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## Sustainable Housing Awards 2011

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With the green deal approaching, the use of pioneering eco-technologies in housing is more important than ever before. Here Chloë Stothart reveals the housing providers, developers and architects leading the way



### Sustainable larger social housing project of the year (more than 25 homes)

**Sponsor: United House**

**WINNER** Seren Group, Leadbitter, Davis Langdon, Powell Dobson, R V W, Hoare Lea, Asbriplanning, Anthony Jellard Associates, Newport Council

**WHAT** 101 new homes in Newport's docks

**WHERE** Mariners Quay, Newport

**QUICK ECO-CREDENTIALS** The largest development in Wales to reach level 5 of the code for sustainable homes

#### WHAT THE JUDGES SAID

"What really struck us was the scale they achieved - 101 units. It was a good specification, it looked good and it was comprehensive in terms of what they were achieving."

The 101 homes of Mariners Quay made up about 20 per cent of all homes reaching level 5 of the code for sustainable homes built in England and Wales as of August 2010. Located in Newport docks, the scheme forms part of the city's regeneration plans.

#### Key green features

- The project uses careful orientation, natural lighting and ventilation in communal spaces, high levels of insulation and whole-house heat recovery ventilation systems to help it towards code level 5.
- A shared biomass boiler provides the rest of the heating.
- Hot water and some additional electricity comes through a gas-fired combined heat and power unit.
- Other electricity is generated by 1,200 square metres of photovoltaic panels.
- Sun boxes on the outside of the flats capture warmth as well as being flexible living space.
- Sixty-two per cent of building waste was re-used on site and 32 per cent was recycled. The building site's energy usage, carbon dioxide emissions and diversion

of site waste from landfill were in the top 25 per cent of schemes. The team used recycled or reclaimed materials that were A-rated for sustainability in the BRE's Green Guide.

- Piling was delayed so as not to disrupt the breeding of the shad fish in the nearby Usk estuary.
- Water consumption in the scheme will be less than 80 litres per person per day - nearly half the UK average of 150 litres - because of grey water and rain water recycling, flow limiters and efficient sanitary ware.
- Cycle racks and information on public transport, walking and cycling have been provided for residents.
- Developers hope average energy bills in the scheme will be less than £5 a week.
- Residents told the landlord that the homes are quite spacious, warm with little heating and 'make you think twice about green issues; water, rubbish, food waste'.
- The brownfield site on a former dockside was remediated with help from urban regeneration company Newport Unlimited.



## Sustainable smaller social housing project of the year (fewer than 25 homes)

**WINNER** Northampton Council, Frank Haslam Milan Yorkshire and East Midlands, Orbit Group

**WHAT** eight eco-friendly council homes

**WHERE** Brookside Meadows, Northampton

**QUICK ECO-CREDENTIALS** A few adjustments to

the design took these new council homes from level 4 to 5 of the code for sustainable homes

### WHAT THE JUDGES SAID

"It was comprehensive in the way they approached it. They achieved a lot and they were good-looking properties as well."

Sustainability was the watch word when Northampton Council built its first new council houses for 20 years. The eight properties, completed in March 2011, meet level 5 of the code for sustainable homes.

### Key green features

The original specification would have reached code level 4, but a few changes took it up to level 5. The changes included:

- Photovoltaic cells on each home which generated more than half the electricity requirements.
- Using a closed, rather than an open, panel system which reduced heat loss.
- Using triple rather than double glazing.
- Adding rain water harvesting to flush the toilet.
- Internal solar blinds and a mechanical ventilation heat recovery system which cooled air in summer and warmed it in winter.
- Reducing air leaks.
- Residents were coached in how to use their new homes and given a user guide

with information on heating controls, renewable energy, ventilation, recycling and council waste collections.

- The team also plans to provide information on green DIY work, buying energy-efficient white goods and links to organisations that can help householders run their homes more efficiently.
- The majority of site waste - 97.5 per cent - was recycled with wood used as fuel, plasterboard turned into new plasterboard and stone used for construction.
- The use of flushless urinals on the building site, timber frame construction rather than bricks and mortar and reduced need for dust suppression thanks to rain, meant construction work used 450,000 litres of water which was 35,000 litres less than expected.
- Use of 'just in time' deliveries where materials arrive just before they run out to prevent over-ordering, car sharing and time management of vehicle movements all helped reduce traffic disruption to local people.
- Contractor Frank Haslam Milan provided work experience for four apprentices in partnership with Moulton College in Northampton.



## Green Social housing champion of the year

**Sponsor: Wilmott Dixon**

**WINNER** Nicholas Doyle - Places for People  
**QUICK ECO-CREDENTIALS** A well-known, longstanding figure in the sustainable housing world, Nicholas Doyle chairs the government group developing a framework for the green deal in social housing

### WHAT THE JUDGES SAID

"He's contributed a lot to strategic thinking about sustainability in housing."

Nicholas Doyle has built up a reputation as a champion of sustainable housing on the back of years of hard work. The effort has certainly paid off and means he is already no stranger to awards. After all, he developed the policies that won his

employer Places for People a 2007 Housing Corporation Gold Award. His track record includes helping the group to meet the ISO14001 environmental standard - one of the few housing providers to do so.

Not one to rest on his laurels Mr Doyle is currently completing an action plan for Places for People's 10-year development pipeline. He is also founder of the Existing Homes Alliance and advised and assessed quango the Technology Strategy Board's £17 million retrofit for the future programme which was set up to kick-start retrofit in social housing. On top of this he's chaired the social housing group of the Energy Efficiency Partnership for Homes and the housing finance strategy group which developed a national strategy for retrofit in social housing put to ministers in 2010.

Somehow he has also found time to chair the Department for Energy and Climate

Change's green deal social housing working group, which is developing the framework for the green deal.



## Social housing provider of the year : innovative approach to green homes award

**Sponsor: Mitie**

**WINNER** Hastoe Housing Association

**WHERE** south west, south east, East Anglia, London and home counties

**QUICK ECO-CREDENTIALS** Hastoe has been testing out sustainable housing long before it became a buzzword and is still at the cutting edge, building Passivhaus developments and homes out of straw

### WHAT THE JUDGES SAID

"An impressive entry."

"Good research."

"An impressive track record."

"The evidence and case study was very good."

Hastoe is no newcomer to green housing: it undertook a project in the 1990s looking into communal solar heating, produced a guide on water conservation in 2000 which has been integrated into the code for sustainable homes and piloted the installation of flush-fitting solar panels in 2006 which were quick to fit, even for inexperienced contractors. Today it is building to Passivhaus standards and all its new homes will reach at least level 4 of the code for sustainable homes.

### Key green features

- Hastoe built what it says is the first rural affordable Passivhaus development of 14 homes in Wimbish, Essex, which also meets level 4 of the code for sustainable homes. The homes use up to 90 per cent less energy than conventionally built houses and data from the building will be recorded for two years. A second development of 14 Passivhaus properties in Ditchingham, south Norfolk, is being built with the idea of reducing costs and making the designs replicable.
- In a development of straw bale houses for Epping Forest Council, it reduced fuel bills by up to 85 per cent and carbon dioxide emissions by about 60 per cent. Insulation standards are almost three times higher than current building regulation requirements and the homes have double the fire resistance required by law.
- Hastoe retrofitted a single-storey cottage in Attleborough, Norfolk, as part of the Technology Strategy Board's retrofit for the future programme (pictured). The house is expected to produce 95 per cent less carbon dioxide, save £400 a year on coal, which is no longer needed, and save £400 to £500 on electricity per year as a result of the changes
- At least 10 per cent of the organisation's 1,400-home development programme over the next four years will be built to Passivhaus standards and all homes built will reach code level 4 as a minimum
- More than 35 per cent of new homes started in 2010/11 met code level 4.



- Hastoe's subsidiary Sustainable Homes has influenced the thinking of associations managing 1.2 million homes. It set up the sustainable homes index for the future benchmark to ensure knowledge is shared and the national existing homes adaptation tool to help associations assess how well prepared their homes are for climate change.



## Energy saving initiative of the year

**Sponsor: Sustainable Homes**

**WINNER** Retrofit South East Project, Borough Grove, Petersfield, Hampshire Radian, Camco, Parity Projects, GESB

**QUICK ECO-CREDENTIALS** This retrofit of 14 prefabricated concrete houses is expected to reduce their carbon emissions by 88 per cent

### WHAT THE JUDGES SAID

"It is a difficult type of house to work on and that kind of reduction is extremely admirable."

### Key green features

- The house emits half the carbon dioxide of one built to 2010 building regulations (9.4kg per square metre rather than 18.9kg per square metre or 14.2kg per square metre for a house meeting level 4 of the code for sustainable homes).
- The refurbishment included external wall, floor and loft insulation, energy efficient doors and windows, condensing boilers, solar photovoltaics and mechanical ventilation heat recovery systems.
- An 88 per cent drop in carbon dioxide produced by heating, hot water, lights and ventilation is expected while a 74 per cent reduction is predicted when appliances are taken into account.
- Rain water harvesting and low water-use appliances helped cut water consumption by around 16 per cent.
- Residents were given advice on living in their improved homes.



## Low energy social housing project of the year

**Sponsor: H+H UK**

**WINNER** United Welsh Housing Association, Bere:architects, The Works, BRE Wales

**WHAT** A code level 6 Passivhaus social home

**WHERE** The Larch House, Ebbw Vale, Wales

**QUICK ECO-CREDENTIALS** This code level 6 Passivhaus shows ultra energy-efficient design can

even work for social housing in the damp south Wales valleys

## WHAT THE JUDGES SAID

"Passivhaus is a great approach. It is very challenging for the sector so the more people are extolling it, the better."

The Larch House exceeded the requirements of the competition for which it was built. The competition, run by the Welsh Government, Building Research Establishment and Blaenau Gwent council, asked for a home meeting Passivhaus standards and level 5 of the code for sustainable homes but the Larch House hit level 6. It sits alongside another Passivhaus by the same team which also meets code level 5.

## Key green features

- The Larch House sits on a misty hilltop in Ebbw Vale, Wales, but still gets most of its heating from the body heat of the occupants, heat emitted by appliances and the sun, with the rest provided by a 4.7kw photovoltaic panel.
- It is zero carbon because it generates as much energy from the sun in summer as its uses for the whole year.
- Residents will make an estimated profit from the feed-in tariff of £1,300 a year.
- The house costs 14 per cent more to build than the average house built in the past 10 years but savings on energy bills will repay the extra cost in 17 years.
- Occupation of the homes has been delayed until 2012 because of the demand for study visits but once residents move in the team and the Welsh School of Architecture will monitor the energy consumption over two years.
- Bere:Architects and United Welsh Housing Association will learn lessons from the project to help them reduce construction costs in a larger social housing development.



## The transformation award

**Sponsor: British Gas**

**WINNER** Roden Court Haringey, One Housing Group, Galliford Try, Pollard Thomas Edwards  
**QUICK ECO-CREDENTIALS** Redevelopment of an estate of 1960s studio flats to make better use of the land and meet decent homes standards

## WHAT THE JUDGES SAID

"This was a comprehensive transformation on a large scale - the development was unrecognisable afterwards - and the end product was very striking."

## Key green features

- One Housing Group is redeveloping the site to build 52 social housing units, 44 for private sale and a 40-unit extra care scheme. The first phase of 66 homes was finished in May 2010 and the rest will be completed in March 2012.
- One Housing Group fixed service charges for two years and paid for the sinking fund allowance, which funds one-off works, in order to allay residents' fears about rising costs.
- A removals company helped frail residents to move and a handyman was onsite for four weeks to install items like shelves.
- Residents also got their first choice of flat and were consulted on the colour

scheme and layout of their kitchen.

- The landlord also agreed to leave the popular communal garden untouched.
- Roden Court produces 10 per cent of its power onsite using renewable sources.
- Energy efficient lighting is used throughout and green roofs reduce water run-off.



## Social housing provider of the year - corporate sustainability award

**Sponsor: NHBC**

**WINNER** Sandwell Homes

**WHAT** The arm's-length management organisation which manages Sandwell Council's 30,000 homes

**WHERE** Sandwell, west midlands

**QUICK ECO-CREDENTIALS** Sandwell Homes is

tackling sustainability in a myriad of ways from reminding staff to switch off equipment to using loft insulation made from recycled paper

### WHAT THE JUDGES SAID

"They should be commended for the breadth of their work on sustainability."

### Key green features

- Sandwell Homes' tenants volunteer to be eco-champions encouraging other residents to become more environmentally friendly.
- The landlord recycles 96 per cent of waste and is aiming not to send any waste to landfill.
- It reduced its carbon dioxide emissions by 6 per cent and saved £36,000 in a year, with projects including a poster campaign to remind staff to switch off equipment.
- Sandwell Homes was 21st in The Sunday Times' list of the best green companies to work for in 2010 and the second placed social landlord.
- External insulation is installed in flats where possible, while cavity wall and loft insulation is put into low-rise blocks.
- All timber products come from sustainable sources and recycled, treated newspaper has been used for loft insulation in sheltered accommodation.
- Replacement windows are double glazed with energy-efficient K glass.



## Sustainable housing partnership of the year

**Sponsor: Apollo Housing**

**WINNER** Securing Shiregreen's Future, South Yorkshire Police, Sanctuary Housing, Keepmoat Contractors

**WHAT** A partnership between the police, a housing association and a contractor to make a high-crime estate a safe and pleasant place to live

**WHERE** Shiregreen estate, Sheffield



**QUICK ECO-CREDENTIALS** Metal theft from homes was cut from 79 boilers stolen in 2007/08 to one three years later

### WHAT THE JUDGES SAID

“It really reduced crime and hopefully fear of crime and I would love to see it happen elsewhere. The police and housing [associations] often have really different objectives so getting them aligned was really impressive.”

### Key green features

- Families would not live on the estate as they feared their homes would be burgled for copper pipes, central heating systems and boilers. The estate also suffered from graffiti, fly tipping and poor street lighting.
- To reduce metal theft, contractors removed metal from homes on the day tenants moved out and put up signs, installed alarms and used security guards to deter thieves.
- The partnership launched sting operations using boilers fitted with trackers.
- Theft of boilers was cut from 79 in 2007/8 to one in 2010/11. In the same period Sanctuary’s housing costs, including replacement boilers, repairing damage and flooding dropped from £140,000 to £30,000, allowing it to put more money into community projects.
- A local neighbourhood policing team helped to build residents’ confidence.



## Sustainable smaller housing retrofit Project of the year (fewer than 25 homes)

**WINNER** BioRegional, Sutton Council, Sutton Housing Partnership, Parity Projects

**WHAT** One Planet House

**WHERE** Sutton, south London

**QUICK ECO-CREDENTIALS** Improving the fabric of the house as well as tenant behaviour reduced energy consumption by 80 per cent using just 50 per cent of the embodied energy - the energy used to make products such as photovoltaic panels - of a standard retrofit

### WHAT THE JUDGES SAID

“They looked at the importance of information on performance. It was well done and someone should use that metric in the future.”

### Key green features

- As well as insulation, double glazing and A-rated appliances, air leaks were sealed to achieve 0.5 air changes per hour and solar thermal and photovoltaic panels were installed to heat water and generate electricity.
- The retrofit is expected to cut carbon dioxide emissions by 72 per cent and save the residents £1,287 a year in fuel bills.
- A green coach showed residents how to live more sustainably.
- A household that did not have a retrofit but got advice on being green is expected to save £385 a year.





## Sustainable social housing contractor of the year

**Sponsor: Profile 22**

**WINNER** Wates Living Space

**WHAT** Social housing arm of contractor Wates

**WHERE** Nationwide

**QUICK ECO-CREDENTIALS** Wates is dealing with all sorts of sustainability issues from developing recyclable site hoardings to employing a social enterprise on every project

**WHAT THE JUDGES SAID**

“Wates was head and shoulders above its competitors.”

**Key green features**

- Wates has diverted 95 per cent of waste from landfill. It has worked with suppliers on offsite fabrication and packaging reduction, reduced waste from surplus materials, developed recyclable timber site hoardings with 2K Manufacturing, and uses 3D modelling to assess whether demolition material and soil can be re-used.
- Wates aims to reduce its carbon emissions by 10 per cent year-on-year.
- Wates’ training and employment programmes will have helped 500 long-term unemployed people by 2012.
- It aims to employ at least one social enterprise on every project, so far working with 38 across 60 projects with total contracts worth more than £600,000



## Sustainability innovation award

**Sponsor: Carillion Energy Services**

**WINNER** The Sustainable Energy Academy, United House, Camden Council, Parity Projects

**WHAT** WHISCERS System (Whole House In Situ Carbon and Energy Reduction Solution)

**WHERE** Trialled in Camden, north London

**QUICK ECO-CREDENTIALS** Designed as an easy, fast, cheap and low-mess way to insulate hard-to-treat homes

**WHAT THE JUDGES SAID**

“It is brilliant. It has the potential to make a big difference to retrofitting. A big challenge for the green deal is getting the insulation done. Onsite measuring would make a big difference to the experience of the consumer and reduce waste.”

**Key green features**

- A laser survey records details of pipework, trunking and uneven walls. It reduces

waste and mess by determining the size and number of insulation panels which must be made offsite. The panels are then installed and decorated.

- The system reduces dust, noise and time required (the panels can be installed in 30 minutes to 1.5 hours per room) so the improvements can be made with residents in their home.



## Sustainable housing consultancy of the year

**Sponsor: Higgins Construction**

**WINNER** Camco

**WHAT** Consultancy specialising in low carbon development, clean energy and energy efficiency

**WHERE** Offices in Jersey, England, Scotland, south east Asia, south and east Africa, US, Russia and

China

**QUICK ECO-CREDENTIALS** One of the consultancies behind the retrofit south east project, Camco - which also wins this year's energy saving initiative of the year award - takes its green thinking into its offices, reducing its carbon footprint by 37 per cent in three years

### WHAT THE JUDGES SAID

"Camco was sorting itself out as well as helping its clients."

### Key green features

- Some Camco offices have biomass heating and the company has bought carbon offsets from a Ugandan photovoltaic project to bring electricity to rural areas as a way to deal with emissions it can't eliminate.
- A beehive in the Overmoor office encourages bees back to the area.
- In 2008 the firm reduced its air miles by 26 per cent and video conferencing is used whenever possible.
- Office products come from a carbon neutral company which manufactures them out of sustainable materials and donates half its profits to charity Women's Aid and environmental schemes.
- The retrofit south east project, which it carried out with Radian, GESB and Parity Projects, reduced carbon emissions by up to 88 per cent.



## Sustainable larger housing retrofit project of the year (more than 25 homes)

**WINNER** South Northants Homes, Ridge Property and Construction Consultants, Mears Projects, British Gas Solar, Danfoss Heat Pumps UK

**WHAT** A block of 33 sheltered housing units including 16 bedsits were turned into 29 energy-efficient flats

**WHERE** Bridgewater House, Brackley, Northamptonshire

**QUICK ECO-CREDENTIALS** The introduction of solar thermal, ground source heat pumps and photovoltaic technologies at this scheme will cut its annual carbon dioxide emissions by an estimated 132.41 tonnes

### WHAT THE JUDGES SAID

"They transformed the appearance of the development and they achieved such a high standard on such a large number of units."

### Key green features

- The scheme's new solar thermal technology will save an estimated 23.63 tonnes of carbon dioxide per year, ground source heat pumps should save 103.23 tonnes and photovoltaics are set to save 5.55 tonnes.
- Construction waste was reduced by minimising packaging materials and through local recycling.
- Established hedgerows were retained to protect birds and wildlife.
- The residents' gardening club completed the landscaping and the borehole drilling contractor donated a greenhouse to enable them to grow seedlings.
- Leaking pipes were replaced and flow reduction heads have been fitted to showers to save water.
- Car sharing and a community transport scheme for residents also help to reduce car use.



## Community involvement and engagement award

**Sponsor: Breyer Group**

**WINNER** Improving the appearance of our estates, Affinity Sutton

**WHAT** A £60,000 project to improve landscaping and environment of Affinity Sutton's estates

**WHERE** Across England

**QUICK ECO-CREDENTIALS** 10,500 households have taken part in planting and landscaping events to transform their estates

### WHAT THE JUDGES SAID

"The residents were asked what they wanted and they were listened to."

"The visual impact is impressive."

"This was a large scale activity."

### Key green features

- Affinity Sutton set aside £617,000 to fund a project to improve landscaping and communal areas around its homes in 2010 after a survey found the appearance of their estates was very important to residents.
- £44,000 of this was used to involve residents through events, competitions and consultations.
- Around 600 residents from 38 estates took part in a planting project.
- Gardening equipment and 10,300 bulbs were given to encourage estates where planting events were not taking place.



- Affinity Sutton ran a national competition where residents nominated neglected land to be transformed into community growing spaces. Work has been carried out on one winning site and is about to start on another.



## Sustainable housing finance initiative of the year

**Sponsor: Wates Living Space**

**WINNER** Pay-As-You-Save Scheme Gentoo Group, Energy Saving Trust

**WHAT** Three different retrofit packages were tested across large numbers of houses in which energy savings and drops in carbon dioxide emissions were measured

**WHERE** Sunderland

**QUICK ECO-CREDENTIALS** These replicable retrofits, including some relatively inexpensive packages, saved more energy than expected, cutting costs by between 41 and 45 per cent

### WHAT THE JUDGES SAID

"This is a really important piece of work. We need to do this as a sector to identify what we have to do on the green deal. It's great to see some numbers because that is what we need."

### Key green features

- Forty-six homes in Sunderland were fitted with double glazing, combi boilers and heating controls and residents were given low-energy light bulbs and energy-saving advice. On average, £4,142 was spent per property with tenants repaying about £4 a week for 20 years depending on the measures installed. The homes are likely to save more energy than expected with costs expected to fall 45 per cent rather than the predicted 31 per cent. Carbon emissions will drop by 51 per cent rather than the predicted 38 per cent.
- Twenty-six sheltered housing bungalows were fitted with combi boilers, heating controls, double glazing and solar photovoltaic panels. The homes are set to save 41 per cent in energy costs rather than the expected 31 per cent.
- Forty-five homes in Queen Street Hollycarrside were also upgraded.
- Gentoo plans to use the money from the feed-in tariff to replicate the scheme across more properties.

## The judges

- **Richard Baines**, director of sustainable development, Black Country Housing
- **Matthew Bush**, sustainability manager, Metropolitan Housing Partnership
- **John Daggart**, chair, Sustainable Energy Academy
- **Nicholas Doyle**, project director, Places for People
- **Nick Duxbury**, editor, Sustainable Housing
- **Andrew Eagles**, chief executive, Sustainable Homes
- **Stuart Macdonald**, editor, Inside Housing



- **Jennifer Hardi**, Consultant in Housing Future, BRE
- **Professor Jeremy Watson**, chief scientific advisor, Communities and Local Government department
- **Nic Wedlake**, environmental sustainability manager, Peabody