Developing high quality, well-designed homes with low environmental impact







Completed homes designed to the principles of Lifetime Homes

This summary report covers the period 1 May 2012 to 30 April 2013 ("2013")



Completed homes provided with energy from low carbon or renewable technology

Build Quality

Constructing homes to the highest quality

Attention to detail, uncompromised quality and inspired creativity

Environmental Performance

Reducing environmental impacts during use and enabling customers to live more sustainable lifestyles

Our Vision for 2020

Our proven track record of delivering high quality, well-designed, comfortable homes with low environmental impact will make them highly desirable to customers and we will have expanded our market base. Homes built by Berkeley will be recognised throughout the industry as the very best examples of sustainable design and construction. All our new developments will be low or zero carbon.

Developing our Approach

Over the past year we have evolved this section of the Vision2020 framework from focusing on greener, more sustainable homes to reflecting our overall aim for each home; it must be well-designed, be of a high quality and be environmentally sound. These three elements are fundamental to our business strategy and are demanded by all of our stakeholders, from our customers to local and national Government.

Risks and Opportunities

Key Risks Financial Impacts Management through Vision2020 Low demand for Fewer new customers and Carry out post-occupancy customer recommendations. products due to monitoring to understand unsatisfactory design how the homes function. and quality Increase in cost of Undertake research to Increasing legislatory/ building homes. understand the implications regulatory of the Government's proposed environmental Increase in research zero carbon standard on our requirements and development costs. future developments. **Financial Impacts Key Opportunity** Higher sales due to unique Market Develop minimum design differentiation product offering to customers. of our product Increased market value of and overheating.

homes due to demand for good design.

Management through Vision2020

standards on all homes including for sound insulation, space, storage

Design all new homes to at least Level 3 of the Code for Sustainable Homes.

Our vision for the future

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Progress at a Glance: mid-term review against two year commitments 2012-2014

Design Quality	Carry out post-occupancy monitoring of electricity, water and gas/heat consumption in order to measure the success of our designs and to influence the design of future schemes.	→	At Royal Arsenal Riverside, electricity, heat and water meter readings are being collected regularly from 50 occupied homes. Results will be analysed in 2014.			
	Monitor the indoor air quality of at least one completed home and use the findings to influence future design and specification choices.	→	At Woodberry Park an occupied unit has been fitted with equipment to monitor indoor air quality over a period of one year. Results will be analysed in 2014.	45%		
	Apply the Lifetime Homes principles in the design of all new homes.	>	94% of planning applications submitted in 2013 committed to incorporating the principles of Lifetime Homes. There was one exception which covered 69 homes.	33% Met in 2013		
	Develop minimum design standards on all Berkeley homes including standards for sound insulation, space, storage and overheating.	→	The Group Technical Committee has been tasked with devising minimum standards on all Berkeley homes. Standard details for items such as building envelope and waterproofing have already been produced. Additional standards for aspects such as sound insulation and overheating will be compiled during 2014.	On track to be met in 2014 Not on track to be met in 2014		
Environmental Performance	Design all new homes to achieve at least Level 3 of the Code for Sustainable Homes.	\checkmark	All planning applications for new homes submitted during 2013 committed to building homes certified to at least Code Level 3.			
	Undertake R&D to understand the implications of the Government's proposed zero carbon standard on our future developments.	\checkmark	In 2013 we commissioned a specialist consultancy to undertake research on the implications of zero carbon to our business. This will now be used when planning new schemes.			
	Design all new homes to achieve water use of 105 litres per person per day (l/p/d).	\checkmark	All planning applications for new homes in 2013 included a commitment to achieve a maximum water use of 105 l/p/d.			
	Provide recycling facilities for every home.	\checkmark	All planning applications for new homes in 2013 committed to providing recycling facilities.			
	Work with an external organisation to promote resident recycling.	>	We have selected an operating company to progress this commitment in 2014.			

Build Quality



Restoration work at Roehampton House

At Berkeley, quality is a priority, from choosing the right location and style of home, to the construction processes we practice, the materials we use and the specifications we put into those homes.

Our homes must be constructed to the highest quality standards and this requires a skilled workforce and attention to detail. To achieve this, the business builds strong, long-term relationships with contractors and ensures all details are forward planned and well co-ordinated. Checks are undertaken both throughout the build process and prior to handover to ensure a high quality finish has been achieved.

Our specifications are designed to meet the varied needs of all types of homebuyers, from luxurious houses to top quality key worker apartments. We listen to our customers throughout the build process to ensure we understand and deliver their individual requirements.

Focus On delivering

high quality homes

Zero defects Our aim for each home

Build Quality

From Vision to Reality: Ensuring quality throughout the build process

For our homes to be constructed to such a high quality we need to start from the outset by selecting the best contractors; those who work to the same standards as we do. We then build strong long-term relationships with them and involve them within project planning and co-ordination. The whole project team must be aware of the tolerances and specifications for each plot.

Many checks are undertaken both throughout the build process and prior to handover to ensure the finish achieves the high quality requirements. This includes checks by the contractors completing the task, checks by Berkeley personnel and also external parties such as NHBC, local authority building control and consultant engineers. These multi-layered checks ensure the highest quality is ingrained into the build process.

Although the finished product is reliant on all stages having quality 'built in', it is clearly at the end of the build stage and prior to handover where our tightest quality control on the finished product comes into effect. Once the homes are approaching completion a rigorous inspection and snagging process is undertaken. Our ultimate aim is to achieve zero defects on handover.

Our Griffon Studios student accommodation scheme for Imperial College London was the Winner of the 'Multi-Storey Development' category at the British Homes Build Quality Awards in 2012.



Griffon Studios

Design Quality

We are committed to:

- Developing minimum design standards on all Berkeley homes including standards for sound insulation, space, storage and overheating
- Applying the principles of Lifetime Homes in the design of all new homes
- Carrying out post-occupancy monitoring of energy and water consumption in order to measure the success of our designs and influence the design of future schemes
- Monitoring the indoor air quality of completed homes and using the findings to influence future design and specification choices

Attention to detail, uncompromised quality and inspired creativity are the hallmarks of a Berkeley home and are at the core of our values and strategy. Unlike most major house builders, we do not have a standard product but use qualified architects to design each scheme, whether it consists of four or 4,000 homes. This tailored approach ensures that we deliver homes and communities that meet our customers' needs.

Our sales figures and customer feedback are testament to the quality of our design, but we are also pleased to have received design awards on many of our developments.

Together with excellent external design of the buildings and landscaping, we must ensure that the homes are comfortable places in which to live. Meeting applicable space standards is key, together with ensuring there is enough storage. In 2014 our Technical Committee will finalise Berkeley minimum standards for these factors, as well as for issues such as sound insulation and overheating. We are also committed to investigating indoor air quality; in 2013 we installed air monitoring equipment at one of our sites to obtain data on real-life performance which we will then feed back into the design process.

52% Designed to the principles of Lifetime Homes

Minimum standards

Being compiled by Berkeley for the design of all homes

Design Quality

From Vision to Reality: Recognition of excellent design

The quality of our scheme designs is regularly recognised. Our Cambridge Riverside scheme was Highly Commended in both the 'Apartment' and 'Development – Multiple Units' categories of the 2012 UK Property Awards. The innovative design, spacious interiors and impressive architecture of Kew Bridge was also Highly Commended by the London Evening Standard's New Homes Awards 2012.

The design of hard and soft landscaping around homes also adds value to a development and enhances the community. Stanmore Place was recognised as an example of thoughtfully designed landscaping and was Highly Commended for Landscape Architecture at the 2012 UK Property Awards due to its stunning gardens, lakeside views and elegant water features.

As well as delivering good design, Berkeley also aims to stimulate discussions around the topic. As part of this, we were one of the main sponsors of the London Festival of Architecture 2012, during which five of our sites were open to the public. These included one of the largest regeneration programmes in Britain; Woodberry Park, and an Edwardian building undergoing restoration; 75 Leman Street. As well as site tours, the events included discussions on what good design can achieve and how to create successful places.



Landscaping at Stanmore Place

Design Quality



Kew Bridge

From Vision to Reality: Flexible and adaptable homes

We have a commitment to design our homes to meet the principles of Lifetime Homes, which enables them to be adapted for less able-bodied homeowners in the future.

Of our new planning applications in 2013, 94% incorporated the principles; there was only one exception and this was on a site of 69 homes where it was not considered feasible.

In 2013, 52% of our completed homes met the Lifetime Homes criteria compared to 44% of completed homes in the previous year. Historical data is provided in the Data Appendix on page 14.

Completed homes designed to the principles of Lifetime Homes standard



Design Quality

From Vision to Reality: Learning from experience – post-occupancy monitoring

Significant improvements in air tightness to reach ever more stringent design requirements has led to a realisation within the industry of issues such as overheating and indoor air quality.

We want our homes to be comfortable places in which people will be happy to live and air quality is something we are dedicated to investigating to further improve our designs. At Woodberry Park we have installed air monitoring equipment to obtain data on real-life performance which we will then feed back into the design process.

As part of our Vision2020 framework, during the forthcoming year we will be further developing our knowledge of good design through post-occupancy evaluations of a number of our developments. This includes Royal Arsenal Riverside where we are collecting electricity, heat and water readings regularly from 50 occupied homes. The intention is to assess whether the homes are using electricity, heat and water in line with how they were designed.



The Warehouse at Royal Arsenal Riverside

Environmental Performance

We are committed to:

- Undertaking R&D to understand the implications of the Government's proposed zero carbon standard on our future developments
- Designing all new homes to achieve at least Level 3 of the Code for Sustainable Homes
- Designing all new homes to achieve water use of 105 l/p/d
- Providing recycling facilities for every home and working with an external organisation to promote resident recycling

As well as ensuring a great home aesthetically and functionally, exceptional homes must also be environmentally sound, reducing the potential environmental impacts they have during their occupation for decades to come. As a responsible business, we believe that we have an important role to play in protecting the environment for future generations. In a future world of increasing energy prices, scarce resources and increased prominence of the environmental agenda, taking a proactive approach to these issues will position the business for long-term success.

We believe that building greener homes as standard, rather than within one-off developments, provides us with market differentiation for our product; all of our new homes are designed to reach at least Code Level 3 and are provided with efficient internal water fittings and recycling facilities as standard. Delivering energy-efficient homes and improving water efficiency is not only right for the environment, but also for our customers as their utility bills can be reduced.

Data on several aspects of our environmental performance is provided in the Data Appendix on page 14.

100%

New homes to be certified to at least Code for Sustainable Homes Level 3

63%

Completed homes supplied with energy from low carbon or renewable technology

Environmental Performance

From Vision to Reality: Code for Sustainable Homes and zero carbon

We pride ourselves on having led the way in our commitment to achieving environmental performance standards across our portfolio, beginning with our industry-leading commitment in 2008 for all new schemes to reach Code for Sustainable Homes Level 3. In 2013, 77% of completed homes were certified using an environmental performance methodology. 82% of these were certified to the Code; the remainder were covered by older planning consents and were certified to EcoHomes.

Increasingly our new developments are targeting Code Level 4 and we are confident that we are fully prepared to deliver higher levels of the Code across our developments, as and when it is required. At some of the recently completed homes in Blackheath Quarter in Kidbrooke Village, Code Level 4 has been voluntarily met above the Code Level 3 requirement of the planning permission.

In 2013, 63% of our completed homes were provided with energy from renewable or low carbon technology, up from 56% in 2012. This year we have installed both ground source heat pump and wind turbine technology at The Tower, One St George Wharf and have begun to implement one of the largest ground source heat systems in Europe at Riverlight.

We continue to support the Government's move to zero carbon and in 2013 commissioned experts to conduct research into the implications and practicalities of implementing this across our business. This work will now be used to inform future designs.



Wind turbine at The Tower, One St George Wharf

Completed homes that are provided with energy from low carbon or renewable technology



Environmental Performance



From Vision to Reality: Improving water efficiency

Water is a vital resource which is suffering from the increased pressure of an expanding population and changes to climate.

We continue to incorporate efficient internal water fittings as standard through our Vision2020 commitment to achieve maximum water use of 105 litres per person per day (l/p/d).

This includes consideration to dual flush toilets, aerated taps and showers and water-efficient white goods. The average consumption of water in the Code-certified homes we build is currently 101.8 l/p/d, far below the UK average and the requirements of the current building regulations.

Water use (l/p/d)



Environmental Performance



From Vision to Reality: Domestic waste recycling

We want to make sure that our customers have the correct facilities to enable them to recycle their waste and, through Vision2020, have committed to providing recycling facilities for every home.

In practice, this is usually in the form of segregated recycling bins in kitchens and allocated space outside the home to store waste bins provided by the local authority, but we assess other options on a site-bysite basis. For example, at Dickens Yard we have installed waste chutes to allow residents to efficiently sort their general and recyclable waste and at Winton Place we will be providing composting bins in the gardens of the homes. Completed homes that are provided with recycling facilities



For notes on the 2009 - 2012 data presented here, please refer to our historical Sustainability Reports.

Data Appendix

Design Quality

	2009	2010	2011	2012	2013	Indicator	Further Information	
Lifetime Homes								
Percentage of new homes designed to the principles of the Lifetime Homes standard	ND	ND	ND	ND	94%	Vision2020	This figure covers all relevant planning applications made in 2013.	
Percentage of completed homes designed to the Lifetime Homes standard	ND	ND	29%	44%	52%	N/A	This figure covers 3,353 homes that reached legal completion in 2013.	
Environmental Performance								
	2009	2010	2011	2012	2013	Indicator	Further Information	
Environmental performance standards								
Percentage of new homes to be certified to at least Code Level 3	ND	ND	ND	ND	100%	Vision2020	This figure covers all relevant planning applications made in 2013.	
Number of completed homes certified using an environmental performance methodology		ND	ND	3,064	2,577	GRI CRE8	This figure covers 3,353 homes that reached legal	
Percentage of completed homes certified using an environmental performance methodology	37%	64%	65%	81%	77%		completion in 2013.	
Percentage of completed homes certified using the EcoHomes methodology	37%	46%	31%	19%	13%	N/A		
Percentage of completed homes certified using the Code for Sustainable Homes methodology	ND	18%	34%	62%	63%	N/A		
Energy performance of homes								
Average SAP rating for completed homes built to pre-2002 Building Regulations		72.7	71.9	66.2	44.6	N/A	This figure covers 0.2% of homes completed in 2013.	
Average SAP rating for completed homes built to 2002 Building Regulations		82.0	78.9	86.9	76.3	N/A	This figure covers 2.8% of homes completed in 2013.	
Average SAP rating for completed homes built to 2006 Building Regulations		80.3	81.4	81.0	80.2	N/A	This figure covers 80.4% of homes completed in 2013.	
Average SAP rating for completed homes built to 2010 Building Regulations	-	-	-	82.5	83.1	N/A	This figure covers 16.6% of homes completed in 2013.	

Data Appendix

Environmental Performance (continued)

	2009	2010	2011	2012	2013	Indicator	Further Information
Renewable and low carbon technology							
Percentage of completed homes provided with energy from low carbon or renewable technology	ND	ND	ND	ND	63%	N/A	This figure covers 3,353 homes that reached legal completion in 2013.
Water efficiency							
Percentage of new homes designed to have a maximum water usage of 105 l/p/d or less	ND	ND	ND	ND	100%	Vision2020	This figure covers all relevant planning applications made in 2013.
Average water efficiency of completed homes (l/p/d)	ND	ND	ND	99.9	101.8	N/A	This figure is based on 2,138 homes certified under the Code for Sustainable Homes and/or meeting Building Regulations Part G 2010.
Recycling							
Percentage of new homes that will be provided with recycling facilities	ND	ND	ND	ND	100%	Vision2020	This figure covers all relevant planning applications made in 2013.
Percentage of completed homes with recycling facilities	ND	ND	ND	ND	93%	N/A	This figure covers 3,353 homes that reached legal completion in 2013.