Future of Sustainable Housing
The number of star ratings in the Code, with level 6 being zero carbon

The number of design categories that make up the Code

The number of new homes certified to the Code at design stage by May 2013

The year the Code was launched

119,000 constructed by May 2013

100,000 The number of homes designed and constructed by Dec 2012

176,000

2006

9 The number of design categories that make up the Code

6 The number of new homes certified to the Code at design stage by May 2013

126,000 The number of new homes certified to the Code at design stage by May 2013

100,000 The number of homes designed and constructed by Dec 2012

119,000 constructed by May 2013
An extraordinary milestone in the drive for greater sustainability in UK housing was reached recently, when the number of homes certified by BRE Global as being designed and built to the Code for Sustainable Homes (CSH) exceeded 100,000.

Developed from BRE Global’s EcoHomes scheme and in use since 2006, CSH is a voluntary government standard for assessing the sustainability of new housing in England, Wales and Northern Ireland. It measures homes against environmental and social issues in nine design categories – energy and carbon emissions, water, materials, surface water run-off, waste, pollution, health and wellbeing, management and ecology. The Code rates homes from levels 1 to 6, with level 6 being true zero carbon, providing a widely recognised benchmark of sustainability.

Looking ahead, the Government has announced plans to review housing standards with a view to reducing regulatory burdens on house builders. Whatever the outcome, the benefits that the CSH has brought to the market must not be lost, although it, or its replacement, must be updated and adapted into a streamlined and market-responsive tool that promotes innovation and adapts to current and future economic circumstances. The government has set out its intention for all new homes to be zero carbon by 2016. Achieving this will continue to require the sort of framework, benchmarks and guidance currently provided by CSH.

Underlying the 100,000-home milestone are the many tangible benefits of sustainable housing for all those involved. Householders can enjoy smaller utility bills, greater security, reduced flood risks, increased natural lighting, improved sound insulation, and many other benefits. House builders can use these benefits when marketing their products, and many local authorities also value the Code as a mechanism to help achieve planning policy goals.

For industry, CSH provides a framework for innovating and developing green products, technologies and design solutions, and allows UK manufacturers and consultants to be competitive in exploiting domestic, as well as new and growing overseas markets. And for the environment there are the vital reductions in carbon emissions, water use and waste over the life cycle of the building, as well as the enhanced biodiversity associated with the surrounding environment of a scheme.

While CSH has become a key sustainability tool, it is those who apply the standard that must take much of the credit for driving sustainability in UK housing. They range from private housing developers, planning authorities, funding bodies and housing associations, to architectural practices, engineers, product manufacturers and Code assessors.

A small selection of these – including the company responsible for the 100,000th CSH certified home – have been recognised at the 2013 Code for Sustainable Homes Awards. We offer our warmest congratulations to these pioneers and other CSH users. They are blazing a trail of sustainable and high quality new housing for all to follow.

At BRE we have gained extensive experience as custodians of the BREEAM family of sustainability rating schemes. These include a version for assessing housing refurbishments, as well as a recently launched residential version for new homes, which will operate internationally. We look forward to continuing to work with government and industry stakeholders to further develop CSH and its successors for the benefit of householders and house builders, the wider UK industry and economy and of course, our environment.

Foreword by
Richard Hardy,
Managing Director of
BRE Global

Cover images:
Top - London Borough of Tower Hamlets, Ocean Estate
Middle - Richard Hodkinson Consultancy, Riverlight
Bottom - Southern Housing Group, Vega in Hove
Quality counts

The Future of Sustainable Housing event and the BRE Global 2013 Code for Sustainable Homes Awards recognise an industry and a product that has made tremendous progress in meeting environmental, business and customer challenges.

Dec 2006
The Code is launched with the publication of Department for Communities and Local Government’s (DCLG) Code for Sustainable Homes: A step change in sustainable home building practice.

Mar 2007

Sept 2009
Planning policy in Wales on sustainable buildings states that any development of five or more dwellings must achieve Code level 3.

Mar 2010
17,399 new homes certified at design stage; 4,883 homes at post construction stage

May 2010
Home information packs are abolished and Code certification is no longer mandatory for new homes.

May 2009
First commercially built Code level 6 home certified in Upton Northamptonshire, seven years before the Government’s 2016 zero carbon target.

Mar 2007
58,678 new homes certified at design stage; 25,057 homes at post construction stage.

Mar 2011
As part of the Budget, Government adjusts the zero carbon definition within its Plan for Growth. The definition no longer includes unregulated emissions from appliances and cooking.

Dec 2012
House building industry passes a milestone in sustainable development, having delivered more than 100,000 Code homes since 2007.

Nov 2010
Updated versions of the Code and Building Regulations Part L1A are released. Carbon emission requirements within Code level 3 have been integrated in the regs. In Wales, planning policy requires an additional 8% improvement over Part L1A:2010.

Mar 2012
113,236 new homes certified at design stage; 64,662 homes at post construction stage.

Apr 2013
172,163 new homes certified at design stage; 115,540 homes at post construction stage.
June 2013

The Welsh Assembly Government adopts the Code. Code certification becomes mandatory within Home Information Pack Regulations. All homes with government funding (in England, Wales and Northern Ireland) are required to be built to a minimum of Code level 3.

May 2008

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Today’s new homes not only need to look good, they need to have low energy bills and function to meet the many demands of modern living. They may be built using materials that have low embodied energy, use modular components that have been built in a factory, or include new technologies for renewable energy, home monitoring or management. The design and construction of homes in the UK has come a long way in less than a decade, and the Code for Sustainable Homes (CSH) has played a key role in driving that change as the industry progresses towards the target of making all new homes zero carbon by 2016.

The CSH grew out of the sustainable communities policies of the previous government. Then Deputy Prime Minister John Prescott said of that policy push in 2004: “This is the best opportunity we have had for generations to change the way we build. By doing things differently we will benefit both people and the planet. It is time to apply the highest environmental standards to the new and existing building stock if we are to tackle climate change and achieve high quality design for communities where people will want to live now and in the future”.

At the most fundamental level, domestic energy costs have more than doubled since the CSH came into operation, giving sustainable new homes a clear benefit for occupiers in reduced fuel bills. Developers have added green spaces to their schemes to mitigate surface water run off through sustainable urban drainage systems (SUDs) - creating much valued wildlife habitats and recreational areas, while mitigating flood risk. Over six years of the CSH the energy efficient boilers, low water use taps, food recycling bins and other CSH compliant solutions have produced a number of environmental benefits and savings, including a significant reduction in carbon emissions and considerable savings in potable water use, while a high percentage of household food waste has been diverted from landfill. In the process of developing innovations in product and process the industry has become more efficient and has brought new technologies to market, spurring growth in the green economy.

BRE Global has now certified more than 100,000 homes to the CSH, and the 100,000th property is by St Edmunds Developments at Crookham Village. This publication also recognises the companies, organisations and individuals that contribute in diverse ways to making new homes more sustainable in the BRE 2013 Code for Sustainable Homes Awards. Award winners include the local planning authority that plays a key part in driving sustainability standards, the architect that creates sustainable designs with high levels of functionality, and the private and public sector developers that construct to the CSH and market the end product to their customers. There are awards for the highest scoring schemes over the past year, which go to projects by Victory Housing Trust and Leazes Homes. Last but by no means least, it is also fitting that these awards should recognise the individual assessor and assessor business that have worked so diligently on those 100,000 homes.
St Edmunds Developments’ 100,000th property and the other winners join a long list of sustainable new homes in diverse architectural styles and locations around the UK developed to meet CSH standards. That list includes Cambridge’s Seven Acres, developed by Homes by Skanska; architect Bill Dunster’s pioneering work with Zedfactory’s One Earth homes at Upton, Northamptonshire for Metropolitan Housing Trust; and the Athlete’s Village for the London 2012 Olympic Village, which is now being converted to homes under the new name of East Village, and is owned by Qatari Diar Delancey and Triathlon Homes.

Less than a decade after government policy sparked the creation of the CSH, the coalition government’s review of housing standards is aiming to reduce regulatory burdens on housebuilders to accelerate the pace of development. This has put a fresh focus on the standard and will herald exciting change and development for a new era. There is now an impressive body of specifiers, developers, local authorities, consultants, householders and buyers that will continue the push for sustainable living. The evidence points to a bright future for sustainable housing in the UK.

### The falling cost of building to the Code

The graph shows that when the Department for Communities and Local Government (DCLG) cost reports are plotted over time against DCLG published certificate data, it can be seen that:

- For Code level 1-4, there has been a clear reduction in additional cost to meet compliance as the number of homes built to the CSH standard has increased and the supply chain has grown. The graph clearly depicts the year on year fall in additional costs as the number of homes certified at post construction increases.

- For Code levels 5 and 6, where there is a limited sample of homes and lack of government direction particularly through Part L, it is unlikely that standardised solutions or procurement chains have developed and therefore costs have remained high and variable.

### Definition of cost of compliance

This constitutes the additional costs outlined in the corresponding DCLG cost report to meet CSH compliance, compared to the baseline dwelling.

The baseline dwelling is compliant with the latest version of Building Regulations for the year the data were collated. For the 2008 and 2010 reports, data collated were based on the 2006 Part L1A Building Regulations, whereas the 2011 report reflects the 2010 Part L1A Building Regulations.

The baseline is based on standard practices across the sector, for the 34 issues covered within the Code, and is not solely focused on energy.

Costs are dependent on building type and not location. Certificate numbers have been taken from DCLG’s published statistics.

Cost data taken from DCLG Cost Review of corresponding year.
Winners - BRE Global Certified CSH Awards

**Local Planning Authority Most CSH Homes 2007-13**

**London Borough of Tower Hamlets**

With one of the highest population densities in inner London and a projected 43,000 further new homes by 2025, housing need – both in terms of quality and quantity – is one of the most significant drivers for change in Tower Hamlets.

Policy detailed in the Managing Development Document requires sustainable design assessment tools to be used to ensure that residential schemes deliver the highest standards of sustainable design and construction. At present all residential schemes are required to achieve a minimum of CSH level 4.

**Example CSH projects**

Major CSH developments include the Ocean Estate redevelopment, a Council led scheme that has been partially completed. The project received outline planning permission and is due for completion in 2014. The apartments will feature linked to the changing tide.

Other sustainability measures include the use of green and brown roofs, water saving devices to reduce potable water use, reduced sound transmission to improve internal comfort, waste management strategies, recycling provisions and ecological recommendations to increase habitats and improve biodiversity.

**Housing Association Most CSH Homes 2007-13**

**Southern Housing Group**

Southern Housing Group is one of England’s largest housing associations, owning and managing more than 26,000 homes for 66,000 residents across London and the south east. Its 2012/13 development programme delivered 828 new homes.

The objectives of the group’s environmental sustainability strategy include, “Delivering affordable warmth and reducing fuel poverty”. Central to this is constructing new homes to CSH level 3 and above, employing a fabric-first approach to ensure that the homes are well insulated and airtight.

**Example CSH project – Vega in Hove**

Southern Housing Group has constructed 40 apartments for rent in Hove, East Sussex. The striking new ‘Vega’ building on Kingsway, echoes 1930s architecture and includes a light feature linked to the changing tide.

**Developer Most Private CSH Homes 2007-13**

**Fairview New Homes**

Fairview New Homes is a regional house builder that releases up to 1,000 units for sale a year in South East England, predominately to the first time buyer market. Fairview has extensive experience in delivering CSH developments, along with various forms of low and zero carbon technologies.

**Example CSH project – Colindale Hospital**

With its first CSH registration dating back to 2007 when CSH first became operational, Fairview now has more than 30 sites registered. Among the most notable of these is the Colindale Hospital project in Barnet, a large scale residential led mixed-use scheme due for completion in 2014. The apartments will achieve CSH level 3 and the houses CSH level 4.

The provision of a central energy centre is a key requirement in meeting the sustainability aspirations of the Colindale Area Action Plan. Carbon emission reduction is delivered through clean energy technologies using gas fired combined heat and power with biomass boilers. Other sustainability measures include the use of green and brown roofs, water saving devices to reduce potable water use, reduced sound transmission to improve internal comfort, waste management strategies, recycling provisions and ecological recommendations to increase habitats and improve biodiversity.

**Allyson Spratt, Sustainability Manager at Fairview New Homes, says:**

“It has taken time for all those involved in the process to become familiar with CSH, which has incurred additional costs and led to uncertainty at times. In order to seamlessly integrate CSH, it is important to identify all design implications at the earliest possible stage.”

for a total of 819 residential dwellings. To date around 250 units have been completed, with the final project phase expected to be completed by mid-2014. All residential units are anticipated to achieve a minimum CSH level 4 rating.

The Blackwall Reach Development (shown left) is a joint GLA and Tower Hamlets initiative in partnership with Swan/Countryside PLC to deliver 1,575 new homes. Outline planning consent was achieved in 2012 and the detailed application for the first phase has recently been submitted. All units are consented to achieve a minimum CSH level 4 rating.

**The Tower Hamlets Planning Authority says:**

“A key objective for the Borough is to improve the quality of housing as well as reducing the running costs for the occupants. The Code for Sustainable Homes assessment and certification process is a useful tool to ensure that sustainability features are delivered to meet this objective.”

The development achieved CSH level 4, with high levels of natural light and a highly efficient centralised heating system that includes two micro combined heat and power units. Photovoltaic panels provide power to communal areas, including lighting for the columns at the front of the building.

The flats are a mix of affordable rent, intermediate market rent and open market rent. One-to-one car parking is provided in a secure basement. Four of the apartments are designed as wheelchair accessible.

**Dale Meredith, Development Director at Southern Housing Group, says:**

“The Code for Sustainable Homes has really driven the development of environmentally sustainable housing over the last six years. It has helped us to focus on the fabric of the building as well as trying out new technologies. By using CSH, the group is reducing carbon emissions while providing warm homes that are affordable to live in.”
Assessor Most CSH Homes 2012-13

Michael Axtell of Queensberry Design

From its head office in Northumberland, Queensberry Design provides multi-disciplinary consultancy services for domestic and commercial construction and assessment throughout the country. Michael Axtell’s roles include those of CSH and BREEAM assessor, BREEAM Accredited Professional, and designer of solutions for CO₂ reduction, energy saving features and fabric first measures.

Michael started his career in architecture as a print room junior at a local house builder. After many design roles, including a three-year stint in America, he now runs Queensberry Design’s sustainability department. CSH has allowed Queensberry Design to become specialised in many areas of sustainability, and to offer clients the peace of mind of knowing that all disciplines are under one roof – and both the solutions and assessments are robust and compliant with CSH criteria.

Assessor Company Most CSH Homes 2012-13

Richard Hodkinson Consultancy

Based in Pinner, Middlesex, Richard Hodkinson Consultancy was formed in 1998 and has progressively grown since then. The practice works with large private developers through all stages of a project, from planning to handover, and prides itself on providing high quality and practical advice to clients and design teams.

CSH has been an extremely effective way for the practice to engage in the many different facets of sustainability in the built environment. It enables a broad understanding of sustainability and the many differing influences that play their part in the development process.

Example CSH project – Kidbrooke Village

Richard Hodkinson Consultancy holds the first CSH registration through BRE, achieved in April 2007. Outstanding CSH projects since then include the Kidbrooke Village development at Greenwich in London. One of the largest regeneration projects in the country, Kidbrooke Village aims to deliver nearly 5,000 homes on completion. Richard Hodkinson Consultancy has been instructed on all of the project’s current phases to date, which has meant securing 1,179 design stage certificates and more than 780 post-construction certificates over the last three years. The practice is also progressing many more CSH assessments on a number of concurrent phases.

Michael Sturdy of Richard Hodkinson Consultancy says:

“In applying the Code, we have learnt that the devil is in the detail. In understanding this detail, we have provided well-reasoned and practical advice to clients to add value to the service we provide. This also extends to the wider sustainability agenda in delivering advice to clients through all stages of a project.”

Independent Architectural Practice Most CSH Homes 2012-13

Stock Woolstencroft

Stock Woolstencroft is a progressive and innovative design-led practice that specialises in providing architectural services for housing providers, from initial feasibility and planning proposals through to consent and delivery. Committed to sustainability in all aspects of its work, Stock Woolstencroft has a sustainability working group with members across all levels, dedicated to improving the environmental credentials of the practice and the projects it works on.

Example CHS project – Oberon Court

Oberon Court was the first development in the London Borough of Newham to receive a level 5 certificate under CSH. The mixed-tenure residential complex has been heralded as one of the capital’s most energy conscious housing developments. Designed for L&Q, the £11m scheme has commercial space at ground level and provides 42 one, two and three bedroom homes.

Initially approved for planning as a CSH level 3 scheme, progress on the project stalled when funding ran out. Stock Woolstencroft was asked to retrospectively upgrade the design and specification to level 5, which qualified the scheme for £1.7m of Kickstart funding from the Homes and Communities Agency, securing the future of the project.

Ewout Vandeweghe, head of the sustainability working group at Stock Woolstencroft says:

“CHS is key in informing our clients of the importance of taking a holistic approach to residential design and development; allowing us to build in design quality, energy performance and sustainability from the very outset of a project.”
St Edmunds Developments is a small residential property company that specialises in high quality, small scale developments in and around Surrey and Hampshire.

100,000th home project

The 100,000th home project in Crookham Village, Hampshire comprises two detached houses in a development of around 3,000 ft², which have met CSH level 3 with 57 points. This was achieved through very careful attention to detail, along with a focus on the sustainability and recycling of all materials – approaches that CSH helped to facilitate. The development’s sustainability features include grey water and rainwater harvesting, and the use of solar panels together with energy efficient gas boilers.

Michael Conoley Associates was the architectural practice working on the project, and St Edmunds Developments was the project’s developer and builder.

Greg Smith of St Edmunds Developments says:

“We found that the addition of CSH was an attraction for prospective purchasers. Not only did it ensure that the houses were sustainable, it also highlighted the reduced running costs year on year.”

Victory Housing Trust is a registered charity and provider of affordable homes for those in housing need. Victory owns and manages nearly 5,000 properties with over 10,000 residents in north Norfolk. The Trust is committed to making its homes more energy efficient, and meeting CSH standards in its new-build programme is an important part of this.

Highest scoring homes

The Fakenham Road site in Briston, Norfolk, consisted of four 1950s properties in a poor state of repair, hard to heat and extremely energy inefficient. For Phase One of the project (to which this award applies) Victory proposed demolishing two of the properties and building five new homes.

At a very early stage Victory decided to invest in constructing three new houses to CSH level 4, and two bungalows to CSH level 6. The aim was to use the site as a learning process to understand the technical and financial implications of building to these standards.

The isolated rural site was challenging, with no local gas supply. The CSH 6 homes have very high levels of insulation, air source heat pumps, solar photovoltaic panels and mechanical heat recovery. It was also important to educate the residents to living in CSH level 6 homes.

Mark Burghall of Victory Housing says:

“We set out on this project with the aim of learning a new way of construction, and there were certainly many challenges. A key lesson has been the necessity of building a partnership of contractors who are committed to what you are trying to achieve.

“The exercise has been very useful in learning that we can build to this very high level of sustainability, something that we predict will become a mainstream method of development.”

Leazes Homes is a registered charity and provider of social housing which, over the last three years, has developed new homes and other housing products to help meet the high demand for affordable and specialist housing in Newcastle.

Highest scoring homes

Leazes Homes worked with Keepmoat Homes to transform a site in Blakelaw, Newcastle upon Tyne, which had previously accommodated a derelict block of flats.

The project’s 98 properties were built with a focus on energy efficiency and are the UK’s first to meet SAP 2009 and CSH 2010. Of these, 57 properties are for private sale and have been rated CSH level 3, 39 are for social housing and are CSH level 4, and two are RSL dwellings – one CSH 5 and one CSH 6.

Leazes Homes says:

“We found that achieving a CSH 6 rating requires four key elements:

– A design consultant with experience of sustainable design and knowledge of the CSH. Queensberry Design’s prior work at all CSH levels gave us peace of mind.

– A developer experienced in achieving CSH ratings. We closely worked with Keepmoat throughout the construction process.

– A willingness to learn and take advice on solutions targeting credits for higher CSH levels. Client agent Your Homes Newcastle worked with the design team and suppliers to ensure joined up thinking at every stage.

– Guidance from the CSH assessor. Michael Axtell of Queensberry Design advised on cost effective solutions as well as overseeing the project design on our behalf.”

Leazes Homes was a joint winner of the 2012-13 Highest Scoring CSH Award along with Fakenham Road by Victory Housing Trust.
BREEAM – Driving sustainability for buildings and communities

BREEAM’s domestic-related standards include:
- Communities
- Multi-Residential
- Refurbishment
- International – Residential

The world’s leading sustainable building tool helps create value for building owners and investors. With over 250,000 buildings certified and a million registered for certification, BREEAM sets the standard for best practice in sustainable building design, construction and operation and has become one of the most comprehensive and widely recognised measures of a building’s environmental performance.
About CSH

The Code for Sustainable Homes (CSH) is the national standard for the sustainable design and construction of new homes in England, Wales and Northern Ireland. CSH rates and certifies sustainability with a view to driving continuous improvement.

Homes are rated from level 1 to level 6, depending on their performance against nine sustainability criteria that range from energy to health and wellbeing. Level 1 is entry level above building regulations and level 6 is the highest rating, reflecting exemplary performance.

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