

## Our vision

To be a world-class business generating long-term value by creating successful, sustainable places where people aspire to live

# OPERATIONS

MAKE THE RIGHT LONG-TERM DECISIONS  
WHILST RUNNING THE BUSINESS  
EFFICIENTLY AND WORKING WITH  
OUR SUPPLY CHAIN



# OPERATIONS



MAKE THE RIGHT LONG-TERM DECISIONS WHILST RUNNING THE BUSINESS EFFICIENTLY AND WORKING WITH OUR SUPPLY CHAIN



50%

targeted increase in apprenticeships and training

100

suppliers contacted to obtain feedback on our role as client

14%

higher average Considerate Constructors Scheme score than the industry

£2m

fund to support innovation in health and safety

21%

reduction in operational site carbon emissions per operative

94%

site waste re-used or recycled

69%

reduction in energy use at our Head Office following its refurbishment

59%

recycled content of a home at Emerald Square in Roehampton

# OPERATIONS

---



## INTRODUCTION

This report sets out our approach in the business area of Operations. It provides performance information on the commitments that we had in place from 1 May 2012-30 April 2014 and outlines our goals for 2014-16.

## OUR APPROACH

Through recognition that the property market is inherently cyclical, we make decisions with a focus on the long-term.

We understand the operational risks in trying to successfully identify, design, build and sell homes and create new places. We aspire to maintain excellent partnerships with our supply chain to ensure that high quality services and materials are consistently provided and we are a client of choice. We support and engage with our supply chain and, through our supply chain, we help to provide employment and support to young people. We conduct our day-to-day operations in an environmentally efficient manner and with consideration to our neighbours.

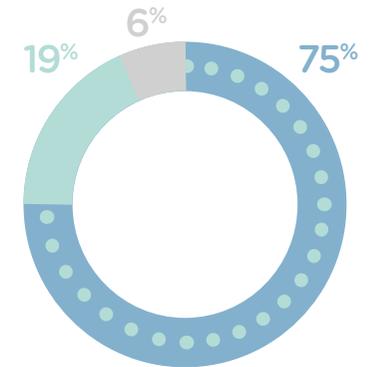
Considerate Good Practice  
Efficient Energy  
Supply chain  
Contractors Waste  
Operations  
Construction Materials  
Sustainability Community  
Training

# OPERATIONS



## WHAT WE'VE DONE: 2012-2014 PERFORMANCE AT A GLANCE

Communicate our sustainability requirements to our contractors through our Management Rules.		Monitor and maintain office carbon dioxide emissions per m <sup>2</sup> at or below 2011/12 levels.	
Work with our suppliers to improve the sustainability performance of their product or service.		Monitor and maintain office water use per person at or below 2011/12 levels.	
Integrate an assessment of the sustainability of products, suppliers and contractors into the formal selection process.		Conduct energy/carbon audits on our offices and implement carbon reduction initiatives that have acceptable payback periods.	
Develop and implement a process or system to increase the number of local contractors working on at least one of our developments.		Reduce average site carbon dioxide emissions by 3% per site operative.	
Ensure that all timber purchased by Berkeley is certified by a timber certification scheme.		Reduce average site water consumption by 3% per site operative.	
Establish the recycled content of at least one completed apartment and at least one completed house and develop alternative specifications to increase recycled content.		Re-use or recycle over 85% of construction, demolition and excavation waste.	
Register all sites with the Considerate Constructors Scheme and achieve a minimum of 35 points in site audits (32 points prior to January 2013).		Conduct biennial sustainability reviews at our permanent offices and target a 20% reduction in paper consumption per office worker at each review.	
Ensure that a minimum of 5% of our own staff and those working on our construction sites are employed in an apprenticeship or training role.		Undertake regular sustainability assessments on all construction sites.	



- Fully achieved
- Partially achieved
- Not achieved

Four of the sixteen commitments were not fully achieved during 2012-14, the details of which are outlined in the body of this report.

**Key:** Fully achieved Percentage achieved Not achieved



## WHAT'S NEXT? COMMITMENTS FOR 2014-2016

We have set three stretching commitments in the area of Operations to further improve our approach during 2014-2016. These are in addition to a number of business-as-usual actions, many of which are a continuation of or have evolved from the commitments we have had in place in previous years.

### ACHIEVE A 50% INCREASE IN SITE-BASED APPRENTICESHIPS AND TRAINING



Key challenges for industry and government are to encourage young people into the industry and increase capability in the workforce to ensure that there are enough people with the right skills to deliver the pipeline of future work.

We are committed to addressing the issue of youth unemployment and training by proactively supporting our supply chain in this area.

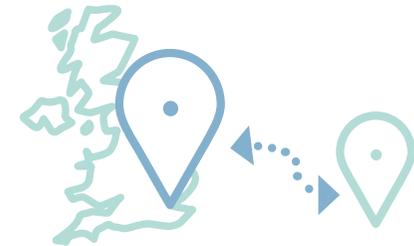
### LAUNCH A £2 MILLION FUND FOR THE SUPPLY CHAIN TO SUPPORT INNOVATION IN HEALTH AND SAFETY



With 10,500 operatives working on our sites in April 2014, we recognise that engaging with the supply chain to maintain excellent health and safety standards is key.

This commitment seeks to promote innovation in health and safety which reduces construction-related risk, drives the industry forward and improves health and safety performance.

### MAP OUR SUPPLY CHAIN RISKS AND DEVELOP A SUSTAINABLE SPECIFICATION AND PROCUREMENT STRATEGY



We recognise that the majority of our sustainability impacts are likely to occur indirectly through the supply chain.

An assessment of our supply chain will help to identify key materials and areas where we can positively influence activities in the area of sustainability. The resulting procurement strategy will also help us to manage business risk.



## OUR VISION: FOCUS ON OPERATIONS

### What kind of operations do we undertake?



Our operations relate to the day-to-day activities within our construction sites and offices, as well as our relationship with the supply chain.

During 2012-2014 we had more than 100 live construction sites across London and the South of England and a network of more than 20 regional offices. We made over 50 planning applications for new schemes within the same period.

### Our Vision: the plan for the business



Operations is one of the five focus areas under the Our Vision plan for the business, alongside Customers, Homes, Places and Our People.

Everything we do on a daily basis at Berkeley falls into this area of Our Vision. Our business model rests around five key principles to ensure we make the right long-term decisions whilst running the business efficiently: recognising that the property market is inherently cyclical; understanding risk; knowing our market; sound financials; and autonomy.

We build upon the good relationships with our supply chain and our communities to help us gain planning permission, to build and to sell our developments and remain a developer of choice.

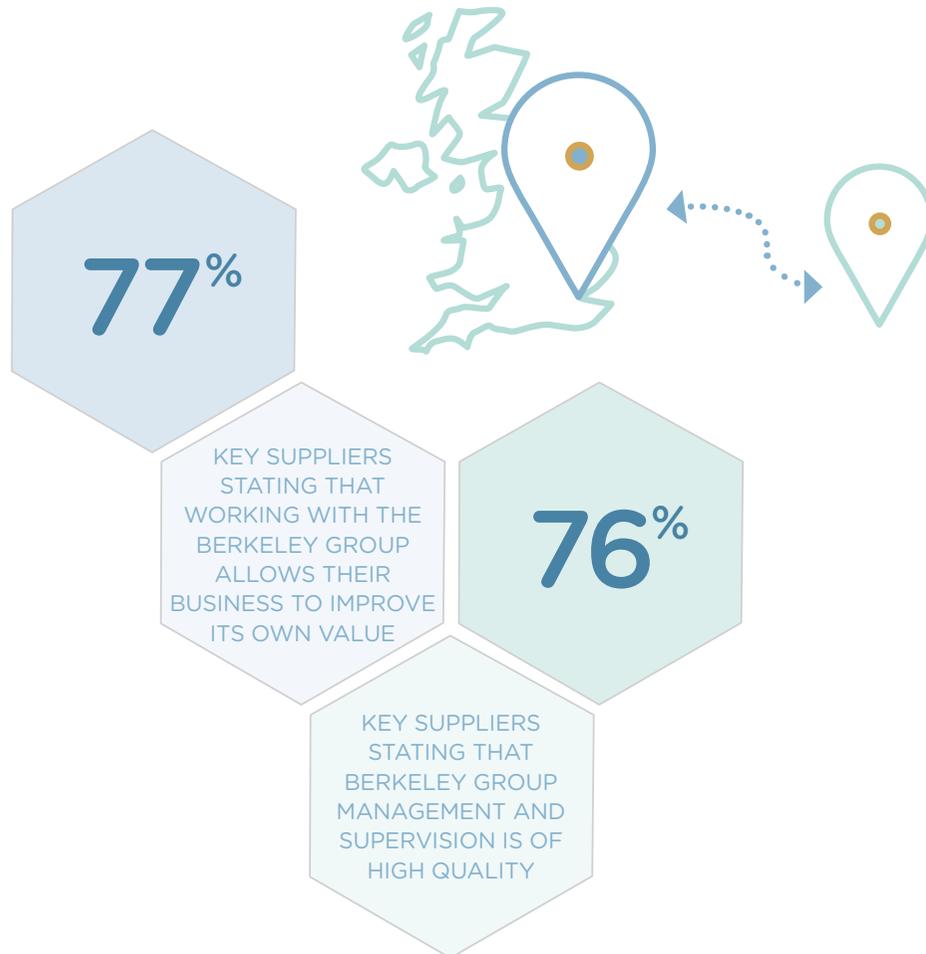
Each of our developments is led by a dedicated project team responsible for all aspects of detailed design, quality, delivery, commercial and technical works on their project. The coordination of professional teams of consultants and contractors and strong communication throughout are critical in ensuring the smooth delivery of every project.

The nature of our operations has an impact which is most notable when we arrive on a development site and begin demolition, excavation and construction activities. We consider these effects right from the outset and aim to mitigate any negative impacts to the environment and community. We work with trusted suppliers and contractors to deliver the scheme.

Every two years we set new targets to improve our approach, whilst seeking continual improvement in our day-to-day operations. Ways in which we can improve our approach are identified by our staff and continuous contact with contractors and industry bodies. In April 2014 we also held a materiality session with industry professionals and members of our supply chain which highlighted key issues we should try to address, such as up-skilling contractors and treating waste as a commodity.



## THE IMPORTANCE OF THE SUPPLY CHAIN



Once schemes are in production, the support of a reliable and competent supply chain is critical to success. With only 1,850 direct employees and around 10,500 operatives working on our sites, we rely on our supply chain to construct high quality schemes.

We work with trusted contractors who can deliver high quality workmanship. Our supply chain is wide and varied, consisting of specialist contractors from groundworkers to painters. The vast majority of our materials are procured via packages of works which include services and materials.

It is important for us to work with our suppliers to understand the challenges they face to enable us to support them in the delivery of our operations. With increases in production both in Berkeley and across the wider industry, there is also a need to review the supply and demand of both services and materials to ensure we can continue to deliver our schemes successfully.

In 2014, we established a supply chain task force to undertake a review of the supply chain, to identify current trends and future requirements and to obtain feedback on our role as client. An external party asked more than 100 of our contractors to provide feedback on our role as client. We have also undertaken an exercise to broaden our supply chain through discussions with companies we have not previously worked with.



## ENGAGING WITH THE SUPPLY CHAIN

Engagement with our suppliers is key to remaining a client of choice and achieving high quality outcomes, on time and on budget.

Our project teams have day-to-day contact with the supply chain throughout the works, but other events such as supply chain conferences are also an important way of engaging with our suppliers.

We plan to further strengthen our relationships with the supply chain over the next two-year period through a new supplier engagement programme. An Innovation Fund of up to £2 million is being made available to our supply chain to facilitate the realisation of innovative ideas which lead to the elimination or reduction of construction-related risk. We see this as an exciting opportunity to support the supply chain whilst benefiting the wider industry.

In addition to the Innovation Fund, we are reviewing and streamlining our processes to benefit contractors working across several of our operating businesses and with consideration of the challenges faced by small companies.

Berkeley  
**INNOVATION  
FUND**

**THOUGHT OF  
A BRIGHT IDEA?**

IF YOU'VE THOUGHT OF A BRIGHT IDEA THAT CAN HELP MAKE CONSTRUCTION SITES **SAFER** TELL US AND OUR £2MILLION INNOVATION FUND COULD HELP MAKE IT A REALITY.

FIND OUT MORE:  
[BERKELEYINNOVATIONFUND.CO.UK](http://BERKELEYINNOVATIONFUND.CO.UK)

Berkeley  
Group



## APPRENTICESHIPS AND TRAINING



OVER THE NEXT TWO YEARS WE AIM TO ACHIEVE A 50% INCREASE IN SITE-BASED APPRENTICESHIPS AND TRAINING.

Bringing young talent into the industry is critical to its future success, to replace an ageing workforce and to meet rising demand in production. Construction 2025 stressed the need for both industry and government to revitalise the industry's image, and the cross-party parliamentary inquiry No More Lost Generations highlighted how few apprenticeships are now completed.

We are passionate about promoting the industry to young people and supporting our contractors in providing apprenticeships and training. We launched our Apprenticeships and Skills Development Policy in 2012 and, with the support of our supply chain, have made steps towards improving opportunities for people who are not in education, employment or training. Our target for 2012-2014 was to ensure a minimum of 5% of those working on our construction sites together with our own employed staff were working as an apprentice or were in another kind of formal training. We are pleased to report that we exceeded this commitment.

### CASE STUDY

#### PROMOTING THE INDUSTRY

Within St George, training has been boosted through the employment of workplace coordinators; 74 apprentices worked across 11 sites during 2013/14.

Apprentices at Dickens Yard in Ealing range from a 31-year-old mother-of-three who has undergone a radical career change by leaving her role as a florist to become a plumbing apprentice, to recent college graduates taking their first steps to develop skills for a successful career in the industry.

Young students have also been encouraged to consider joining the industry upon leaving school, college or university. In 2014, eighteen Year 8 students from Brentford School for Girls were given a tour of St George's Kew Bridge development to provide them with an insight into the construction industry and the diverse skills required to create new homes.

*"The visit to St George was fantastic; the careers talk was very informative for the girls. We are looking forward to the next visit already."*

*Liz Gers, Community Coordinator  
Brentford School for Girls*

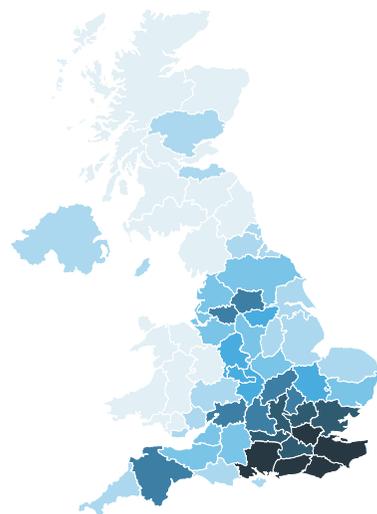


## PROVIDING JOBS FOR LOCAL PEOPLE

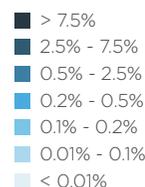
Our decision to procure on a development-by-development basis ensures that wherever possible we are able to use contractors and suppliers that are local to our sites.

The majority of our supply chain is based in London and the South East although we do source contractors and supplies from across the UK.

On certain sites we have Section 106 requirements to ensure a certain proportion of the workforce comes from the local area. At Royal Wells Park in Tunbridge Wells, a job fair was held and we worked alongside JobCentre Plus to highlight opportunities available to local people. As a result, several people have joined the team in a variety of roles from administrator to quantity surveyor.



Percentage of Berkeley's total spend on subcontractors and suppliers



### CASE STUDY

## INCREASING LOCAL LABOUR

In August 2013, an audit of the travel distances of operatives working on sites of the Berkeley Oxford and Chiltern region indicated that around half of the workforce was travelling distances of over 30 miles. This highlighted that although local contractors were often being selected, this didn't necessarily mean that local labour would be used by these contractors.

As a result, the tender process was amended to ask contractors to estimate the average travel distance of their proposed labour workforce.

A follow-up audit undertaken in January 2014 found that the number of operatives travelling over 30 miles to the division's sites had reduced by 12%. It is planned that such audits will continue on a quarterly basis and additional measures will be implemented to encourage local labour.



REDUCTION IN THE NUMBER OF OPERATIVES TRAVELLING DISTANCES OF OVER 30 MILES





## COMMUNICATING SUSTAINABILITY TO CONTRACTORS

As a business we are committed to sustainability and are dependent on our supply chain to help us achieve our goals. We expect all companies that work with us to play an appropriate role in helping us to achieve our aims.

Since 2011, we have included a document which summarises our requirements for sustainability within our Management Rules which all contractors sign up to before working with us. This 'Sustainability Standard for Contractors: Sustainability Management on Construction Sites' is issued to all contractors as the means of communicating our approach and ensuring that it is taken into account during the tendering process.

In 2012 we also made a commitment to integrate sustainability into the selection process of all contractors, alongside more typical factors such as cost and quality. We have made some good progress in this area, with the majority of projects now including sustainability considerations in the final sign-off process. However, due to the autonomous nature of our divisions and our purchasing processes we are unable to report full compliance in this area. Further work will be undertaken during 2014-16 to ensure we are consistently achieving this commitment.

### CASE STUDY

## THE SUPPLY CHAIN SCHOOL

In 2013/14, we worked with a number of our suppliers to improve sustainability performance. This included liaising with selected suppliers closely at the early procurement stages to improve their product and promoting improvements in sustainability.



At Holmhurst Mews in Wimbledon we used the Supply Chain Sustainability School as an initiative to raise awareness of sustainability. The School provides free practical support in the form of e-learning modules and tailored self-assessment and action plans. 78% of our contractors working on this site became members of the school.

*"The Supply Chain School has been a great tool to have access to. Since our enrolment we have used this tool to our advantage and improved our approach to sustainability as a whole across different areas within our company."*

*Colin Hiscock, Managing Director  
Logistical Building Services Ltd*



## SUSTAINABLE MATERIALS

The construction of our developments inherently uses large quantities of materials and we recognise that some of our greatest impacts can arise indirectly through our material supply chain. Our Sustainable Procurement Policy sets out our aspiration to work with suppliers to ensure that the environmental and social impacts of the products and services have been considered and, where possible, minimised.

We have a commitment to ensure that all timber purchased either directly or through our supply chain for use on our sites is either Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC) certified.



We undertook further checks on sourcing in 2014. Paperwork to demonstrate certification was available for the vast majority of orders and deliveries, but unfortunately there were some instances where this was not the case; we believe that this is predominantly a paperwork issue rather than a failure to source sustainable timber. To address this, we are putting in place trackers for all developments, with accreditation checks occurring at both the material purchase stage and at site delivery.

Many of our products are purchased with credentials such as the BRE's BES6001 Framework Standard for Responsible Sourcing of Construction Products or from companies with robust management systems such as those meeting the international ISO 14001 standard. An assessment to understand the materials which go into a typical home or apartment at Emerald Square in Roehampton indicated that 59% of the basic building elements of a townhouse were recycled. This primarily resulted from the use of plasterboard, insulation and blocks with high recycled content.

The new Our Vision commitment for 2014-16 to map our supply chain risks and develop a sustainable specification and procurement strategy will focus on fifteen key materials to ensure that our procurement of these is approached in a sustainable manner, whilst reducing risk in the supply chain and ensuring choices are commercially viable.



## CASE STUDY

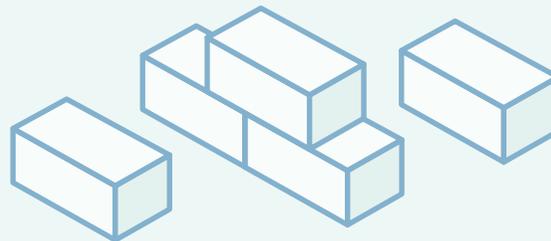
### WORKING WITH OUR SUPPLIER TO SOURCE SUSTAINABLE BRICKS

The classic Yellow London Stock bricks manufactured at Wienerberger's Smeed Dean brickworks were selected for Berkeley's One Tower Bridge development due to the traditional and sustainable production methods used, including the:

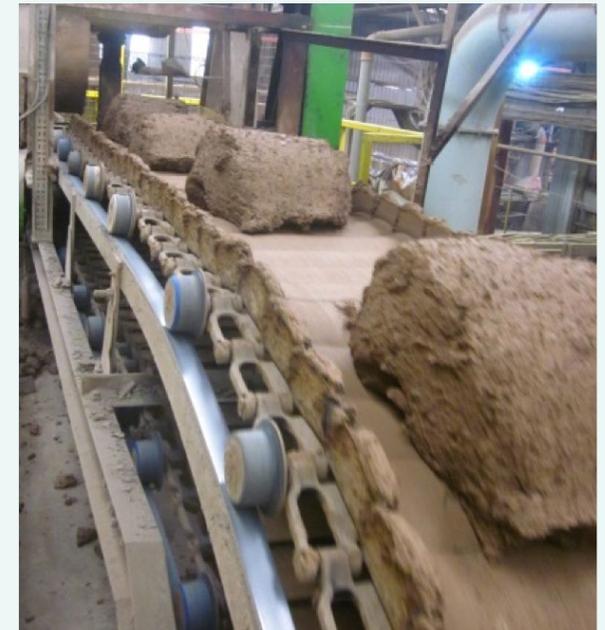
- > Recycling of water
- > Use of 'Brickearth' sourced from farms within a five mile radius
- > Use of stockpiled 'Town Ash' collected from the Capital's fireplaces during the 19th century
- > Manufacture and certification of bricks to BES 6001 - The Framework Standard for Responsible Sourcing of Construction Products
- > Employment of a local workforce at the only major brick factory remaining in Kent

To improve the product further the project team worked with the manufacturer to ensure decreased wastage through:

- > Hand selecting bricks before delivering to site to ensure consistency
- > Amending storage and delivery practices to reduce potential for damage
- > Arranging a 'take back' agreement where excess bricks were taken either to local colleges to train the next generation of bricklayers and construction industry professionals, or back to the factory for processing and resale

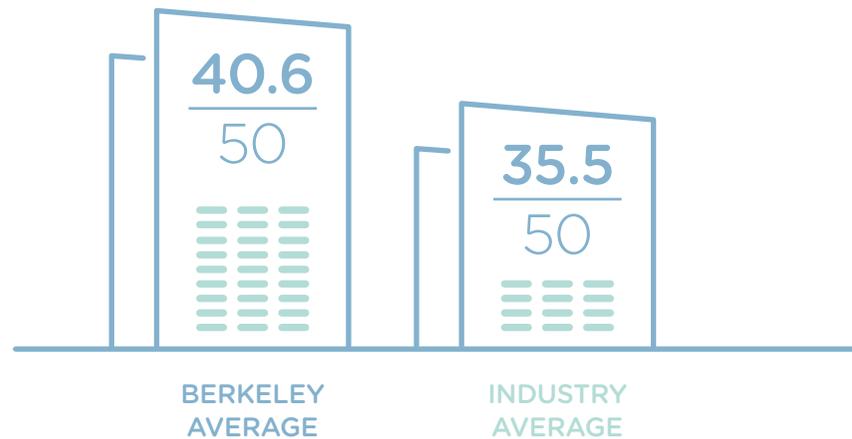


  
**Wienerberger**





## CONSIDERATE CONSTRUCTION



As many of our sites are located near to existing communities, it is vital that we build with consideration to our neighbours. We manage our operations on site to ensure that any potential disruptions or nuisances are minimised, whilst developing and maintaining good relationships with local people and authorities.



We register all of our sites under the voluntary Considerate Constructors Scheme (CCS) and its Code of Considerate Practice. In doing so, we commit to ensuring that we take pride in our appearance, respect our local communities, protect the environment, secure people's safety and value our workforce.

With a Berkeley Group average audit score of 40.6/50 we are performing far in excess of the industry average of 35.5/50. We were also delighted that one third of our schemes were recognised at the 2014 National Site Awards, including two which achieved Most Considerate Site Runner-Up status which ranks them in the top 27 construction sites in the country.

In 2013/14, we unfortunately had one project that scored below our targeted minimum score of 35. We worked closely with the site to increase its performance and it has since scored 41/50.

### ACHIEVEMENTS AT THE 2014 CONSIDERATE CONSTRUCTORS SCHEME (CCS) NATIONAL SITE AWARDS





## CASE STUDY

### ENGAGING WITH LOCAL SCHOOLS



The Ivor Goodsite's hoarding competition 2014 was an ideal opportunity to engage with pupils of schools local to Victory Pier in Gillingham. The project received Runner-Up status in the competition run by CCS.

Following a presentation introducing the site and the key roles and activities in the construction process, pupils were inspired to design artwork for the site hoarding by a local artist. Pupils of St Mary's School focused on portraying site activities in its design, whilst pupils of Oasis Academy Skinner Street focused on the view that will be seen from the completed development.

Children from both schools were invited to paint their designs onto the hoarding. Prior to getting their paintbrushes dirty, a tour of the construction site was provided to educate the children on site safety, environmental issues and community interaction.

The activity was a great success and resulted in beautiful imagery on the site boundary, whilst cementing relations with local schools and introducing future generations to the construction industry.





## RESOURCE EFFICIENCY



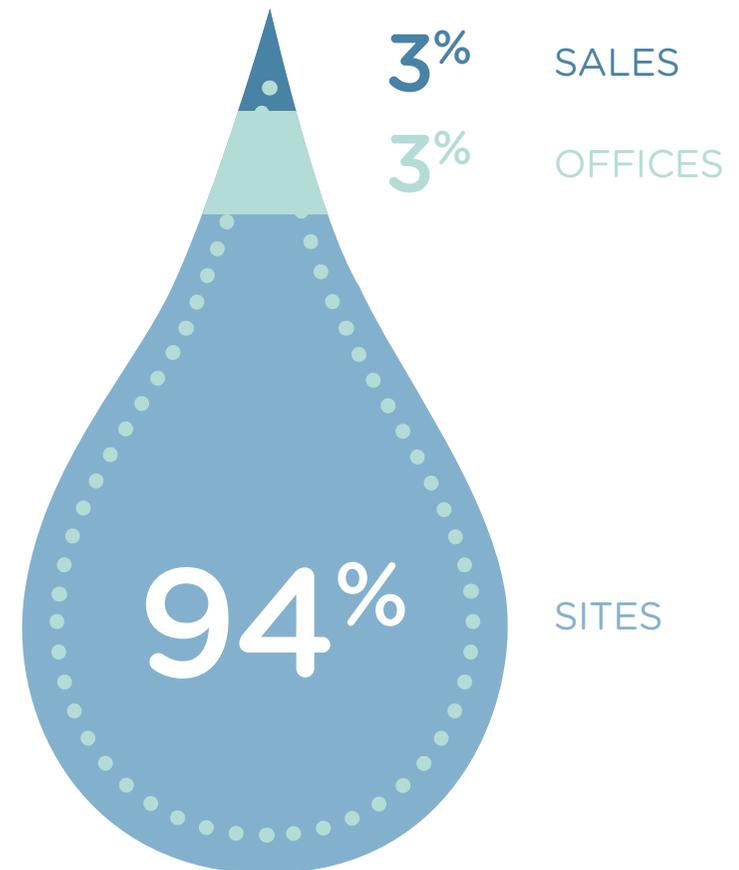
REDUCTION IN SITE CARBON EMISSIONS PER PERSON

We monitor energy and water usage monthly across our sites, offices and sales suites and set targets for reduction. Usage varies significantly between sites depending on specific activities being undertaken.

We have best practice energy and water checklists for project teams to follow and try to ensure that the site is set up to be efficient from the outset. At Ryewood in Sevenoaks, this includes a photovoltaic (PV) solar panel on the site welfare facilities alongside more typical measures such as lighting being on sensors and push taps being used.

Overall, site carbon emissions per person have reduced by 21% between 2011/12 and 2013/14. This is thought to have primarily resulted from a reduction in on-site fuel use with fewer large scale demolition and excavation projects being undertaken in the last year. During the same period our site water consumption has increased by 3% per person and we will take further actions to address this in the next year.

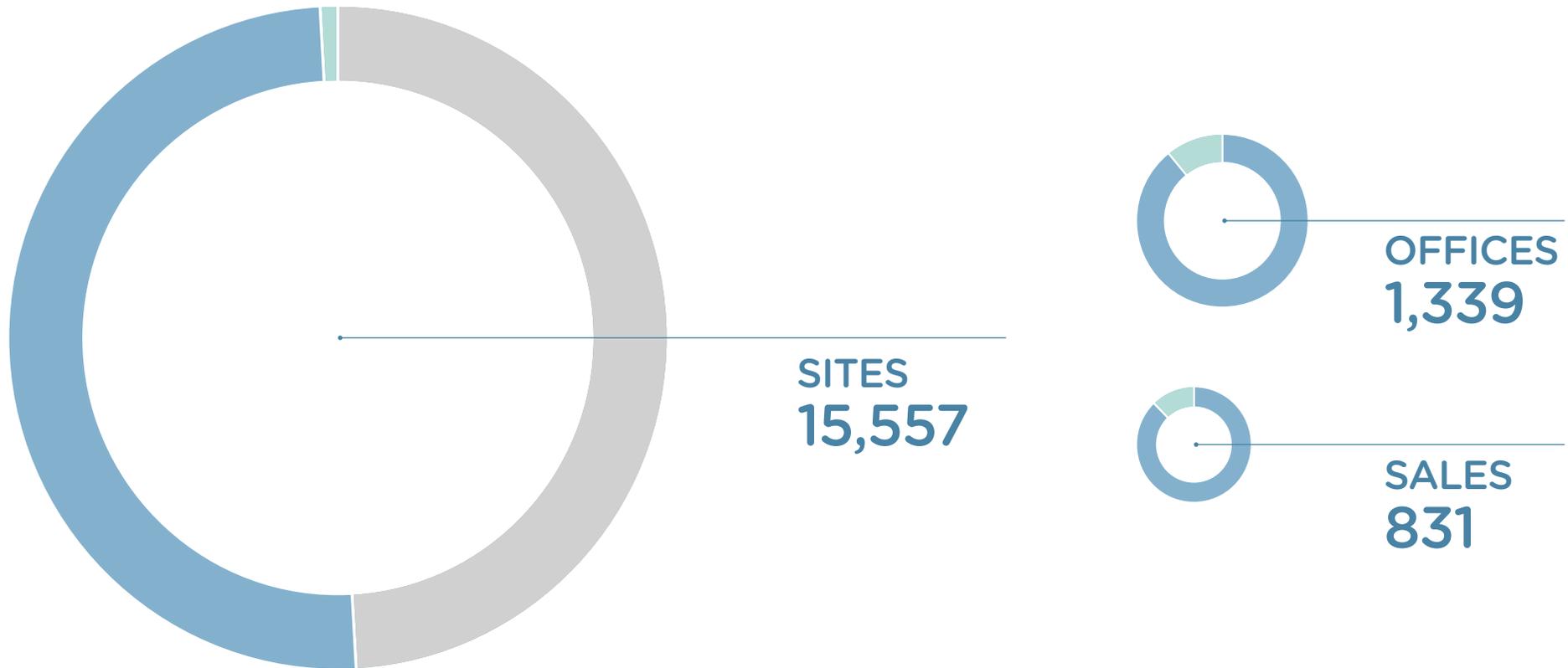
## WATER CONSUMPTION BY ACTIVITY



# OPERATIONS



CARBON EMISSIONS (tCO<sub>2</sub>e) BY ACTIVITY AND FUEL TYPE



ELECTRICITY



NATURAL GAS



OTHER FUELS



## WASTE MANAGEMENT



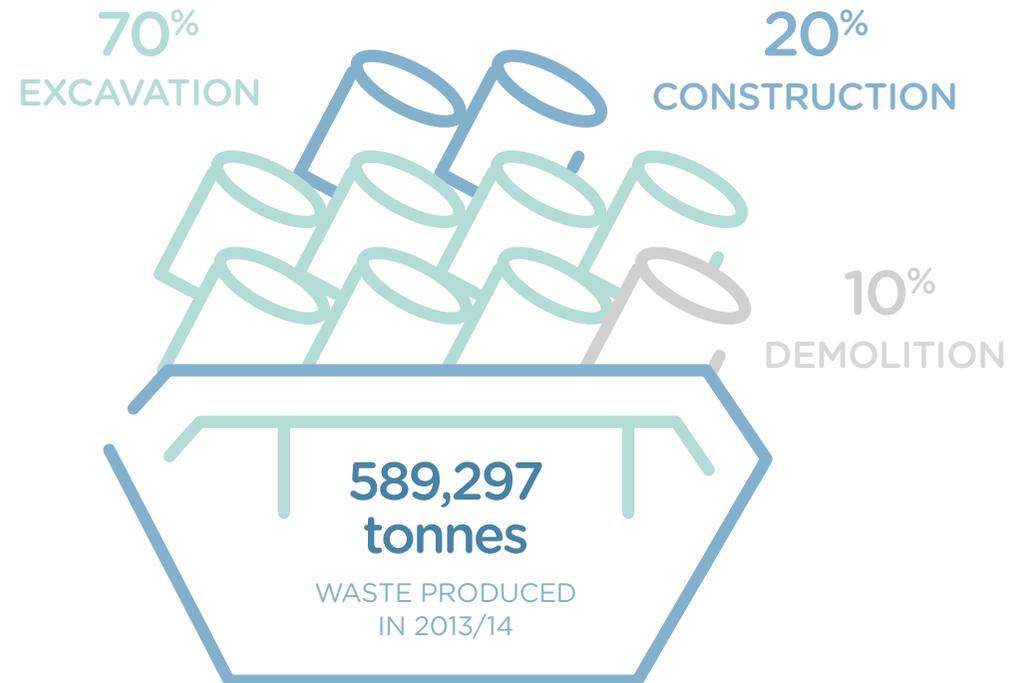
WASTE RE-USED OR RECYCLED

In 2013/14, 94% of the demolition, excavation and construction wastes produced on our sites was reused or recycled. The total volume of waste leaving our sites has also reduced and we have seen our construction waste volumes decrease by 12% when normalised by the number of operatives on site.

Our actions to reduce waste have been delivered through a range of measures including training, improved housekeeping and working with our suppliers to utilise take-back schemes for packaging and unused materials. Where possible, we also look at demolition, excavation and construction wastes as materials. This includes anything from reusing crushed concrete and soils from our sites, to furniture from our show homes. This is facilitated by our Construction Material Exchange Noticeboard which is accessible to all employees on our intranet.



### SITE WASTE PRODUCTION BY ACTIVITY





## IMPROVING SITE SUSTAINABILITY



### ZERO PROSECUTIONS

All our sites follow strict procedures to ensure that environmental and social impacts are minimised during the construction process. Our site management team are responsible for sustainability performance on a day-to-day basis and liaise with the site operatives to ensure high standards are maintained.

Our approach is outlined to our supply chain within the Group's Sustainability Standard: Sustainability Management on Construction Sites. When starting on site, all operatives are also provided with an induction covering key sustainability topics. The reinforcement of information on fundamental areas, such as waste management and pollution prevention, is then provided through regular toolbox talks.

We have more than doubled the size of our sustainability team in the last two years, highlighting the continued importance of sustainability to the business. The team is able to provide advice and guidance on managing sustainability issues during the build process, together with promoting good and best practice measures to the teams. The team also completes more formal audits three times per year to enable us to ensure compliance with legal requirements, planning conditions, internal procedures and industry good practice.

Through training and site audits we are able to reduce the risk of regulatory involvement and maintain our record of zero environmental prosecutions.

### SOME OF THE TOPICS COVERED DURING A SITE SUSTAINABILITY AUDIT





## SUSTAINABILITY IN OUR OFFICES

**23%** DECREASE IN CARBON FROM OFFICES  
↓

Whilst the majority of our impacts occur on our construction sites, we believe it is important to ensure that all our workplaces are operating sustainably. Each of our divisional offices has a Green Office Champion in place to raise awareness of sustainability issues among staff and to identify areas for action.

In 2013, sustainability reviews were undertaken by the sustainability team at each of our permanent offices to highlight areas for improvement. A number of offices also commissioned audits by third parties to identify additional resource-efficient measures. For example, following a building service consultant's audit on St James' office in Leatherhead, existing passive infrared (PIR) sensors have been relocated and reset to be more efficient, and trees pruned to allow additional daylight in.

As a result of such initiatives, office carbon emissions have seen a large decrease of 27% per m<sup>2</sup> of floor area between 2011/12 and 2013/14, whilst water consumption has seen a decrease of 4% per person in the same period.

We are unfortunately unable to reliably report on our progress towards the 20% reduction in paper consumption per office worker we targeted during 2012-14 due to a lack of confidence in our baseline data. We have however installed new print management software in the last year which will enable us to track the number and type of print jobs undertaken moving forward.

### CASE STUDY

## IMPROVEMENTS TO OUR HEAD OFFICE



REDUCTION IN ENERGY USE AT OUR HEAD OFFICE IN COBHAM

In 2013, our Head Office in Cobham was refurbished with works including changing the building fabric and layout, the installation of passive infrared (PIR) sensors and the installation of new and more energy-efficient air handling and heat recovery systems. We achieved a BREEAM Excellent rating for the building and are pleased to report that there has been a reduction in energy use of almost 70% when comparing the same timelines pre- and post-refurbishment.

**BREEAM**<sup>®</sup>

# OPERATIONS



## DATA APPENDIX

	2010	2011	2012	2013	2014	Further Information
Average score in the Considerate Constructors Scheme (CCS) - prior to 1 January 2013	35.3	35.5	35.7	35.9	n/a	The CCS scheme had a maximum score of 40 up to 31 December 2012.
Average score in the Considerate Constructors Scheme (CCS) - post 1 January 2013	n/a	n/a	n/a	38.3	40.6	The revised CCS scheme has had a maximum score of 50 since 1 January 2013.
Total direct and indirect greenhouse gas emissions by weight (tCO <sub>2</sub> e)	8,073	16,037	24,003	25,557	21,185	Reported emissions are in line with our operational boundary, with 100% of emissions from our joint ventures included. Energy consumption data for permanent offices, sites, sales and marketing suites and show homes has been collected on a monthly basis through meter readings and delivery information such as invoices. Business travel data is collected on an annual basis.
Total direct and indirect greenhouse gas emissions by weight broken down by activity (tCO <sub>2</sub> e)						
- Permanent Offices		1,622	1,486	1,799	1,549	2014 data coverage is as follows: - Permanent offices: emissions from 89% of permanent offices reported. No data has been estimated. Two offices have not reported energy data as these are within serviced offices where energy use is not sub-metered. - Sites: emissions at 100% of sites reported. No data has been estimated.
- Sites	6,173	12,598	20,063	20,758	16,997	
- Sales & Marketing Suites and Show Homes		592	874	1,207	967	
- Business Travel	1,900	1,225	1,580	1,793	1,672	
Total direct and indirect greenhouse gas emissions by weight broken down by scope and source (tCO <sub>2</sub> e)						
- Scope 1	2,987	3,055	3,373	3,173	1,963	UK Government GHG Conversion Factors for Company Reporting 2013 have been applied to our 2014 data, as 2013 is the calendar year in which the greatest portion of our 2014 data (covering 1 May 2013 to 30 April 2014) falls.
- Natural Gas	211	194	280	470	373	
- Gas Oil	1,265	2,004	1,950	1,543	1,182	In addition to carbon dioxide, the CO <sub>2</sub> equivalents used include the global warming potential from methane (CH <sub>4</sub> ) and nitrous oxide (N <sub>2</sub> O). Remaining gases (HFC-134a, HFC-143a and Sulphur hexafluoride (SF <sub>6</sub> )) are believed to be relatively insignificant for reporting on emissions arising from our activities.
- Diesel	1,097	493	664	706	-	
- Petrol	413	337	454	438	-	
- LPG	1	27	26	16	7	<i>Note that carbon emissions data stated in this data appendix differs to information outlined in the Berkeley Group's Annual Report 2014. Reporting in line with our operational boundary is stated here with 100% St Edward resource use included, unlike the financial reporting which includes 50% of this joint venture's emissions.</i>
- Fuel usage (company vehicle business travel)	-	-	-	-	400	
						We have also remedied some data errors in the period between publication dates. We will be formally restating 2014 carbon emissions aligned to our financial reporting boundary in our Annual Report 2015.

# OPERATIONS



## DATA APPENDIX (CONT.)

	2010	2011	2012	2013	2014	Further Information
- Scope 2	3,968	5,801	7,191	9,719	<b>9,437</b>	Scope details
- Electricity (UK)	3,968	5,801	7,191	9,672	<b>9,376</b>	Scope 1 – direct emissions relating to office, sales and development site activities; and work-related travel in company owned vehicles;
- Electricity (Dubai)	-	-	-	-	<b>6</b>	Scope 2 – indirect emissions from electricity consumed for office, sales and development site activities;
- Electricity (Hong Kong)	-	-	-	41	<b>34</b>	Scope 3 – other indirect emissions relating to office, sales and development site activities (e.g. contractor purchased fuels); work-related travel in leased and employee owned vehicles; business air travel; transmission and distribution losses of purchased electricity; and upstream emissions.
- Electricity (Singapore)	-	-	-	7	<b>21</b>	
- Scope 3	1,118	7,181	13,439	12,665	<b>9,786</b>	
- Gas Oil	-	4,791	9,631	8,626	<b>6,666</b>	<i>Note that fuel consumption related to business travel by company vehicle and cash allowance recipients has been reported as Scope 1 for years prior to 2014. Following a review of our reporting this year, we now only include emissions from company vehicles in Scope 1, with emissions from leased and personal vehicles included as Scope 3. We are unable to restate historic business travel emissions in line with our new reporting methods.</i>
- Petrol	-	5	31	15	<b>9</b>	
- LPG	-	28	77	59	<b>52</b>	
- Indirect fugitive emissions	1,009	2,127	3,484	3,568	<b>2,076</b>	
- Fuel usage (cash allowance recipients' business travel)	-	-	-	-	<b>719</b>	2014 Business Travel
- Fuel usage (air travel)	109	230	216	397	<b>264</b>	Emissions arising from business travel have been calculated for fleet vehicles owned by the Berkeley Group, privately owned vehicles used by cash allowance recipients and air travel.
Greenhouse gas emissions intensity – permanent offices (kgCO <sub>2</sub> e/m <sup>2</sup> /year)	-	-	110.5	128.9	<b>91.7</b>	Vehicle emissions have been calculated using vehicle type, engine size, fuel type and mileage information. Where vehicle engine size or fuel type was not made available, the 'average' or 'unknown' emissions factors as outlined in the UK Government's conversion factors have been used. Where mileage data was not provided, no assumptions have been made to complete the data set. Data reported covers emissions from 57% of company vehicles and 77% of leased and private vehicles used for business purposes.
Greenhouse gas emissions intensity – permanent offices (tCO <sub>2</sub> e/office employee/year)	-	-	-	-	<b>1.6</b>	Air travel emissions have been calculated using the distance travelled on each flight multiplied by the average passenger emission factors for domestic, short-haul and long-haul flights as applicable. The 2013 conversion factors used include an uplift factor of 8% to compensate for planes not flying the most direct route. No aviation radiative forcing factor has been applied.

# OPERATIONS



## DATA APPENDIX (CONT.)

	2010	2011	2012	2013	2014	Further Information
Greenhouse gas emissions intensity – sites (tCO <sub>2</sub> e/site operative/year)	-	2.1	2.4	2.2	<b>1.9</b>	<p>The figures used for the 2014 carbon emissions intensity metrics are as follows:</p> <ul style="list-style-type: none"> <li>- Permanent offices: 852 office employees and 14,601 m<sup>2</sup> floor area. These are average figures for the year and do not include employees or floor areas for offices that did not report energy consumption.</li> <li>- Sites: 8,369 site operatives. This is the average figure for the year. Intensity metrics have been calculated by dividing the greenhouse gas emissions for scopes 1, 2 and 3 (where applicable and with the exception of indirect fugitive emissions) for the activity area by the normalisation metrics outlined above.</li> </ul>
Total water withdrawn (m <sup>3</sup> /year)	74,481	113,730	143,138	190,991	<b>171,424</b>	2014 data coverage is as follows:
- Permanent Offices		4,685	4,484	4,212	<b>5,102</b>	<ul style="list-style-type: none"> <li>- Permanent offices: water consumed at 79% of offices reported. Data for one office (equating to 5% of the total water consumption reported) has been estimated based on whole building information from the landlord being divided between the occupiers. Offices for which data has not been reported include one where a meter failure occurred during the period, whilst others are generally those contained within serviced offices where water consumption is not sub-metered and whole building information is not available.</li> </ul>
- Sites	74,481	106,606	134,154	179,195	<b>160,762</b>	
- Sales & Marketing Suites and Show Homes		2,439	4,500	7,584	<b>5,559</b>	
Water intensity - permanent offices (m <sup>3</sup> /office employee/year)	-	-	7.3	4.8	<b>7.0</b>	<ul style="list-style-type: none"> <li>- Sites: water consumed at 99% of sites (including where the Berkeley Group is client only) reported. Metered consumption was not available on some of these sites for the duration of the year (e.g. due to meter failures or metering constraints due to the nature of works, such as demolition). Therefore 14% of the reported site consumption is based on site estimations. Water consumption (either estimated or metered) was not provided for one site as this started site clearance works in the latter months of the year. Metering of water consumption on this site will take place moving forwards.</li> </ul>

# OPERATIONS



## DATA APPENDIX (CONT.)

	2010	2011	2012	2013	2014	Further Information
Water intensity - sites (m <sup>3</sup> /site operative/year)	-	20.3	18.6	22.3	<b>19.2</b>	The figures used for the 2014 water intensity metrics are as follows: - Permanent offices: 731 office employees. This is the average figure for the year and does not include employees based in offices that did not report water consumption. - Sites: 8,369 site operatives. This is the average figure for the year.
Total waste produced (tonnes)	40,240	805,921	946,520	1,399,810	<b>589,297</b>	This includes data for sites where operating companies of the Berkeley Group are not the Principal Contractor. In 2014, data has been gathered in cubic metres (m <sup>3</sup> ) and converted to tonnes using conversion factors supplied by the Environment Agency for each particular waste stream.  Where incomplete data on the volume of waste has been provided by sites within waste data collection tools, these particular rows of data have been omitted from analysis.
Percentage of waste re-used or recycled	-	82.1%	92.5%	93.1%	<b>93.6%</b>	A figure of 94.5% has been used in 2014 to determine the amount of waste recycled via Materials Recovery Facilities (MRFs). Note that this recycling figure is adjusted annually following a review of the recycling rates for a sample of MRFs used by the Group. Waste taken to the MRFs used in the 2014 sample constituted 96.8% of total waste volume taken to such end destinations. Recycling figures of 96.6%, 92.2% and 91.0% have been used for our 2013, 2012 and 2011 data respectively.
Total number of significant spills	-	7	2	1	<b>2</b>	This covers all sites where the Berkeley Group is the Principal Contractor.
Total volume of significant spills (litres)	-	1080	2540	20	<b>120</b>	A significant spill is classified as a spill of 5 litres or more that requires the use of a site spill kit and is reported to the Berkeley Group sustainability or health and safety teams. The reported spills did not result in pollution incidents.