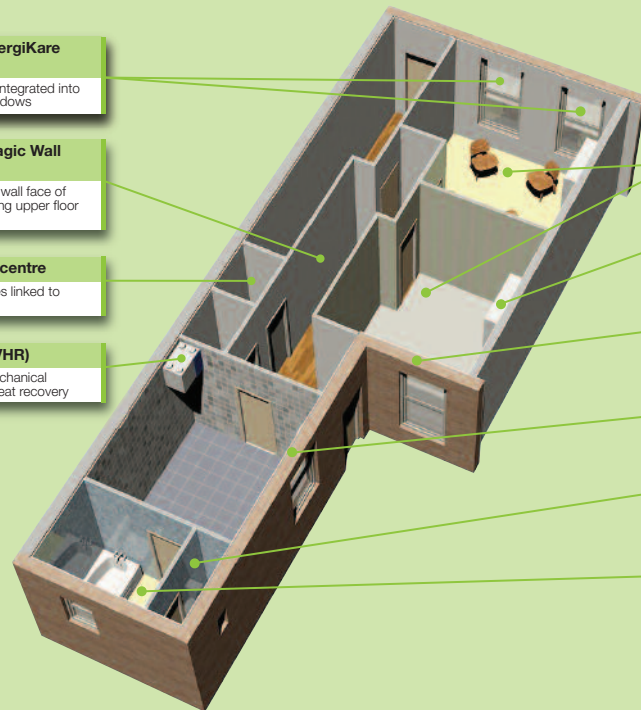
Stirling engine gas boiler

Twyford Galerie

Low flush cistern. Supplied by harvested rainwater system

Rainwater harvesting

Rainwater gathered for use by the WC





Sterndale Road, **Hammersmith**

Working in partnership with Notting Hill Housing at Sterndale Road in Hammersmith, United House has delivered the refurbishment of a Victorian property into a low carbon, energy efficient family home. Following this pilot, a further 14 individual flats will be similarly refurbished.

Over the next two years, the energy savings and carbon reductions of the properties' eco specifications will be monitored while residents are living in situ. It is expected that residents will save around £1,300 a year on energy bills and cut carbon emissions at the property by over 78%: equivalent to 10,000kg of CO₂ a year.

Chalcots Estate, **Camden**

The Camden housing PFI comprised the refurbishment of five tower blocks and has reduced the buildings' carbon footprint by 30%. Improving the performance of the building envelope was key to hitting this target. With the installation of external over-cladding, Grade A boilers and upgraded glazing, the flats retain heat more efficiently, resulting in lower energy bills for residents.



Churchmead Close, **Barnet**

At Churchmead Close for the London Borough of Barnet, United House has refurbished a cluster of 20 homes that all required different eco treatments. The scope of the work involved windows, doors, condensing boilers, low energy lighting, wall and roof insulation, and low energy fans. Fuel bills reduced by an average of £240 per household as a result of the improvements.

Project Issy-Clad, **Islington**

Project Issy-Clad is an extension to a major Decent Homes programme and is part of the Islington housing PFI contract. It will see the installation of internal wall insulation in 500 Victorian solid walled street properties, all carried out with residents in place. This will reduce wall U values to 0.35 and is expected to reduce residents' fuel bills by an average of £200. The project is supported by CERT funding.



Social housing at Queensbridge Quarter incorporated environmental features such as photo voltaic panels, rainwater harvesting and green roofs.



Sustaining success

We are proud of our recent achievements. Over the past 18 months United House has:

- **Won** a London Green500 Gold Award in recognition of its reduction in head office carbon emissions by 15% per head.
- **Achieved** a 25% reduction in its fleet emissions by improving vehicle load factors and routing. A switch to bio-diesel has yielded an annual saving of over four tonnes of CO₂.
- **Reduced** waste to landfill by over 50% since redeveloping its environmental management system, which achieved BS EN ISO 14001:2004 certification in July 2008 for all its operations.
- **Signed** up to the WRAP 'Halve Waste to Landfill' voluntary initiative. New build waste costs have been reduced to less than 0.2% of project value and more than 5,600 tonnes of waste has diverted from landfill.
- **Gained** membership of the UK Green Building Council.