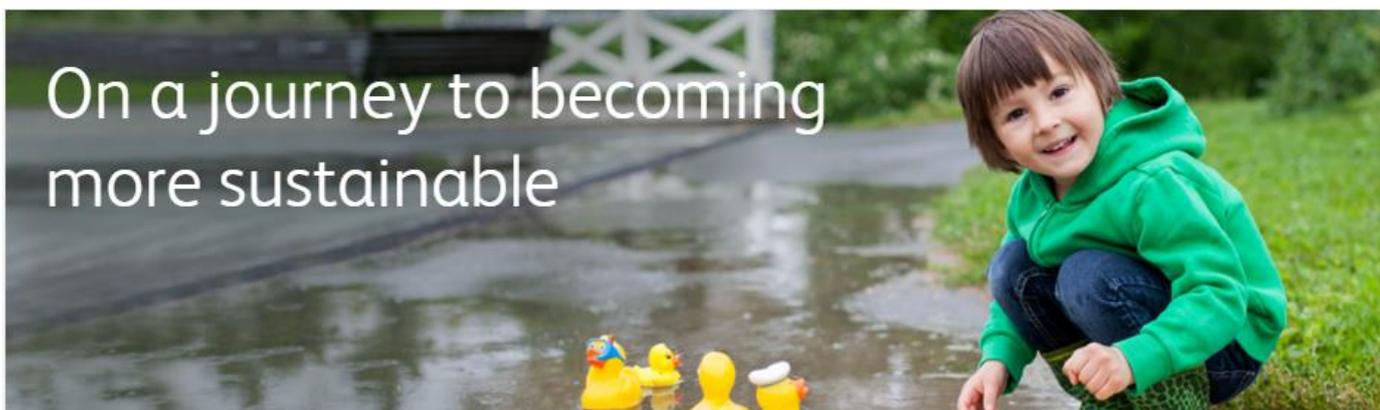




Corporate Responsibility and Sustainability

2013 - 2014



On a journey to becoming
more sustainable



1 How we do business

Our mission is to provide the essential service that's at the heart of daily life, health and enjoyment – and we aim to do it in the most sustainable way. At Thames Water, sustainability means doing the right thing for people, for the performance of our business and for the natural environment.

We are committed to conducting our business with integrity, openness and transparency and the decisions we make today need to ensure sustainable delivery of our services for the longer term.

Recognising that we cannot deliver these alone, we have developed strong working relationships with suppliers and regulators, enabling us to provide better outcomes through partnership and collaboration.

As the UK's largest water and sewerage company, our responsibility goes beyond our day-to-day obligations. Our leadership and expertise is central not just to safeguarding the water cycle for future generations, but also in contributing positively to tomorrow's low carbon economy.

In striving for a balanced outcome that meets our responsibilities, we will continue to engage with our customers, stakeholders, suppliers and regulators on our approach. While delivering our service to our customers, we also aim to provide safe and satisfying employment, and remain attractive to our investors.

1.1 How we do business / Chief Executive's foreword

The basis of our business is providing tap water for 9 million customers and sewerage services for 15 million customers. We serve approximately a quarter of the UK's population, across London and the Thames Valley. That remains a huge responsibility, particularly in an era when population growth is increasing the demand for water, which in turn drives the need for wastewater services. Our business requires considerable long-term planning – something on which we focused more than ever during 2013/14.

I am delighted to report some major achievements in the day-to-day running of our business, providing essential services to our customers. For example, we delivered industry-leading water quality in 2013, passing 99.99 per cent of stringent UK and European standards, and achieved our leakage target for the eighth year in a row.

Our customer service improved on a number of fronts, as reflected in our lowest-ever level of written complaints – down by a third on the previous year. While realising that we have made some significant

progress, we recognise that we need to continue to improve, in order to achieve the consistently high level of service our customers rightly expect.

In the area of health and safety, which continues to be an important focus, we saw a significant reduction in major injuries and lost-time injuries. Among a range of initiatives, we introduced Water Wellbeing Week, which was adopted by other water companies and won us a Water Industry Achievement Award.

Another notable accomplishment was the completion of tunnelling work on the Lee Tunnel. This was a significant milestone in the largest single project to be delivered by the privatised UK water industry. We completed upgrades at our two largest sewage works, Beckton and Crossness – these form another important part of our Thames Tideway project and a key element of our £1-billion-a-year investment programme. We also continued the development of the third, and largest, element, the Thames Tideway Tunnel.

The period covered by this report was a second successive year of extreme weather. In July, after a cold spring, we saw the highest summer demand for 19 years. This was followed in December by the start of the wettest winter on record.

The heavy rainfall – more than twice the level we would normally expect – brought distressing problems for many of our customers, some of whom had their homes or gardens flooded. We have worked hard to help, and are continuing to look with other stakeholders at longer-term issues, to lessen the likelihood of problems in future.

Experts tell us we can expect to see more extreme weather patterns in the long term, which means we also need to plan for drier summers. One major initiative, already under way, involves progressively fitting 'smart' water meters at all properties in our region. These will provide an incentive for households to conserve water, allow them to monitor their usage and help us locate leaks. Accelerating the installation of these meters, initially in London, will be a major initiative for us.

Alongside other significant activities in the coming months, we will develop and submit a planning application for the proposed upgrade of Deephams, one of our largest sewage works, and start work in west London on our biggest ever project to protect homes from sewer flooding.

Without losing our focus on current performance, we have also been planning for the future. This included developing and consulting on our 25-year company strategy, including our draft Water Resources Management Plan. It has also involved drafting and seeking feedback on our business plan for the period 2015-2020. Among our activities, we staged roadshows across our region, during which we spoke to more than 5,000 people. Our key focus has been on developing a plan that our customers have told us they want and are willing to pay for.



We realise, of course, that this continues to be a period of economic hardship for many of our customers. Indeed, 2014 has already seen us launch a social tariff to support those households least able to pay their water bills.

In summary, 2013/14 has been a challenging year but one of strong performance across a range of areas. We remain focused on, and committed to, delivering the best possible service to our customers, while ensuring bills are no higher than necessary.

Martin Baggs

Chief Executive Officer, Thames Water



1.2 How we do business / Programme and performance

A strategy for a more sustainable future

To deliver a service fit for future generations, we need to strike a balance between the level of service we provide to our customers, our impact on the environment and communities, the level of customer bills and future investment in the business.

Our customers are at the heart of everything we do. We have identified six basic long-term services and benefits, known as 'outcomes', which we aim to provide for our customers, community and the environment. One of these outcomes specifically underpins our approach to becoming more sustainable: 'We will limit our impact on the environment, to achieve a socially responsible sustainable business for future generations, including reducing leakage'.

To achieve this outcome, our plans are underpinned by nine sustainability themes:

- Precious water – driving down demand for water
- Sustainable drainage – preventing sewer flooding and pollution
- Efficient operations – reducing resources and cutting out waste
- Responsible operations – investing in communities and being good neighbours
- Climate change mitigation – reducing our carbon footprint
- Climate change adaptation – building resilience to the effects of climate change
- Customer inclusion – active engagement, improved access, affordable services
- Sustainable workforce – attracting and retaining a talented workforce
- Sustainable investment – a longer term view and sustainable financing

Our Sustainability Policy sets out how we integrate more sustainable measures into every area of our business and outlines our commitment to sustainability and being a responsible corporate citizen.

Our 25-year strategy is regularly reviewed and amended, and we will continue to consult with our customers, community and other stakeholders during the current plan review process.

Every five years we publish detailed plans about how we propose to move towards our longer-term goals, as part of a 'price review' carried out by our financial regulator, Ofwat. We are currently discussing with Ofwat our proposals for 2015-2020, in a process which will set the limit for bills during that period.

Governance

Our Health, Safety and Environment Committee, chaired by non-executive Board Member Gordon Parsons, advises our Board on any significant matters relating to corporate responsibility and sustainability (CRS).



Members of our Executive team have responsibility for specific parts of our CRS programme, with overall direction on CRS matters provided by our External Affairs and Sustainability Director, Richard Aylard.

Performance

This report provides an update on our progress across our nine sustainability themes and emerging corporate responsibility and sustainability strategy. We are proud of our achievements so far, and will continue to work hard to deliver the desired results for our customers and the environment. Read about our annual performance report and highlights in 2013/14.

Benchmarking against others

During 2013/14, following our previous retention of our platinum ranking in the Business in the Community Corporate Responsibility Index, we continued to use the benchmarking tool to ensure our business units maintained the set out best practice.

We also entered out 'Bin it don't block it' sustainable behaviour change campaign in the Business in the Community Responsible Business Award. We were pleased as a result to receive a Big Tick, awarded to companies making a positive impact through responsible business activities. Read more about the 'Bin it don't block it' programme.

We have participated in the London Benchmarking Group reporting of community involvement since 2008.



1.3 How we do business / Reporting

We aim to provide an overview of progress on our journey to becoming a truly sustainable business. This report demonstrates how we are inclusive, engage with our customers and stakeholders and focus on key material sustainability issues including all issues affecting our customers and stakeholders.

How we report

This report provides a summary of our performance during 2013/14 and focuses on the issues identified by our customers and stakeholders as 'of high importance'. This web report provides information on our performance across all areas over the last financial year, covering the period from 1 April 2013 to 31 March 2014, unless stated otherwise.

We continue to refer to best practice guides, such as the Global Reporting Initiative's Sustainability Reporting Guidelines and AA1000 principles.

Materiality

During 2013/14 we updated the materiality assessment we carried out in 2010. This review looked at whether we were still focusing on the right issues and reporting progress in addressing them. As part of this, we assessed the relative importance of each issue to our business, our stakeholders and the outside world, which helped to inform our strategy and focus our resources more effectively.

As part of preparations for our next five-year plan, we listened to the views of more than 30,000 customers and a wide range of stakeholders. This helped ensure our proposals for 2015-20 focused on what they saw as the key issues.

Our material issues are addressed through this report. Our annual performance report focuses on the issues identified as most significant.

1.4 How we do business / Engaging with our stakeholders

Many of our activities, from routine maintenance work to major engineering projects, can affect our customers, stakeholders and the environment. Organisations and individuals have a wide range of views and expectations, and we aim to ensure we engage with them and respond to their feedback.

We conduct research to better understand our customers' needs and preferences; carry out public consultation exercises on key projects and plans; communicate our plans for major engineering projects and liaise with local, regional and national government and a wide range of other stakeholders.

Our work includes one-to-one briefings, round-table discussion, surveys, focus groups, independently-hosted online consultations and site visits. It involves elected representatives, officials, NGOs, community groups and other key stakeholders. Discussions cover strategic issues, such as market reform in the water industry and water resource management, as well as topics of local interest.

1.4.1 Communicating with our community

It is vital that we communicate our plans and progress on our wide variety of network and site improvement projects which are likely to affect residents, businesses and other members of our community.

Communications activities include organising 'drop-in' sessions for local people to meet project representatives; producing letters and leaflets explaining our work, gathering customer feedback on our activities; organising site tours, public drop-in sessions and home visits for personal engagement and initiating or taking part in community outreach to build local relationships. Communications are carried out in collaboration with contractors and partners who carry out improvements on our behalf.

During 2013/14:

- We supported our improvements in Maida Vale by setting up a comprehensive communications plan; including offering residents a text update service, weekly drop-ins, regular web updates, newsletters, and site hoardings. We also laid on leisure activities for children and adults affected by the closure of the park.
- In the Chamberlayne Road project we identified that the most impact of our work in Tiverton Green would be felt by dog walkers. We brought in vets and invited dog owners to come down and get a health MoT for their animals.
- We organised an event at four schools in the Bexley Heath area, encouraging secondary school girls to pursue careers and further education in the Science Technology Engineering and Mathematic (STEM) areas. We hosted a school trip for year 9 and 10 girls at Crossness sewage treatment works in Bexley. This included a site tour and talks from engineers to encourage the girls to think about engineering as a career. Read more about our Network Challenge programme.

We also need to ensure we keep our stakeholders informed of our ongoing work such as our high-profile engineering projects to help clean up the River Thames in London. They involve extending and upgrading the city's five main sewage works and building the Lee Tunnel – a four-mile sewer which will capture rainfall which otherwise could overflow into the river.

During 2013/14:

- To celebrate the end of tunnelling work on the Lee Tunnel, we held an external stakeholder event at Abbey Mills sewage treatment works to highlight our progress and our ongoing schedule.
- On completion of multi-million-pound upgrade work on each site, we held events at Crossness and Beckton sewage works for internal and external stakeholders. We were able to highlight that we have increased capacity dramatically, enabling us to cope with population growth and heavy rainfall. The events also allowed local councillors, MPs, and government agency staff to speak to our frontline staff about their involvement.

We have formed an alliance, Eight₂O, with seven other companies to complete much of the major engineering work we are planning between 2015 and 2020. We have supported our alliance partners, to engage employees and keep them updated. We plan to communicate a regularly updated 'road map', keeping them informed of key landmarks in the alliance's development.

1.4.2 Regional and local government

Our aim is to develop and maintain good relationships with key stakeholders in local and regional government. We engage with stakeholders both proactively and in response to their queries help ensure we are able reflect stakeholders' views and those of their constituents in what we do.

Our work includes communicating our future strategic plans, as well as engaging stakeholders on major engineering projects, such as replacing old water mains and reducing the risk of sewer flooding. We contact stakeholders to give early briefings on our projects and seek to take into account other planned works to ease the impact on the local community.

Our most important challenge during 2013/14 was working with our stakeholders during the extreme period of heavy rainfall over the winter which saw localised flooding across the Thames Water region. Effective communications were a key element of our response. . We worked in partnership with numerous local organisations through the respective 'Gold Command' structures in Croydon, Gloucestershire, Surrey, Hampshire, and the Thames Valley. During the wet weather months, we held a 'Sewer flooding casework drop-in' session for MPs and their staff at the Houses of Parliament in Portcullis House, with live links to our operational network and customer management systems. This gave MPs the opportunity to raise individual constituency issues and see at first-hand how the sewer network operated in their local area. We also liaised closely with ward and parish councillors on local issues affecting their communities, and attended over 50 public meetings and flood forums.

We worked closely with many of the 106 local authorities across our area, seeking to ensure we carried out our operational activities with the minimum of disruption, as well as promoting our water efficiency and 'Bin it, don't block it' campaigns.

We attended several formal scrutiny committees and meetings with councillors on a range of topics across our region. These included a councillor visit and scrutiny meeting to understand our improvements at Mogden sewage treatment works, and advising Cotswold District Council's Planning Committee on how we assess the impact of planning developments on our sewer network. We also attended streetwork performance meetings, worked with Swindon Borough Council and local MP Rob Buckland on our Save Water Swindon programme, and briefed the Mayor of London's office on how we monitor and mitigate the risk of large burst mains. We also have a stakeholder engagement programme to support our work to install 'smart' water meters across our region.

We also continue to play our part in providing sporting opportunities for young people through our sponsorship of the Thames Water London Youth Games Regatta. Since we began backing this event six years ago, the number of young people taking part has risen by nearly 500 per cent.

1.4.3 Public consultation and customer research

Our customer engagement approach is guided by the principle that customers' views should be at the heart of our decision making. Our programme of engagement incorporates a wide range of activities, including qualitative and quantitative research studies, formal public consultations and direct local engagement.

In early 2013 we conducted an eight-week public consultation to seek views on our business plan for the period 2015-2020. We hosted 'roadshow' stands at shopping centres and community events at 22 locations across our region, speaking to more than 5,000 people to discuss our plans and request their feedback. Over 2,700 people also visited our dedicated business plan consultation website. In total, we received 1,009 responses from individuals, businesses and stakeholder organisations. We carefully considered their comments and published a report summarising what people had said and, just as importantly, how we had responded in our revised proposals.

Alongside our consultation activities, we have also undertaken numerous customer research studies to better understand customer views and ensure they are reflected in our business plan.

Another important aspect of our planning for the next five years involved regular meetings with our Customer Challenge Group, an independent body whose members come from a range of stakeholder groups. Their role is to ensure our customers' views have been properly considered in our proposals. In their final report on our plan, they said they were satisfied that we had engaged effectively with customers.

"In summary, the CCG is satisfied that Thames Water has conducted an effective consultation of its customers in preparing the 2014 Business Plan."

Customer Challenge Group for Thames Water, Report to Ofwat, December 2013

Alongside customer engagement to inform our five-year business plan, we also continue to undertake a diverse programme of research to help improve the service we offer to customers and our communications with them.

This has included research with household customers to better understand the relative importance of different service areas, as well as research among property developers – whether individual householders extending their properties or large commercial organisations – to help us improve the service we offer them. As part of our metering programme, we found out customers' views on how best to inform people on the issue, which was followed by ongoing monitoring of satisfaction with the implementation programme.

Customer research has also shaped our communications on responsible sewer usage for the 'Bin it – don't block it' campaign, and how we evaluate the success of campaigns designed to help customers reduce the amount of water they use.

Consultation has been central to informing our plans to overhaul Deephams sewage treatment works. The upgrade to the works, which serves around 900,000 people in north-east London, will significantly improve the quality of the treated wastewater that flows into the Salmon's Brook, a tributary of the River Lee.

The second phase of public consultation on our proposals took place in early 2014. The overwhelming majority of responses to the consultation supported our proposals for the upgrade and most respondents supported our plans to significantly reduce the smell from the sewage works.

We reviewed the comments received during the consultation and revised our plans before submitting our planning application to the London Borough of Enfield in June 2014.

1.4.4 Working with our wider stakeholders

We have sought to play an active role in key issues affecting our industry. During 2013/14 this included:

- Providing evidence to the House of Commons Public Accounts Committee's inquiry into the impact of infrastructure investment on customers' bills
- Participating in the Greater London Authority's work to develop a long-term infrastructure plan for the capital
- Holding discussions with officials and Parliamentarians on the impact of measures put forward in the Water Bill, now the Water Act 2014, including proposals on market reforms and resilience
- Setting out in more detail than before information about the company's structure and financial affairs.

We have also addressed industry conferences to set out our position on key issues, and to inform the public debate. For example, our Chief Executive Officer gave a speech at the Water 2013 conference, and we made presentations at other conferences on issues including leakage, metering, flooding and affordability.

Key issues we will look to address through 2014 and 2015 include planned reforms to the way in which water abstractions are managed and the implementation of market reforms introduced by the Water Act. We will also seek to play an active role in engaging policy makers and legislators in Brussels, on issues including planned revisions to the Water Framework Directive, moves to harmonise approaches to resilience, and to make sure that customers' investment priorities and willingness to pay are carefully considered by the European Commission.

Annual Stakeholder Review

Our Annual Stakeholder Review provides an opportunity for stakeholders to raise issues of interest and concerns about any aspect of our business.

The 2013 review was attended by around 85 stakeholders, who discussed our performance and plans and raised questions with our Chief Executive Officer and various directors. The review included an appraisal of our performance by Carrie Hume, Chair of the Blueprint for Water coalition of environmental organisations. Delegates were also encouraged to take part in polls through the use of interactive keypads, providing live feedback.

We also use feedback gathered at this event to ensure our Corporate Responsibility and Sustainability communications, including this report, give stakeholders the information they want.

Keeping our stakeholders informed

We proactively engage key stakeholders on a wide variety of issues in a number of ways. This year saw the continuation of our programme of round-table discussions with MPs and London Assembly Members, held along party lines, to provide opportunities for them to raise with us issues of interest and concern, and for us to brief them on hot topics in the industry. We held eight such events during 2013/14, attended by more than 50 guests.

We supplement these discussions by holding a series of round-table events with a wider range of stakeholders to debate, challenge and develop our approach in key areas. Over 2013/14 issues included the Water Bill and affordability. Meetings included our annual discussion with members of the Blueprint for Water coalition, a group of organisations with an interest in water issues and the environment.



We held several one- to- one discussions with MPs and other stakeholders on issues of interest both at a local level and concerning policy and legislative changes. These discussions included many meetings about the impact of the wet winter, and flooding across our region.

During 2013/14 we held a consultation on our 25-year draft Water Resources Management Plan, to which we received 350 responses. We also carried out studies to better understand what encourages people to save water, discussions to identify potential improvements to the services we provide for developers, and analysis of how best to communicate with customers involved in our installation of water meters.

We held a drop-in session on sewer flooding at the Houses of Parliament during the wet winter, giving MPs an opportunity to raise individual constituency issues and see first-hand how local sewer networks operate. We also visited local communities in our 'flood bus' to talk with customers in the worst-affected areas, such as Lambourn, Cirencester and Staines.



1.5 Sustainable and safe workforce

We strive to recruit and retain the best people, providing them with support and opportunities to maximise their potential. We aim to make sure our employees are engaged and focused and that they, as well as our numerous contractors, visitors and general public, remain safe on our sites and when we are working in the street. The health, safety and wellbeing of our people is also important to us, and we have a range of initiatives to help them to keep fit, eat well, stay healthy and manage stress.

During 2013/14, we continued to develop our People Strategy. We were pleased this was recognised and we were shortlisted for the best HR Team and Best Recruitment Strategy in the HR Excellence Awards. Our HR director Janet Burr was also shortlisted for the HR Director of the Year.

During 2013/14 we have improved our 'new employee' website and induction programme to welcome new starters and help make sure they know as much about us as they need to before and once they start.

1.5.1 Health & safety

Safety, health and wellbeing at Thames Water is our number one business priority for our employees, our contractors and our visitors and as such we have a shared vision:

Zero incidents, zero harm and zero compromise

We are therefore deeply saddened to report that there have been two separate road traffic collisions involving suppliers of the contractors working on our behalf which have resulted in fatalities. In March 2014 a supplier's lorry removing spoil was travelling away from the Maida Vale project site when it was involved in a collision with a pedestrian. Secondly, in November 2013 a supplier's lorry removing spoil from our Abbey Mills site was involved in a collision with a cyclist at the Bow Roundabout. On investigation both vehicles involved in the incidents were found to be compliant with the safety standards of Thames Water and the Fleet Operator Recognition Scheme. At the time of reporting the investigations by the police are continuing into the cause of these tragic incidents.

Commercial fleet standards have been an area of focus for the business and our supply chain this past year, which has resulted in the publishing of a formal set of standards which exceed the minimum legal requirements for large vehicle safety equipment.

Our Vision

Our safety, health and wellbeing vision is based on seven aims from which we have produced a 10-year safety, health and wellbeing business plan, supported by yearly objectives based on each aim.

Our seven aims are:

- **Leadership** – Keeping everyone safe and healthy
- **Competence** – Skills to do their job in a safe and healthy way
- **Health and Wellbeing** – Improving health and wellbeing
- **Safe Workplace** – Safe and healthy workplace
- **Engagement** – Active engagement with all stakeholders on health and safety
- **Communication** – Right health and safety information at the right time
- **Performance and Improvement** – Health and safety is a part of everyone's daily routine.

Leadership

We introduced 'executive incident reviews', in which every lost-time injury to one of our staff or contractors is reviewed by a senior manager. This has enhanced engagement and discussions at the conclusion of any incident investigation; giving confidence that appropriate action has been taken.

Early in 2013/14 our Chief Executive Officer introduced a 'zero compromise' card, which empowered all employees and contractors to stop and challenge any unsafe act without fear of reprisal. We distributed around 22,000 of these cards to staff and contractors.

Competence

We have an in-house team that provides training to managers and employees in health and safety, including mandatory training for all managers on risk assessment, engaging with contractors and managing health and safety in Thames Water. We ensure that any individual assigned a specific safety role receives appropriate training. In 2013/14 we increased health and safety training by around 50 per cent.

We introduced the NEBOSH (National Examination Board in Occupational Safety and Health) general certificate in occupational health and safety as a foundation level health and safety qualification for our managers – a first for the water industry. We have since seen the first 150 managers complete the course.

Following consideration by our Health Safety and Environment Committee we launched a Safe Driver Programme aimed at improving driver awareness and reducing injuries and incidents. The programme has a combination of proactive driver education and a driver behaviour points system (DBP) aimed at

supporting drivers and managers to discuss emerging issues. This initiative has seen a cultural shift in driving behaviour and has seen a marked reduction in vehicle incidents and resulting injuries.

Health and wellbeing

The first Water Wellbeing Week was held dedicated to increasing health awareness and encouraging healthy lifestyles. Thames Water devised the concept for the event, which was also taken up by other water companies. An estimated 200,000 people were involved across the UK, which resulted in us winning an award for the health and safety initiative of the year at the 2014 Water Industry Achievement Awards.

During the year we developed a Health and Wellbeing Maturity Model which is now used across the company and a partner organisation to stimulate and measure our progress in achieving excellence in health and wellbeing.

Safe workplace

We launched an online 'lost time counter'. This gives round-the-clock updates on how many man-hours have passed since the last workplace injury resulting in any of our staff or contractors having to take time off work. The system gives staff and contractors clear guidance on how to avoid similar incidents.

We have introduced a series of formal health and safety risk based audits. The objective of these audits is to provide assurance that the Company is compliant with its legal obligations and is demonstrating strong governance and best practice control in relation to a number of selected risk topics. Audits conducted in the 2013/14 financial year have included: mobile plant and traffic management, oil & chemical storage, electricity management and fire management.

Engagement

We held a series of health and safety 'stand down' days, in which people take time away from their work to specifically focus on service avoidance. This has reached more than 3,000 staff and contractors, helping reduce by 25 per cent the number of instances in which we struck power cables, gas pipes or other utility services during our excavation work.

It is really important to recognise those who go above and beyond what is expected of them, those who challenge accepted practices and are always searching to achieve the best in health and safety for the benefit of everyone. Our Health and Safety Awards Gala is now a prestigious event recognising those individuals and teams working for Thames Water and our partners.

Communication

During 2013/14 our collaborative website www.healthandsafetyhub.co.uk to prevent incidents and save lives continued to be used to share hands-on health and safety information and best practice between 40 partners.

Each year we hold a H&S conference inviting senior directors from our contractor organisations, along with senior management from Thames Water and the chair of the HS&E Committee, to come together to understand our collective performance of the previous year and strategy for the coming year. The conference also presents an opportunity to focus and discuss areas of development and interest across the organisation. The 2014 theme was catastrophic risk management.

Performance and Improvement

Our safety performance on RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) injuries remained stable, at 0.25 injuries per 1,000 employees.

We saw significant improvements in other areas. We recorded a reduction of 35.7 per cent in major injuries, while lost time injuries decreased from 131 to 106, down 19 per cent from 2012/13. In total, all injuries recorded fell by 18.3 per cent.

During the year we have developed a set of health measures to run alongside the safety measures which are reported monthly.

Indicator	Actual	Actual
	2013/14	2012/13*
Reportable Injury Rate – based on reportable injuries under RIDDOR	0.25	0.25
Lost time Injury Rate – based on all injuries resulting in lost time over 1 day.	0.73	0.95
Hazards/near-misses reported and investigated	12009	13196
Executive/Senior Mgt H&S Site Visits	607	421
Management H&S Inspections	11549	11354

* This data is inclusive of our contractors.

1.5.2 Wellbeing

As part of our drive to improve the health and wellbeing of our people, Occupational Health and Wellbeing is a key element of our 10 year safety, health and wellbeing business plan. During 2013/14 we continued to place great importance on every one of our employees having the opportunity to improve their own health and wellbeing and have a calendar of events to raise awareness of health issues. Read about our seven Health and Safety aims.

During 2013/14 we held our first Water Wellbeing Week, dedicated to increasing health awareness and encouraging healthy lifestyles. We devised the concept for the event, which was also taken up by other water companies. An estimated total of 200,000 people were involved across the UK, the campaigns success resulted in us winning Health and Safety Initiative of the Year at the Water Industry Achievement Awards on 1 April 2014.

With an escalation in work related referrals to stress, anxiety and depression there has been an increase in 'presenteeism' (stress recognised and managed whilst in work) as opposed to all cases being referred due to 'absenteeism' (stress managed post absence).

We have a Building Personal Resilience workshop in place, based on recognition that 'stress free' is not achievable, to help our employees identify ways in which they can help themselves to cope with increased pressure and change by ensuring that they maintain a healthy work life balance. The programme is delivered by our specialist Occupational Health Advisors at locations across our catchment. A pilot programme was launched during Water wellbeing week where 15 minute taster sessions were available as part of the roadshow.

Developing our programme

Our health & wellbeing strategy for the business focuses on 3 key areas:

- Preventing ill health due to workplace hazards
- Managing ill health and early return to work/fitness through early intervention
- Encouraging employees to take responsibility for their own health and wellbeing by providing a range of initiatives in the workplace, supporting employees to make positive changes.

We monitor the causes for ill health referrals and positive health measures are being conducted. We monitor short and long term sickness trends, track this information to assess the effectiveness of our programmes and tailor our programmes to address the issues which are of the highest importance.

We also recognise the benefits of early intervention for individuals as well as the business and aim to create a service that can respond accordingly.

During 2013/14:

- We restructured the Occupational Health & Wellbeing service provision to deliver a high quality service that is able to adapt to the changing business needs.
- We expanded our in-house team of Occupational Health Advisors to enable us to deliver a high quality, cost effective service across all areas of the business with practitioners that know and understand the work we do and are available to support our employees and managers day to day.
- We have reduced the days lost due to workplace injury by 20 % as a result of early intervention and access to treatment such as physiotherapy.
- We have carried out face fit testing for all employees who use tight fitting Respiratory Protective Equipment to reduce the risk of exposure to hazardous substances.
- We have implemented a new online DSE training and self-assessment package and are training local DSE advisers to support employees where issues arise.
- Building on the success of our mini-health checks program for our Operations Teams we have made Personal Medical Assessments available to all of our employees.

To raise awareness of health and wellbeing issues and drive improvements across Thames Water and our contractor partners:

- We worked with representatives from our contractor partners to lead the development of a Health Maturity Model. The model enables organisations to assess their current position in relation to health and wellbeing and to develop a targeted action plan for improvement. This is now being used across all of our contractors both existing and new. We have set ourselves a target to achieve Gold standard over the coming year.
- We have provided support to key projects such as the Thames Tideway Tunnel and our Eight₂O Alliance partners to develop best practice health and wellbeing standards for the projects.

Our Head of Safety, Health and Wellbeing has overall responsibility for wellbeing issues across the business supported by our Health Manager, and responsible for driving and delivering our health and wellbeing strategy.

1.5.3 Engaging our employees

We aim to create and provide a positive environment where our people are actively engaged, understand their role in the business and the value they add. We engage with our people across the business, raising awareness and understanding of the role they have to play in providing the essential service.

During 2013/14 we kick-started our Executive Roadshows, visiting all sites and offices across London and the Thames Valley, giving more than 4000 of our employees an opportunity to ask questions of our leadership team, raise any concerns and highlight any team successes. They were well received and going forward we are now holding them twice a year.

We also launched the new 'work place listening' initiative. These take the form of monthly sessions at team meetings to ensure we continue to discuss any issues our employees feel are preventing them from doing their day job.

We develop our reward and recognition schemes each to year to ensure they are industry leading. During 2013/14 we held the following:

Employee Recognition Awards

"It's so important to reward great people doing great things. When people show excellence through our company values, they inspire us all to do a better job. This scheme highlights this hard work, and shows appreciation for what they do."

Martin Baggs Chief Executive

Our Employee Recognition Scheme is our formal way to say thank you to the people who role model our business values. Awards also exist to recognise those individuals excelling at voluntary work as well as for those who demonstrate excellence in health & safety behaviour. During 2013/14 these awards were extended so every employee, not just managers, could nominate a colleague or team.

Long service awards

In 2014 we celebrated a first-time special milestone where one of our employees celebrated 50 years of service. A meeting room has been named in his honour. The success of Thames Water is in no small measure due to the contribution made by employees who have remained loyal to the company over many years contributing to the company's achievements.

Hero of the Month

The 'Hero of the Month' award is led by our Chief Executive, Martin Baggs, who will choose a 'Hero' from the nominations put forward. Nominations can be made by any of our employees for living one of our five values or for delivering something amazing for customers that deserves wider recognition.

Time to Give

Our employees can each take two days' leave for volunteering activities. During 2013/14, the number of volunteering opportunities taken up by our employees rose from 1,074 to 1,092.

External recognition

Many of our employees have been recognised by external organisations in reflection of the results they have achieved and key highlights of this include:

- In February 2014 our treasury team won the Association of Corporate Treasurers' team of the year trophy – the first time a water company has won the award.
- In December 2013 the Lee Tunnel team won the Fleming Awards, presented annually by the British Geological Association, for excellence in geotechnical design and construction. The award was presented for the construction, design and monitoring of one of five shafts being constructed along the route.
- Our Health and Safety team won Initiative of the Year at the Water Industry Achievement Awards in April 2014 for the Water Wellbeing Week initiative. This week was attended by 200,000 people and promoted health education for all, along with lifestyle assessments and resilience training.
- Our fleet team was awarded the “Van Excellence” accreditation by the Fleet Transport Association.
- We were shortlisted for the best Human Resources team and best recruitment strategy in the HR Excellence Awards. Our HR director Janet Burr was also shortlisted for HR Director of the Year in the awards.

Looking forward

In September 2014, we will be launching our new Employee Survey “Hear for You” where we will be working in partnership with our new survey provider ORC International.

The survey has been designed by employees for employees. We met with over 70 individuals in focus groups across different part of Thames Water to help us define the important questions we should be asking our employees. The questionnaire has been designed with this and our values in mind. The real work starts once the results are in and we start to look at what we already do really well and need to shout about; as well as identifying those areas we need to improve on.

1.5.4 Learning & development

Providing opportunities for people to learn and grow is fundamental to ensuring we have skilled people. We are committed to developing all our employees. Our success is highly dependent on the confidence, competence and performance of our employees. We are focused on making sure we have the right people with the right capability now and for the future.

Our aims are to:

- Equip all our people with the skills, knowledge and behaviours they need, to deliver the very highest standard of service to our customers.
- Enhance our Learning and Development expertise and ways of working to maximise individual performance and potential throughout the whole career cycle.
- Continue to drive comprehensive learning and development programmes that enable career progression and ensure we have the right skills and capabilities to meet customer needs, expectations, and regulatory standards.

Our employees completed over 16,000 learning and development days during 2013/14; double that of 2012/13.

Our focus in 2013/14 was on identifying the key learning and development priorities for the business. We continue to develop career paths to support the development of employees, whether they chose to follow a technical, leadership or managerial path.

1.5.5 Diversity

At Thames Water our aim is to attract highly talented individuals who are innovative and can actively contribute to furthering our performance. We seek to hire a cultural mix of people who can offer different but complementary attitudes, values, talents and knowledge. We understand the importance of appreciating the unique skills, experiences, background and differences that each individual possesses. Recognising and celebrating these differences creates a better atmosphere in which everybody feels valued, talents are fully developed and organisational goals are met.

Thames Water supports the principle of diversity and inclusion at all levels throughout our organisation and this forms a key strategic priority in our People Strategy. We will build on our knowledge and insight to develop a strong, sustainable framework for diversity and inclusion which allows us to monitor measure and target improvements.

It is important to us, our customers and our success that we support an inclusive working environment for our current and future employees. We look to continue growing our capability to attract and retain a diverse workforce and look to create further opportunities and interventions that support individuals and groups.

Our employee profile:

- 116 (27%) of our senior management team are female
- 1,396 (30%) of all employees are female
- 10% of our workforce declared themselves to be from an ethnic minority group

We are fully committed to ensuring that existing or potential future employees with disabilities are not treated less favourably than any other such person without a disability and that they are fully integrated into the work environment. Disabilities are not only restricted to disabilities that can be seen, but include physical, mental and sensory impairments, such as those affecting sight or hearing.

We aim to provide rewarding careers and a supportive working environment that provides an opportunity for all to utilise their talents and which creates a working community that promotes inclusion and encourages individuality. These aspects are central to the growth and success of our Company.

1.5.6 Talent management

We have continued to maximise the performance and potential of each employee throughout their career by focusing on talent management.

We have continued to develop our 'Talking Talent' process to support succession planning and development and identify talent opportunities and risks. We are looking across the business to source suitable successors for key positions preferring to promote from within if there are suitable candidates.

Developing Talent

From the 'Talking Talent' process in 2014/15 we are creating 'Talent Pools', to develop our high potential population, creating a community of 'placement ready leaders', who inspire followership and act as ambassadors of Thames Water during a period of sustained transformation.

We also carry out 'performance development reviews' (PDRs) for all employees that link individual objectives to Thames Water's business plan and assess employees performance against expectations and how they deliver their roles aligned to our company values.

During 2013/14 we completed our Leadership Development Programmes, with 89% of delegates achieving their 'License to Lead'. This was achieved through collaboration and support from all those involved - delegates, managers and trainers. This support resulted in 40% of delegates achieving accreditation at the half-way stage, to 89% upon completion of their final module. Applying learning back into the workplace embedded theory into practice. It was recognised from the Leadership programmes that Manager competence and confidence also required improvement. The Management Development Programme was designed and implemented across our Operations and Customer Teams, to address this need.

Graduate Programme

Our Graduate Programme is all about creating future leaders. Graduates are provided with an opportunity to gain real management experience and professional technical qualifications within a defined programme. Each graduate is placed into a business role alongside their programme. During 2013/14 we recruited 18 graduates onto this programme, with 23 set to join in 2014/15.

Apprenticeships

Thames Water is committed to 'growing its own' by developing new talent and have been operating a successful Advanced Apprenticeship Programme for many years. This programme helps the company create skilled teams that develop through on and off the job learning and to meet future demands for skills and technological expertise. We currently employ 45 apprentices and plan to take on a further 30 in 2014/15.

"Having left school at 16 and joined Thames Water as an apprentice electrician, I didn't think for a moment that one day I would be involved and have some responsibility for our response to such a major event as the flooding we've seen in recent months. This is just one of the many amazing challenges I have had to face over the last 25 years and I have loved every minute, although it's been a horrible time for those customers who have been affected."

Danny Leamon, former apprentice, now Head of Maintenance and headed-up Thames Water's London Olympics team.

New talent pipeline

In addition to our Graduate and Apprenticeship schemes we are working with EU skills as part of the Energy and Utilities Sector Partnership, to create a new pipeline of talent into the industry. In identifying the need to address the retiree population and loss of key skills and knowledge from the industry, the team linked this to the government initiative, aimed at putting employers in the driving seat in the design of future youth entry, traineeship, apprenticeship and re-skilling schemes. In mapping these aims to the needs of our Waste and Water functions, we went one step further to create a programme that also met our demand to meet regulatory requirements in evidencing core operator competency and our employee needs of identified career paths. 'FLOW' (Future Lifecycle Operational Workforce) for Water and Waste, which addresses the need to attract and support youth entry into the industry, whilst ensuring core operator competence and career paths within the functions, will come into play in 2014/15.

We are also lead employer sponsor for the London Design and Engineering University Technical College.

1.5.7 Partnerships

We pride ourselves on our partnership approach to working with our trade unions to ensure our employees' voices are heard on the issues that matter most to them. Whatever we are reviewing, changing or introducing - we do it all in partnership.

We work in partnership with our three recognised trade unions – GMB, Unison and Unite. Under our Partnership Agreement, we recognise our employees and their representatives have key roles to play in



the future success of the company. We actively engage with our trade unions and have adopted an approach of joint working on key policies and open engagement on strategic plans, key initiatives and business performance to make sure our representatives understand the needs of the business and our customers.

We regularly inform, consult and negotiate with our trade unions on a wide range of issues through an established process – the Thames Water Partnership Forum. Following the successful delivery of the jointly agreed annual pay review during 2013/14, we are actively engaging our trade union partners in how to improve the Partnership process and embed it in our new operating structure which we are currently developing in response to changing market conditions. While this presents challenges the partnership approach will provide the best opportunity to support improving employee relations over the medium and long term future.



1.6 Financed for the future

We aim to provide the level of service our customers require, in the most economic and efficient manner, to ensure their bills are no more than necessary. At a time when household budgets are tight, it is more important than ever that we find cost-effective ways to deliver our services. We balance this with providing appropriate returns for the investors who provide the capital we spend on behalf of customers.

We recognise we need to listen and respond to our customers and stakeholders. Many of whom have asked us to be more open about how we run and finance Thames Water. During 2013/14 we've responded to their concerns in the following ways:

- Published a simplified explanation of how we run our business – called Our Finances Explained - to demonstrate how the choices we make are made with the best interests of our customers in mind
- We've communicated our plans for future investment with the media and with politicians– providing clarity on what we've done to reduce the impact the costs of these plans can have on customers
- We've worked closely with our Customer Challenge Group – an independent committee that scrutinises our work – explaining the financing of the business
- We've changed the way we report our Directors' remuneration, making our annual accounts among the most transparent in the industry.

1.6.1 Running the business

The day-to-day running of our business in London and the Thames Valley cost £770 million in 2013/14.

Operating Costs

Managing our costs effectively is a significant aspect of how we conduct our business responsibly. In 2013/14 we launched our 'business improvement plan', which identified those areas where we can either reduce costs or carry out aspects of our operations more efficiently. This plan has resulted in efficiencies and cost savings of £62.7m in 2013/14. However, we expect recurring efficiencies and cost savings to reach approximately £83m per year from 2015 onwards.

Despite the savings achieved, our operating costs have increased by £10m, when compared to 2012/13. This was primarily due to the increased costs we incurred from higher than anticipated levels of activity in our water and wastewater networks. For example, the wet winter of 2013/14 had a significant impact on our networks and we incurred around £21m of costs, in excess of normal levels, to ensure we maintained services to customers during these difficult conditions.

Following the drop in performance of our wastewater network in 2013, we have also increased spending in this area with the goal of returning to stable serviceability by March 2015. We continue to invest significantly in preventing and reducing leaks from our water networks.

Bad debt

Bad debt costs remain at a high level. In line with our expectations, our bad debt provision expense was £60.1m for 2013/14. We have implemented measures to manage the level of bad debt, which remains a significant issue for the water industry. It is a key focus for us, and we ultimately aim to reduce this measure to the 2.5 per cent average of regulated income we achieved during 2005-2010.

Affordability will always be as high a priority for us as it is for our customers. We have introduced a means tested social tariff from April 2014, a year ahead of when planned, and continue to help our most disadvantaged customers.

In August 2013 we submitted an application to Ofwat to adjust customer bills. This was to enable us to catch up on revenue that was not factored into prices for 2010 to 2015 when they were last set by Ofwat in 2009. At that point in time, certain cost items were impossible to quantify – these included land purchases for the Thames Tideway Tunnel, customer bad debt, 40,000km of additional sewers for which we took over responsibility in 2011, and a rise in Environment Agency abstraction charges. If such items had been factored into prices in 2009, our average household bill would have been nearly £6 a year higher across the current five-year period. On 9 November 2013 Ofwat formally rejected our application in their Final Determination, which we have accepted.

Saving money through innovation

During 2013/14 we delivered a number of innovative projects helping us on our sustainable journey – and also saving us money. Read more about these initiatives.

1.6.2 Financed for the Future / Financial performance

During 2013/14 our operating costs have not increased as much as our turnover, reflecting our careful financial management. This has resulted in an increase in our profits before tax.

Why we need profit

In order to finance our extensive and essential investment programme, it is vital we remain attractive to investors by maintaining a level of profitability that provides for a reasonable return on investment. Our financial obligations are met from our customer revenues, whilst our expenditure and return on capital is regulated by Ofwat as part of the Price Review process every five years.

Average household bill

We recognise that this is a difficult time for many customers, many of whom may be finding it difficult to make ends meet. We aim to keep bills as low as possible for these customers by providing our essential services in the most economic and efficient way possible.

Our average annual bill (which represents the average combined water and wastewater bill for household customers) in 2013/14 was £357, reflecting an increase from 2012/13 of 6.25 per cent.

Despite this increase, our bills remained the third lowest of all the major water and sewerage providers in England and Wales, and we continue to invest around £1bn per year developing and maintaining our infrastructure – more than any other water and sewerage company. We will continue to structure our finances and operations to ensure that we keep our bills as low as possible.

Turnover

The increase in turnover of £154m (8.8 per cent) since 2013/14 was largely the result of a combination of annual bill increases and higher water usage by both domestic and business customers. This increase in consumption was primarily due to an increase in demand caused by dry summer weather during 2013.

Taxation

The post-tax return on capital measures the level of post-tax regulatory operating profit we make on our asset base. We operate our business to allow for a reasonable return on the money provided by our investors to fund continued investment in our infrastructure.

The post-tax return on capital was 4.88 per cent for the year, up from 4.31 per cent in 2012/13. This compares to our performance of 5.42 per cent cumulatively for the current asset management period (2010-2015) to date. Overall this was greater than Ofwat's assumption of 5.0 per cent, set at the last price review.

The improved performance we have achieved from the prior year demonstrates the effectiveness of our ongoing cost management programme in driving more sustainable business efficiencies and cost reductions.

Financial benchmarking

We maintained our investment grade credit rating of Baa1 for 2013/14. Investment grade means at least Baa3 from Moody's. A Corporate Family Rating is assigned by Moody's and reflects the consolidated rating of the different classes of outstanding debt obligations issued by our financing subsidiaries. Our licence requires us to maintain this investment grade rating, as this ensures we can access the debt funding we need to ensure we carry out our investment programme in an efficient and cost-effective manner.

Gearing

Gearing shows net debt as a percentage of total regulatory capital value, while the interest cover ratio is used to determine how easily a company can pay interest on outstanding debt.

Our investments are funded by a combination of equity from our shareholders and borrowings under long term secured financing arrangements, including bank loans and bonds. As part of the whole business securitisation agreement with our investors, we are required to keep these within certain limits.



Our gearing for 31 March 2014 was 77.6 per cent, up 0.2 per cent from the previous year. During 2013/14 our interest cover ratio increased by 0.1 to 1.8. Our financial performance for 2013/14 ensures we have met the conditions defined within our covenants, with a comfortable degree of freedom.



1.7 How we do business / Innovation

Through the identification and implementation of leading edge innovation, we are constantly trying to improve the way we run our business, by: improving service to our customers, finding ways to be more efficient at what we do, and having a positive impact on the environment and resources.

Our research and development programme consists of a portfolio of projects designed to address needs across the whole water cycle. Research and development delivers innovative solutions through a research programme aligned with business needs and addressing challenges in this Asset Management Period (AMP) and for future AMPs. During AMP5 we will have spent c£20m on research and development.

Throughout the individual sections of this online report we provide detail on the innovations which are helping us on our journey to becoming a more sustainable business. Here are just a few of our innovation highlights from 2013/14:

Phosphorus

We have commissioned a new process at Slough sewage works to create phosphorus-based fertiliser pellets from sewage. Phosphorus is one of the key ingredients in fertiliser, and our nutrient recovery reactor – the first of its kind in Europe – provides an alternative to mining phosphate rock from dwindling, non-renewable reserves.

Non potable supply

Our innovative plant beside the Queen Elizabeth Olympic Park continues to treat wastewater from a nearby sewer and recycle it as water suitable for irrigation and toilet flushing. We provide water for a growing number of venues on the site and in September 2013 produced our 100 millionth litre of recycled water. With the London Legacy Development Corporation we are also exploring ways to extend the use of the plant to new housing development in the area.

Bubble aeration systems

We teamed up with Mapal Green Energy to launch an innovative energy-saving pilot scheme at our Chesham sewage treatment works aimed at cutting the cost of treating wastewater in some of our older biological reactors by up to 50%. The Mapal system uses a floating fine bubble aeration system that provides a far more efficient method for oxidising wastewater than traditional mechanical surface aerators, which are known to be costly to operate and, in many cases, unreliable.

Thermal Hydrolysis Process

We have continued to roll out the Thermal Hydrolysis Process (“THP”) across six of our major sewage treatment sites. THP involves heating sludge up and effectively ‘cooking it’ before it is digested. The subsequent anaerobic digestion then releases more gas than with untreated sludge. The gas produced is burnt to generate renewable electricity. Read more about our energy saving programmes.

Flooding Alarms

To improve service to our customers and provide some security for customers that have experienced sewer flooding – we have developed and installed alarms that detect changes within the sewers that could, ultimately, lead to flooding. The alarms have already avoided some further flooding and also provide some peace of mind to customers that have been affected flooding.

SmartWater4Europ (SW4E)

This is a €10m, pan-European project that has attracted funding from the European Commission. The project will invest €3m in Reading's clean water network and will demonstrate the impact of state of the art technologies on customer engagement, water efficiency, energy efficiency and leakage management. This will help us to understand the most cost effective level of technology that should be deployed to provide a secure and stable service to our customers.



2. Putting our customers first

We provide water, the essential service, for 9 million customers and sewerage services for 15 million customers across London and the Thames Valley. We are committed to delivering this excellently and aim to demonstrate to our customers that they can trust us, we are easy to do business with and that we care. We also have a responsibility to ensure we provide a more sustainable service for customers in the future. Customer inclusion, access to services, fair charging systems and active engagement are key elements to our being able to achieve this.

We are committed to delivering a value for money service. During 2013/14, we issued around 10.95 million bills and notices, as well as handling just over 3.4 million enquiries about bills and payments. At £357 per year, our combined average water and sewerage bill reflecting an increase from 2012/13 of 6.25 per cent, still remained among the lowest in the industry.

Over 2013/14 written complaints fell by almost a third from the previous year, and as measured by Ofwat's Service Incentive Mechanism (SIM) through sustained improvements in customer satisfaction we have improved by 12.3%.

During 2013/14 we introduced a social tariff for most vulnerable customers a year ahead of schedule to provide a further 50% discount on bills for qualifying customers. We have also committed to the contribution of an additional £10m to our Customer Assistance Fund. Over 6000 customers also benefited from their metered bill being capped through the WaterSure scheme.

Our commitment to delivering excellent service puts customers at the heart of everything we do. We aim to respond positively to individual needs, communicate in a way that allows customers to keep control of their own affairs and make sure they can easily access our services. We also offer a range of free services for customers who require additional assistance.

2.1 Putting our customers first / Customer service

We need to make sure customers receive top-quality drinking water at all times as well as safely treating and returning wastewater to the environment. We set ourselves high standards and want to deliver excellent customer service.

Customer Service Strategy

We provide the most basic and essential of all services. Our customers expect to be able to trust us to do that with the utmost reliability. They also expect us to make things easy for them and to show that we care about them. Our strategy is to provide a top class service for our customers, while ensuring that bills are affordable.

- The majority of our customers only need to make contact with us to pay their bills, to tell us they are moving or to update their account details. We will save time, cost and confusion by making sure our bills are easy to understand, accurate and easier to pay with simple and secure online account management and an increased range of available contact options for our customers.
- When customers do need to contact us, for instance, to report a problem with their water supply, we will place greater priority on getting things right first time and communicating effectively at every stage.
- To help improve satisfaction and reduce complaints, we will continue to invest in staff training and new technology.
- Affordability will always be as high a priority for us as it is for our customers. We have introduced a means-tested social tariff from April 2014 and continue with other ways to help our most disadvantaged customers.
- We will provide access to frequent consumption data so that customers can choose to manage their usage and their bill through 'smart' metering technology and we have begun the roll-out of this metering programme.
- We will also provide water efficiency advice to help customers reduce consumption and to manage their bills.
- The costs of non-payment of bills are ultimately borne by the customers who do pay. This is an inequitable situation which we will endeavour to mitigate and reduce as much as possible. We will use technology to help us segment customers and capture information about their payment behaviour and their respective abilities to pay, so that we can target the right type of collection activity.

2.1.1 Putting our customers first / Customer service / Measuring our service

The majority of our 9 million water customers and 15 million wastewater customers do not have to contact us about a problem with their service. However, when things do go wrong we need to ensure that we respond promptly, understand their needs and prevent the same things

happening again. To understand our customers' satisfaction we measure it using a two part Service Incentive Mechanism (SIM).

The first part allocates a penalty point for each unnecessary contact and complaint made by customers. This includes every occasion on which a caller cannot get through on our telephone lines as well as any abandoned calls. The second part gauges customer satisfaction by independently surveying a sample of those people who have contacted us. The maximum score is 100 and during 2013/14 our SIM performance score improved by almost eight points – we achieved 70.67.

Customer service continues to be a key area of focus for us given that our score remains well below the industry average. Our work throughout the year has been rewarded with a 12.3% improvement in our performance against this metric and as such 2013/14 is our best year yet.

Our written complaints are at the lowest level we have ever reported in a single year at 21,915 from a total of 4.3 million phone calls and 0.6 million written enquires in 2013/14. This is a reduction of approximately a third on last year, despite the increased volume of calls during the wet winter period. The number of calls to our call centres abandoned by the customer has reduced to 3%, the lowest level we have reported since 2003.

We have also improved our response to complaints, resolving nearly 90% of cases when the customer first wrote to us. We have also made significant progress in reducing unnecessary customer contacts, improving our performance by over 25% from last year.

We continue to monitor our customer satisfaction scores daily based on our own surveys, and have seen improving trends. Using our internal customer satisfaction monitor, 191,515 surveys have been completed across revenue, water and waste services during 2013/14, overall our score was 4.03, improving by 0.42.

Quarterly surveys by Ofwat saw customer satisfaction rise from 3.88 to 4.03 out of five. Although this was good news, we continued to lag behind the reported performance of other water companies. We believe we can continue to improve upon our performance by consistently fixing urgent problems quickly, keeping our promises and ensuring we inform customers about progress and about disruption to services.

2.1.2 Putting our customers first / Customer service / Customer feedback and communications

Customers continue to provide instant feedback via their mobile phone after we have provided them with a service. This initiative allows customers to let us know what they think about us first hand.

We not only use this direct feedback to improve our services generally, but also to resolve any individual customer issues or concerns quickly. After we have received a customer request, we send them a text message confirming receipt, what we will do for them and when. These initiatives are started to help us work towards enabling customers to trust us, know that we are easy to do business with and that we really care.

During 2013/14 we developed new branding along with employee and contractor uniforms to reflect one team to our customers. This will be rolled out during 2014 along with new branding on our vehicles. The aim of this is to ensure our customers recognise Thames Water by first glance, along with anyone connected to Thames Water.

2.1.3 Putting our customers first / Customer service / Improving our service

Among improvements to our services, we have:

- Employed more staff to speak to customers when they call us.
- Improved skill levels, so that employees answering calls are more able to resolve issues without needing to pass the caller to a colleague.
- Improved call transfer procedures, so that customers do not need to repeat themselves to a second member of staff.
- Introduced dedicated case managers to resolve an issue if a customer has to telephone us a second time.
- Created two new calling cards, to keep customers better informed about work we are carrying out in roads across our region.
- Our engineers and contractors call customers when on route to the property.
- Introduced text message updates for some of the main issues about which customers regularly contact us. These have been a success, and we plan to use them more widely.
- This year we will also be providing our customers with the facility to automatically register for Service updates in their area through the enhanced functionality of our new telephony system.

2.2 Putting our customers first / Extra Care

We try to treat each customer as an individual by being as flexible and helpful as we can. We continue to provide free extra help to customers who require additional assistance because of disability, or other personal circumstances, which would otherwise make it difficult for them to communicate with us or to easily access all our services.

During 2013/14 more than 58,000 customer households were on our Special Assistance Register and receive one or more additional services at no extra charge. This is an increase of almost 3% on the year before. The Special Assistance Register table below reflects the additional services we provide, because of our desire to treat each customer as an individual by being as flexible and helpful as we can.

Our Extra Care Services make sure it's just as easy, for example, for a blind person to engage with us as it is for a fully sighted customer. This is achieved by providing a range of extra services, including large print, braille, audio format and coloured background paper for customers with sight problems; textphone, sign language interpreters and a dedicated mobile phone number for texting during emergencies for the deaf and hard of hearing; additional help in the event of a water supply interruption or sewage flooding for the less mobile; and a doorstep password scheme if we ever need to visit a customer's home.

We continue to operate a 24-hour telephone service, via Language Line, that provides an interpreter in any language required within 30 seconds. Approximately 65 customers per month use this service. More information can be found at www.thameswater.co.uk/extracare

2.2 Putting our customers first / Affordability

We recognise for many of our customers the cost of living is rising and the affordability of household bills is an immediate cause for concern. Affordability will always be as high a priority for us as it is for our customers. We introduced a means-tested social tariff from April 2014 and continued to provide our Customer Assistance Fund to help our most disadvantaged customers. We will also provide customers with access to their water usage data so they can choose to manage their usage and their bill through 'smart' metering technology and we have begun the roll-out of this metering programme.

Customer Assistance Fund

The Customer Assistance Fund is able to help those customers who genuinely cannot pay their bills. It is administered through an external partner who assesses a customer's income and expenditure and confirms whether a grant can be given towards arrears or current charges.

We provided £2.05m towards the Customer Assistance Fund over the course of the year. This helped 3,426 customers making an average payment of £697.

We also donated £0.25m to the Thames Water Trust Fund, which assisted 152 customers and helped fund organisations that provide debt advice, such as Community Links in Newham.

WaterSure

Our WaterSure Scheme helps households with a metered water supply who receive specific means-tested benefits and either have a large family of three or more children for who they receive child benefit, or someone in the household has a verifiable medical condition requiring the use of extra water.

Our WaterSure tariff scheme helped 6,323 vulnerable households with a metered supply by capping their water bill. This was an increase of over 20 per cent from 2012/13.

'WaterSure Plus'

We introduced a means-tested social tariff for most vulnerable customers from April 2014, a year ahead of schedule to provide a further 50% discount on bills for qualifying customers.

The social tariff called 'WaterSure Plus', is designed to work closely alongside the existing WaterSure tariff it will be available to all Thames Water customers, water and wastewater and measured and unmeasured, irrespective of who raises the bill with no cap on bills.

Qualifying households must contain someone in receipt of one of the same means-tested benefits that are specified in the quality criteria for the existing WaterSure tariff and customer's annual water charges must exceed 3% of the household's total income, after deduction of tax and national insurance. Successful applicants will receive a 50% discount on their annual water and/or wastewater charges, as appropriate.



6 Efficient Operations

By working in partnership with our suppliers we seek to positively influence them to drive more efficient and more sustainable operations. This includes minimising the use of chemicals in water and wastewater treatment or maximising the amount of our waste materials that are reused, including finding more resilient and more sustainable solutions for sludge disposal.

During 2013/14 we spent more than £1.6bn on goods, services and construction projects with our suppliers, who have a vital role to play in helping us achieve our sustainability goals, including reducing our consumption of energy and resources, as well as minimising our environmental impact.

A group of industry-leading company's formed an alliance during 2013/14 which will carry out billions of pounds of essential improvements to Thames Water's ageing water and sewerage networks between 2015 and 2025. Eight₂O will work collaboratively, more sustainably and provide improved value for money, helping us meet our performance targets.

We aim to send zero waste to landfill by working with our supply chain. During 2013/14 we achieved a 99.8% recycling rate of operational waste produced from capital projects.

We also generated 12.1% our electricity needs by using sewage sludge as a resource. This will enable us to reduce our reliance on non-renewable energy.

6.1 Efficient Operations / Working with our supply chain

Our suppliers play an essential role in enabling us to achieve our objectives. In many areas of the business they are fully integrated into our operations, so the selection and ongoing management of the supply base is a truly strategic issue.

During 2013/14 a group of industry-leading firms formed an alliance which will carry out billions of pounds of essential improvements to Thames Water's ageing water and sewerage networks between 2015 and 2025. We actively engage with our suppliers and strive for continuous improvement. During 2013/14 we completed an extensive review of the way in which we evaluate and select our suppliers. This resulted in a major shift to more qualitative, behavioural-based assessment criteria, focusing strongly on collaboration, innovation and sustainability. The below process ensures that we select only those suppliers with whom we are confident of a long-term, mutually beneficial relationship with shared values and objectives:

- Our supply agreements are reached following a competitive, fair and transparent bidding process. We aim to obtain the best overall value for money – not simply the lowest price.
- We seek to identify suppliers and contractors who demonstrably can help us achieve our goal to become more sustainable.
- Sustainability principles are applied to our contractor projects throughout their lifecycle, from the design, proposal and planning stages, through to their phased implementation stages.

- We only engage with suppliers and contractors who can comply with our policies, these include our Procurement Policy, Environment Policy, Honest and Ethical Behaviour Policy and our Fraud and Bribery Policy.

6.1.1 Efficient Operations / Working with our supply chain / Supply chain management

Health and Safety remains our top priority and our suppliers provide an essential contribution to the success of Thames Water in meeting our vision of ‘zero incidents, zero harm, zero compromise’ We only select suppliers who demonstrate they have the competencies, systems and resources to safely undertake the work they are allocated. We therefore ensure that the necessary checks and obligations are built into our selection criteria.

We have a legal responsibility to ensure any contractor or supplier working for us has received an appropriate health and safety assessment prior to commencement of works. To facilitate this we are now working with a specialist provider of assessment services – Achilles. Achilles will evaluate our suppliers’ health and safety capabilities to ensure that our zero compromise approach is reflected across our supply chain.

During 2013/14 we worked hard to improve our relationships and reputation with suppliers, and our selection criteria have focused strongly on health and safety, value for money, customer service, sustainability and innovation. We also carried out an extensive survey of our supply base, inviting responses from more than 300 companies, and received positive feedback about our procurement approach and processes.

We have recently launched our ‘Partnering for Progress’ program with around 50 of our key framework suppliers selected from H&S critical categories, for example scaffolding or minor civils. This is an on-going quarterly series of workshops that discusses and implements new working ideas and best practice from across our Supply Chain.

Our Managed Procurement Service, delivered by Efficio Consulting, continues to operate well, delivering more than 40 sourcing projects across a variety of spend categories.

We continually review each stage of our sourcing process and strengthen our approach to ensure compliance with EU Procurement Legislation. Suppliers can be assured that they will always be treated fairly and objectively in any selection process.

In 2012, we designed and piloted a new Supplier Relationship Management approach to managing our contracts with our key suppliers. The pilot worked well and the programme is now being rolled out across the business.

6.1.2 Efficient Operations / Working with our supply chain / Payment terms

We work hard to maintain good mutual relationships with suppliers and a key aspect of this is ensuring we pay them on time. When setting up payment terms, we take into consideration the size and situation of our suppliers, particularly our small to medium size suppliers. Where possible, we try to remain flexible and consider each supplier on a case-by-case basis, and where justified we are able to reduce the payment terms.

During 2013/14 we spent more than £1.6bn on goods and services from our suppliers. Of these suppliers, we paid around 90 per cent of all our invoices (more than 125,000 in total) in line with our agreed payment terms.

We work hard to fulfil our commitment to the fair treatment of suppliers and, through 2014, we will be focusing on ensuring our transactional processes (particularly those relating to invoice payments) are as efficient as possible. We have implemented a new Automated Invoice Scanning Process this year that will further improve efficiencies in this area.

In 2013, we undertook a major program of supply-base reduction. This enabled us to reduce our supplier base from almost 5500 suppliers, down to 3250, by removing duplicate suppliers and those with whom we had not traded for more than a year. This activity allows us to increase our efficiency and focus our efforts on current and future suppliers. This Vendor Rationalisation program is now carried out on twice a year, ensuring our supplier-base is kept at an optimal level.

6.1.3 Efficient Operations / Working with our supply chain / Capital programme and supply chains

In our capital procurement programme, we continued to work closely with our major contracting partners to extend our buying power and influence further down their supply chains. During 2013/14 a group of industry-leading firms formed an alliance which will carry out billions of pounds of essential improvements to Thames Water's ageing water and sewerage networks between 2015 and 2025.

The Alliance, identified as Eight₂O, will work collaboratively, more sustainably and provide improved value for money, delivering the planned capital programme while meeting performance targets in many business areas including health and safety, sustainability and customer service.

Eight₂O has already played an essential role helping define the business plan with us to ensure plans were innovative and more sustainable. The alliance is set to carry out over £2bn of work. Thames Water's investment programme for the five years from 2015 will be finalised following the 2014 water industry review of prices by the regulator Ofwat. There is potential to extend contacts after this five-year period to 2025.

6.1.4 Efficient Operations / Working with our supply chain / Suppliers' sustainability performance

At Thames Water, it is important we share knowledge, provide information and advise all contractors on sustainability issues where we can. Before awarding work to potential suppliers, they are evaluated, as part of the overall selection process, to identify any specific environmental, social or financial risks. Once the contract has been awarded, regular review meetings are held to review performance under the contract; this includes the review of Environmental, Sustainability and Health and Safety issues.

During 2013/14 we applied more rigorous thresholds to the sustainability criteria as part of our supplier evaluation process. This included an information request for suppliers' environmental performance, screening processes, environmental prosecutions and remediation.

6.2 Efficient operations / Sludge management

Sewage sludge is not only the main by-product of the wastewater treatment process – but also an essential resource. The production, treatment and recycling, reuse or disposal of sewage sludge is controlled by comprehensive legislation, with which we maintained 100 per cent compliance in 2013/14. We also generate renewable energy from some of our sewage sludge, either by digestion or incineration. This is an essential aspect of our strategy to become more sustainable.

Our 25-year Sludge Strategy provides the framework for our sludge investment proposals:

- To increasingly adopt treatment processes that will maximise the generation of renewable energy and minimise the volume of sludge produced.
- To ensure safe and sustainable recycling, to give confidence to farmers and food producers, but also to reduce our reliance on farm land by using other forms of treatment and energy generation.

We are on track with the £250 million programme which started in 2010 to increase our sludge processing capacity by installing 'thermal hydrolysis' plants (THP) at our Beckton (Newham), Crossness (Bexley), Riverside (Barking and Dagenham), Beddington (Croydon), Oxford, Crawley and Chertsey Sewage Treatment Works (STWs).

These THP plants 'pressure cook' the sludge before breaking it down in anaerobic digesters. When compared with conventional processes, THP produces up to 30 per cent more biogas, which we will use to produce renewable energy. We have fitted the technology at two of our works and will add four more in 2014/2015. These improvements will enable us to reduce our reliance on non-renewable energy, improve the quality of the sludge which is recycled to land, as well as save money.

In 2013 we installed a Bucher press at Oxford STW. Bucher presses are usually used for food processing, such as for pressing apples for cider – we are now using this equipment for pressing sewage sludge. The trials on the press show we can take far more water out of the sludge than conventional treatment therefore reducing the volume of sludge and associated vehicle movements.

6.2.1 Efficient operations / Sludge management / Sludge as a resource

Sludge to energy

Sewage sludge has a high calorific content that we use to generate electricity through a process we call 'energy from waste'. During 2013/14 we generated 156GWh, 12.1%, of our electricity needs by using sewage sludge as a fuel source. These improvements will enable us to reduce our reliance on non-renewable energy, improve the quality of the sludge which is recycled to land, as well as save money, providing a more sustainable solution for our customers.

Over the course of the year, we incinerated 33 per cent of sludge at our Beckton and Crossness sludge-powered generators, in a process which generates renewable energy. This was down from 40 per cent in 2012/13 as a result of planned maintenance, plus several unplanned periods during which the burning of sludge stopped until normal operations were restored.

We use two methods to create power from sewage sludge. In 'thermal destruction with energy recovery', sewage sludge, the solid content of the sewage, is dewatered to form a 'cake' which can then be burned to generate power. Secondly methane gas, derived from anaerobic digestion of sewage sludge, is burned in an engine to generate power, with the heat recycled to heat the sludge digester. This is known as 'anaerobic digestion followed by combined heat and power'.

We are in the process of installing thermal hydrolysis technology at six of our main sewage works to increase biogas production and increase the proportion of our energy needs which we meet ourselves. We have completed two so far.

Sludge to land

We are committed to the beneficial use of sludge wherever possible, during 2013/14 we increased the amount of treated sludge (biosolids) recycled on farm land, to which we sent 60 per cent of sludge. Seven per cent of sludge was used for land restoration. We recycle most of our treated sludge to farm land as a natural fertiliser, providing soils with a valuable source of organic matter and nutrients. The Government and EU recognise this as the best practicable environmental option in most circumstances.

We comply with high quality requirements to reassure our stakeholders about the quality and safety of our biosolids and their use in agriculture. This includes the 'Safe Sludge Matrix', an agreement between water companies and the British Retail Consortium, which sets out guidance for the application of treated sludge to crops and strict control on the quality of sludge.

6.3 Efficient operations / Waste

The services we provide through our water and sewerage networks means we produce waste streams that need to be carefully collected and dealt with. These include sewage screenings and grit, and ash from our two sewage sludge incinerators. From our water treatment works we produce sludge and weed, waste from our laboratories and general waste from our offices. We therefore aim to minimise waste and where possible put it to a more sustainable use.

We have an extensive programme of repairs, maintenance, upgrades and new building projects which produce large amounts of 'excavated' waste, which are mainly soils and aggregates. We aim to send zero waste to landfill by working with contractors, during 2013/14 we achieved a 99.8% recycling rate of operational waste produced from capital projects.

We also aim to put any waste produced to the best use. During 2013/14 contractors working on our behalf, MVB, won a bronze award at the Built Environment and Architectural Heritage Awards for their environmental achievements during the construction of the Lee Tunnel. An intertidal habitat on Barking Creek was specifically designed to offset any disruption during project construction in the bed of the River Thames, to provide a nursery ground for fish and invertebrates, to increase the number living and breeding in the River Thames.

6.3.1 Efficient operations / Waste / Minimising waste and recycling

Operational waste

Streetworks and other excavated material

Our approach to highway reinstatement and managing the material excavated from our extensive streetworks programmes is recognised as leading. We operate a 'managed loop' system for processing and recycling the material excavated from our streetworks and have achieved a 99.8 per cent recycling rate for this excavated material this year.

During 2013/14 the Lee Tunnel celebrated removing one million tonnes of spoil by a more sustainable method – by boat. Using the river rather than by road eliminated the noise and environmental impact that would have been otherwise caused by approximately 60,000 trucks.

Water treatment

From the water treatment process the main waste streams are sludge and weed, of which we produce approximately 32,948 tonnes per year. Water treatment sludge is recycled directly to land from our water treatment works, or released into the sewerage network and recycled to agriculture along with the main sludge stream. We also recycle weed by sending it for use in land restoration. During 2013/14 we recycled 100 per cent.

Wastewater treatment

Sewage sludge is the main product of the wastewater treatment process. During 2013/14 we put 100 per cent of this to beneficial use. This included using sludge to generate renewable energy and to provide a valuable organic fertiliser for farmland.

We continue to hit high rates of recycling for most of our operational waste streams. Sustainable solutions for recycling screenings, grit and incinerator ash remains a challenge for us, during 2013/14 we recycled 14.9% of grit from some of our London sites.

Screenings are comprised of items such as plastics, paper and sanitary products that have been disposed into the sewerage system. The sewer network is designed only to transport water, human waste and toilet paper, so other materials, for example, fats, oil and grease from cooking, nappies, wet wipes and cotton buds, can cause serious problems. These build up in the system and cause blockages, as well as generating unwanted wastes at our treatment works.

Office waste

We continue to improve the segregation of our office waste. As well as recycling plastics, aluminium cans, paper and cardboard, we are also recycling glass through our general waste collections. Food waste is collected from head office kitchens and we are looking at options to recover energy from this waste stream. By working with Mitie, our facilities management partners, we have 100 per cent of our office waste away from landfill this year.

During 2013/14 as part of our Climate Week programme to engage our employees on waste issues we ran a competition amongst 5 key sites to see which site could recycle the most. This kick-started discussion on more sustainable uses for waste and general waste management, many of our employees sent through new ideas as well as shared best practice.



7 Responsible Operations

Operating responsibly means that we are committed to engaging positively with the customers and communities we serve and to being good neighbours.

We need to respect environmental limits and recognise the importance of protecting wildlife and their habitats. We aim to address the needs of the communities we serve through the resources and expertise available to us, including the fundraising and volunteering efforts of our own employees.

We manage recreation and biodiversity at more than 100 sites across London and the Thames Valley that have some form of public access. We have a programme in place to put these sites to the best possible community use, including bird watching, fishing, sailing and walking. We also work to protect and improve the natural and cultural heritage around all our sites.

7.1 Responsible operations / Odour

Sewage treatment works and pumping stations have the potential for causing odour issues. Sewage is itself an odorous substance, our role is to transport and treat sewage quickly so that it does not decay within the system, which could increase odour levels.

We aim to minimise the odours that can arise at our sewage treatment works and can occasionally cause an issue for residents living nearby.

As the demand for housing in the South-East has increased, properties have since been built close to sewage works - works which were not designed to be odour - free when built. We strive to operate our sites in a way which minimises odour, and to quickly resolve any operational issues that increase odour levels. We have detailed odour management plans at our major sewage works.

In order to significantly reduce odour, we may need to cover parts of the treatment process and treat contained emissions before releasing them into the environment. This work is often in addition to regular maintenance spending and is only carried out if it represents good value for money for our customers.

In the five-year period ending 2015, we will have significantly reduced odour at some of our largest sewage treatment works. These have included continuing improvements at Mogden, in west London, as well as our Slough works, where improvements were completed in 2013. We also have extensive schemes to cover the smelliest treatment processes at our Beckton and Long Reach Works in east London, which we are due to complete in 2015.

Our future plans include significantly reducing odour at our Deephams work in north London as part of a major site upgrade. Our policy at sewage works where we need to deliver major upgrades our policy is to



ensure that odour will not increase, and we seek to reduce odour if economically justified. Enabling construction activities are underway at Deephams; we expect to see the full benefits of the scheme in 2018.

In the longer term, we are also investing in innovative ways of treating odours, as current technologies can be energy-intensive to operate.



7.2 Responsible Operations / Biodiversity

The way in which we manage water and wastewater can have a big impact on a variety of plants, animals and habitats. Our business can affect biodiversity in many ways and biodiversity can also affect our business.

We have an innovative programme of conservation activities and enhancements designed to engage our people, customers and stakeholders on key environmental issues. Our emphasis is on improving access to nature for our customers through our own sites.

7.2.1 Responsible Operations / Biodiversity / Biodiversity at our sites

Wild about Thames

During 2013/14 we continued our engagement programme Wild about Thames, focused around raising awareness of the value of wildlife on and around our sites. We are committed to playing a part in halting the decline of pollinators in England and the impact this can have on bees. During 2012 we began work in partnership with the Bumblebee Conservation Trust at Coppermills water treatment works and Crossness sewage works nature reserve following the discovery of two rare species – the Moss Carder and Shrill Carder bees.

We planted a variety of wild flower species and left the grass to grow in certain areas to ensure we were being more 'bee friendly'. During 2013, we monitored the effectiveness of these small changes and discovered that there had been a significant increase in the numbers of bumblebees using both sites. During 2014/15 we will continue to work with the Bumblebee Conservation Trust through BEE Wild about Thames, which will involve training our employees to survey for bumblebees and help to provide the right habitat at other Thames Water sites.

Our Wild about Fish event at our Farmoor Reservoir during 2013 attracted almost 100 visitors. Guests of all ages and abilities were given masterclass sessions by experts from the Angling Trust in casting, fly fishing and coarse fishing. Visitors also had the opportunity to learn about the wildlife found within the reservoir and the River Thames. The Environment Agency, Sportfish, Wheelyboat Trust and the Angling Trust had stands at the event, and there was a rare opportunity to see the reservoir re-stocked with fish.

Crossness nature reserve

During 2013/14 we celebrated the opening of a new bird hide at the Bexley reserve with the 'Urban Birder', David Lindo, at an event attended by over 60 partners, including RSPB and London Wildlife Trust. The new facility gives visitors, including school groups, an opportunity to see previously hidden areas of the nature reserve, as well as elevated views of the adjacent, newly extended, Crossness sewage treatment works.

The hide has resulted in an increase in members of the Friends of Crossness Nature Reserve scheme, and boosted enquiries from schools and other youth groups.

Barn owls also returned to breed at the site, having not bred at the site since 2011. The winter flooding was expected to have had a negative impact on food availability, so we were pleased to discover they were back.

Hogsmill nature reserve

We celebrated the opening of our new reserve at Hogsmill sewage treatment works, in Kingston, in 2014. The event was attended by 125 members of the public and a number of our wildlife partners, and the reserve was opened by the Mayor of the Royal Borough of Kingston upon Thames.

We had positive feedback and now have 42 members of the Friends of Hogsmill Nature Reserve and have already hosted 10 school visits totalling over 300 students.

Kempton nature reserve

During 2013/14 bird ringing began once again at Kempton nature reserve, collecting valuable data for the British Trust for Ornithology and helping us to better understand how important the site is for birds. Thanks to this we discovered that over 200 reed buntings visited Kempton during the winter.

We also survey other species at Kempton, such as moths, with several rare and notable species found including the cream bordered green pea moth. This information is shared with Greenspace Information for Greater London and helps build a wider understanding of London's wildlife.

Invasive non-native species can have hugely detrimental effects on the wildlife at our sites. We have been working with Natural England to help control New Zealand Pygmyweed at the reserve, and 2013/14 saw a significant reduction in growth levels. This is a difficult plant to control, so we are monitoring the impact of our management actions and sharing what we have learnt with others facing this problem.

During 2013/14 we also installed a new bird hide. This has been a spectacular addition to the site, offering the opportunity for our members to get up close to the birds on our lake.

Beckton sewage works Creekside nature reserve

We have already put the wheels in motion to create another nature reserve at our Beckton site. We are working with the London Wildlife Trust and a new warden, who will look after the site, and expect to open it to the public later in 2014.

Sites of Special Scientific Interest

Much of the land we own is within legally protected wildlife areas such as Sites of Special Scientific Interest (SSSIs). There are 12 SSSI sites, for which Natural England considers us to be the 'influential land manager' and so we aim to look after these special places and benefit the wildlife that flourishes there.

We have again met the target set by Natural England for the positive management of our SSSIs, with more than 99 per cent of those for which we are responsible classified as 'favourable' or 'unfavourable recovering.

The Government's Biodiversity 2020 strategy sets out enhanced targets to bring 50.6 per cent of SSSIs nationally into 'favourable' condition by 2020. We are pleased to report that we are continuing to progress towards this target.

For those sites that do not currently meet this target, we are working with Natural England and other specialists to understand how we can make improvements, although sometimes this may be as a result of wider population trends rather than the conditions on site.

7.2.2 Responsible Operations / Biodiversity / Wildlife partnerships

We are passionate about the role that our operational sites provide as havens for wildlife. Working with wildlife partners helps both parties to achieve specific or large-scale biodiversity aims. It also ensures our thinking is joined up and our work is in line with local and regional action plans. During the past year we have supported various projects.

During 2013/14 we were proud to become partners in the Chiltern Chalk Streams Project. This aims to conserve and enhance all major chalk streams in the Chilterns Area of Outstanding Natural Beauty and to encourage enjoyment and understanding of them.

We also became founding corporate supporters of the Colne Valley Park, which includes Staines Reservoir – one of London's best sites for viewing a variety of waders, gulls and terns. The park covers over 40 square miles and is the first significant area of countryside to the west of London. The valley hosts a mosaic of different habitats and includes approximately 200 miles of river and canal and over 60 lakes. It is also a living, working environment, providing employment and homes for many people as well as being a haven for wildlife.

We are corporate patrons of the British Trust for Ornithology and provide access to a number of our London reservoirs so that volunteers can record data for the annual Wetland Bird Survey. We rely on such information to assess the status of our legally protected sites, in line with the requirements of national and European legislation. We are also corporate supporters of the Wildfowl and Wetlands Trust and several of the wildlife trusts that operate in the Thames catchment.

A number of our sites are nationally important nature reserves, such as Rye Meads, Dancers End, Glyme Valley (all Sites of Special Scientific Interest) and the London Wetland Centre (LWT). To ensure we are fulfilling our biodiversity duties, we work in partnership with organisations such as the Hertfordshire and Middlesex Wildlife Trust, Surrey Wildlife Trust, Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust and the Wildfowl and Wetlands Trust to look after these sites.

During 2013/14 we also continued to work with London Wildlife Trust as part of the strategic alliance set up in 2012.

7.3 Responsible operations / Community investment

We aim to engage positively with the communities we serve and during 2013/14 we further developed our community investment strategy. This aims to deliver an innovative programme of education and environmental activities, designed to engage our people, customers and stakeholders on key business and environmental issues.

During 2013/14 we:

- Brought together and supported community activities at our nature reserves and fisheries, including open days, volunteering events and school visits
- Consolidated our support for University Technical Colleges leading the London Design and Engineering UTC under development in Newham and supported the programme in Reading and Swindon
- Developed a new community investment programme
- Worked closely with the Thames Water Trust Fund trustees to support poorer customers and communities.
- We have completed the final projects in the Ten for Ten programme. Ten for Ten was our flagship community investment programme where £5m was allocated to community projects and £5m to support our customers struggling to clear arrears on their bills. Read more about the projects that we supported during 2013/14.

7.3.1 Responsible operations / Community investment / Employee involvement

Volunteering activities can have a positive impact not only on the community and environment but also on our employees, whom we encourage to take two 'Time to Give' volunteering days each year.

Our employees are essential in providing a range of voluntary schemes, such as improving woodland habitats and taking part in our Community Speaker Programme. Various activities are also planned with credible community and charitable partners for employee volunteers. We also seek opportunities that are skills-based and aimed at creating leadership skills.

During 2013/14 our employees participated in 1092 volunteering activities through our 'Time to Give' programme – slightly higher than the 1074 in the previous year.

A few of the highlights include:

- Around 200 employees took part in conservation activities working with such groups as Berkshire Buckinghamshire Oxfordshire Wildlife Trust, Wildfowl and Wetlands Trust, London Wildlife Trust, Thames21 and the National Trust.
- More than 180 employees participated in fundraising events for WaterAid to support proper water and sanitation facilities in Bangladesh. This included 45 employees taking part in a five-a-side football challenge, 34 staging our annual pantomime and numerous employees and contractors participating in the 2013 Raft Race.
- 87 staff manned the phones for Sport Relief at our two call centres in Reading and Swindon

- 57 employees helped create an equine therapy centre in Wokingham with a charity called Just Around the Corner
- 54 employees worked in various Reading locations to clean up green spaces as part of Reading RESCUE (Rivers and Environmental Spaces Clean Up Event)

We seek feedback on all events to assess the impact of the activity and further develop and improve our programmes. During 2013/14:

- 100 per cent of volunteers would volunteer again and would recommend volunteering to their colleagues
- 96 per cent of volunteers experienced a positive change in their behaviour and attitude
- 73 per cent of employees improved their work-related skills such as communication, delegation and leadership

"We were really impressed with how everyone threw themselves into the projects, completing so much and to such a high standard - thank you all for making such a difference!"

Site Manager, Camp Mohawk, Reading

"It gave me a chance to give back to the community and work on my personal development at the same time. I really enjoyed providing youth with insights into the professional world. I developed more confidence in leading and resilience during these challenging conversations. I have used time to give back to the community and recommend other colleagues to do so."

Employee taking part in a mentoring scheme organised by Thames Water

7.3.2 Responsible operations / Community investment / Charitable giving

Our Charities Committee meets quarterly to consider applications from external charitable organisations seeking funding. Our employees are also eligible to request matched funding up to £2,000 from the Committee for charities for which they have been raising funds. In addition, we continue to support the Customer Assistance Fund, which supports clearing the arrears of bills for customers who genuinely cannot do so themselves.

During 2013/14 the total level of funding we made available for the Customer Assistance Fund was £2.05m; this helped 3,426 customers, making an average payment of £697. We also financially supported the independent Thames Water Trust Fund, which continues to provide grants for organisations giving specialist debt advice and exceptional hardship awards.

During 2013/14 our employees raised £101,175 for various charities, which received matched funding of almost £88,650. This included employees running Race4Life for Cancer Research UK, participation in Movember for Prostate Cancer UK and a sleep out for Action for Children. Our employees play a key role fundraising for our principal charity, WaterAid.

During 2013/14 we donated £36,615 to 18 charities via grants which supported our criteria of promoting either 'water and the environment' or 'water and health'. Among the organisations receiving grants were:

- The Ahoy Centre – to help purchase materials to construct a new waterman cutter boat through their boat building apprenticeship
- KIDS charity – to provide river trips for disabled children and their carers, helping them to discover and learn about the river environment
- Trees for Cities – to help them plant a new wet woodland along the River Roding
- Pebblebrook Specialist College – to provide their new growing area with rainwater harvesting equipment

“Without Thames Water’s support we simply could not continue to offer services that have such a big impact on the lives of disabled children.”

KIDS charity

Our employees also donated £76,885 through Give as You Earn, our payroll giving scheme, to charities of their choice, including WaterAid.

7.3.3 Responsible operations / Community investment / WaterAid fundraising

We continue to support our principal charity, WaterAid, which was set up by UK water companies. The Thames Water WaterAid Steering Committee sets fundraising targets and strategy each year, and meets regularly to review progress and recognise achievements.

During 2013/14 we remained on track to meet our fundraising target for the third year running by raising £501,005. Half of this funding goes towards Thames4 Bangladesh, a four-year campaign aimed at helping four towns to improve their access to clean water and sanitation.

We work with WaterAid at every step of the way to ensure all the money raised is put to the best possible use. We also visit each of the towns annually to review progress.

We have a calendar of events for fundraising. During 2013/14 our employees ran the following:

- A chilli growing competition where employees competed to grow the tallest and best looking chilli plants, raising £4,800.
- The Big Fat Cheesy Quiz, which raised £24,000 with the help of our contractors.
- Our 17th annual Raft Race, held in Reading to help raise funds for WaterAid. Around 30 teams battled it out on the River Thames, raising £34,000.

Our WaterAid employee lottery, managed by employee volunteers, continues to be very popular. Along with payroll giving, this raised £56,000 for WaterAid.

We include a WaterAid appeal leaflet in our bills, which results in many customers supporting the charity. This is a vital fundraising source, as a significant proportion will continue to donate regularly for years to come. As a result of this year’s campaign WaterAid received £65,000 from new customer donations alone.

7.3.4 Responsible operations / Community investment / Community partnership initiatives

During 2013/14 our programme funded a number of projects, the majority of which were carried out by our partners. We completed the remaining projects under our Ten for Ten programme, which was set up in 2008 to benefit of disadvantaged customers and communities through environmental and educational projects.

London Museum of Water and Steam

London Museum of Water and Steam (formerly Kew Bridge Steam Museum) opened its door in March 2014 on World Water Day, after a £2.3million refresh. We provided seed funding to help secure a Heritage Lottery Fund grant for this development.

The new exhibits take visitors on a journey through time, descending deep down under a floating city of London, past a timeline of pipes, from women at the well, to Hugh Myddleton digging the *New River*, until they are beneath London itself and can see all the pipe and tunnel work needed to keep a modern city going. There are examples of how water was used from the 17th Century to the present day, as well as crawl-through tunnels and walk-through sewers. Outside there is a new *Splashzone*, where children of all ages can make water travel to heights of up to 5 metres with the assistance of a series of specially designed pulleys, levers, sluices and pumps .

The London Museum of Water and Steam houses five original and four other large pumping engines, one of which - the 90- inch Cornish Engine - is the largest example in the world.

“We are delighted to have been able to support the transformation of this museum on the site of the world’s oldest surviving waterworks containing its original steam pumping engines. It has a fascinating story to tell about technical innovation revolutionizing public health right at the dawn of the Victorian era.”

Chair of the London Committee of the Heritage Lottery Fund

Crossness access project

At Crossness sewage works in Bexley, construction of the permanent independent access to the historic Bazalgette pumping station begun in early 2014. It will give visitors to the Crossness Pumping Station dedicated access to the site, via a new footpath, without the need to cross the operational works. We will celebrate its official opening in autumn 2014.

SuDS for Schools

Working with the Wildfowl and Wetlands Trust and the Environment Agency, we improved water quality and drainage at ten schools in the Pymmes Brook catchment in north London. During 2013/14 construction of new urban sustainable urban drainage schemes (SuDS) were completed at the schools chosen for the SuDS for Schools project. Such schemes allow water to drain away naturally rather than entering the local sewer network.

This project is showcasing how SuDS can improve river health and how these schemes can be integrated into school grounds. Read more about the need for sustainable urban drainage schemes and the SuDS for Schools project.

Fobney Island

In 2011 the Environment Agency, Reading Borough Council, Thames Water, and the Thames Rivers Restoration Trust worked in partnership to improve Fobney Island for wildlife and for nature-based recreation. Previously, the site was ecologically poor rough grassland. Now, it is a mosaic of wetlands, wildflower meadows, hay meadows and reed beds.

The project was formally opened and handed over to Reading Borough Council in May 2013 at an event attended by local school children, who took part in activities such as pond dipping and bat making. The local community plays an important role in looking after and nurturing the wetland. A local group has been formed, the Friends of Fobney Wetland Nature Reserve, who have taken on the ongoing management, maintenance and monitoring of the site.

Make a Splash

Our support for the Mayor of London's Make a Splash initiative has continued for a third year, enabling pupils and community users to learn to swim in areas where there is little or no provision for public pools.

"Swimming is a fantastic way to stay happy and healthy and is one of the best forms of exercise known to man. Unfortunately many Londoners do not have access to swimming pools, so I am thrilled that Make a Splash has been able to help tens of thousands of people to take the plunge."

Boris Johnson, Mayor of London

During 2014/15 we will focus on:

- Walthamstow Wetlands – development of a visitor centre and opening the site for public access in conjunction with the local council. This is dependent on a successful Heritage Lottery Funding bid
- Woodberry Wetlands – construction and development of the East Reservoir in Stoke Newington
- Greenway, Ridgeway and New River – work with local councils and community groups to identify necessary improvements to access and safety on three of our largest stretches of land with public access
- Crossness access project – complete the project to provide permanent access to the historic Bazalgette pumping station in Bexley
- New community partnership projects funded through a new *Ten for Ten* style programme including SUDS in Slough, Community Wetlands Days, Creekside Discovery Centre. Criteria for the new programme has been developed and projects need to demonstrate that they:
 - Open up community access
 - Help challenged communities
 - Celebrate our industrial heritage
 - Increase customer water and wastewater awareness
 - Sustainable
 - Attract matched funding from other sources

7.3.5 Responsible operations / Community investment / A focus on education

Our education programme reaches students from primary and secondary schools, and key community and environmental organisations. Whether playing our award-winning engineering game, the Network Challenge, or finding out about saving water in the home and school, our customers have the opportunity to engage with our employees and enhance their learning.

Network Challenge

The Network Challenge is our award-winning engineering game, which challenges school pupils to plan, design and build a real-life water network. During 2013/14 we visited 13 schools to stage Network Challenge events – more than ever before. Over the year almost 1,000 students in Reading, Newham, Waltham Forest, Hounslow and Central London took part. We used the challenge to support specific projects promoting engineering among girls. In east London, girls on the Emerging Scholars Intervention Programme (<http://www.esipforest.org.uk/>) took part, aided by employees from our Lee Tunnel project team.

“I have learnt to be more confident about my ideas and to be able to take on a role and achieve it.”

“I have learnt how to think of alternative ideas if the main idea did not go to plan.”

Participants on the day

We also held a Network Challenge for girls in the Bexleyheath area as part of a wider project, ‘Get girls into engineering’, supported by local MP Teresa Pearce. The girls also had a tour of one of Europe’s largest sewage treatment works, Crossness, and spoke to female professionals from Thames Water about their careers in engineering.

Skills and careers

We are supporting three University Technical Colleges (UTCs) which provide a core curriculum alongside a more focused learning approach on engineering. The UTCs, which cater for students aged 14 to 19, offer a greater link between business and schooling and are supported by local employers. We are lead business sponsor of the London Design and Engineering UTC, due to open September 2015. We have been working with the project team on the design of the new college premises, development of the curriculum, appointment of the principal, and marketing the UTC to potential students, parents and employees and fundraising.

At UTC Reading, which opened to students in September 2013, we have been working with students to engage them with engineering activities such as our Network Challenge. We have also taken part in taster events, promoting the college to potential students, and hosted a visit for a group at Slough sewage treatment works. We are continuing to support curriculum development through our involvement in the UTC’s STEM hub, as one of a number of businesses keen to engage young people in engineering. We plan to offer similar support to UTC Swindon which also focuses on engineering.

Community speaker programme

We have a wide network of volunteer speakers from across the business, who talk to schools and community groups about water and related topics. Over the last year we reached more than 7,500 people

in London and the Thames Valley. These were mostly primary and secondary school audiences (totalling 71 per cent of the whole audience) with the rest made up of community groups and colleges.

We were pleased to receive positive feedback from the schools. The most popular subject was water efficiency closely followed by 'the business of water – clean and waste treatment'.

"The pupils really enjoyed the talk and it provided good awareness about saving water and not wasting it. The water cycle section of the talk linked in really well with the pupils' science topics." "The children found their talk very interesting and learnt a lot from it."

School feedback

STEM on the Thames

Our Thames Tideway Tunnel Team launched a new project during National Science and Engineering Week 2014 called 'STEM on the Thames'. Almost 300 students took part in a range of events aiming to inspire young Londoners in engineering- related careers. Eleven secondary schools from eight London boroughs participated in the events. STEM on the Thames was a busy and ambitious programme, which relied on the help of some 35 volunteers from across the project that devoted a total of 180 hours to supporting local schools.

"A great session to highlight what is actually meant by 'engineering'. It enhanced the students understanding of the importance of science in everyday life and opened them up to career possibilities. All the volunteers were great."

School participant

Education programmes on our sites

Thames Water Angling Academy, Walthamstow Reservoirs

After its first full year in operation, our angling academy promoted water efficiency, good citizenship and environmental learning to 336 people from a number of charity groups and schools which offer extended learning. The interest in the academy saw programmes delivered to St Mungo's recovery college, London Islamic Women's Group, Lough Road Community Respite Centre as well as many schools whose pupils require disabled access.

During 2013/14 the academy also received support from Get Hooked on Fishing, which is the UK's largest fishing charity – a relationship that will continue to grow.

"The sessions at Thames Water's angling academy gave the children a better understanding and appreciation of the water cleaning process and learning how, in only a year, the academy pond has become accessible to all with a thriving eco-system to see first-hand."

Zaida Hussain, teacher, Islamic Women's Group London

"As a national angling charity, Get Hooked on Fishing is delighted to be working with such a forward thinking water company. Thames Water recognises the inherent value its waters hold as being vehicles for accessing the personal, social, community, educational health and well-being benefits of angling and the environment."

Sarah Collins, CEO, Get Hooked on Fishing

Education centres

Our three education centres at Didcot, Slough and Hogsmill sewage treatment works continued to provide an informative and fun education experience for school children, attracting a total of over 2,300 visitors during 2013/14.

The new education centre at Maple Lodge sewage works, near Rickmansworth, welcomed its first visitors in May 2014.

During their visits, students learn about the water cycle, water efficiency and our 'Bin it, don't block it' campaign. They also have the opportunity to carry out engaging experiments in our on-site classrooms.

"The visit fitted perfectly with our recent work on water as part of our Green Flag renewal process and it has also made us all think about what we put down the loo. It was a brilliant learning experience."

Visiting teachers

"Thank you very much for showing us how you turn dirty water to clean water and where poo goes." "We learnt a lot and enjoyed the experiment."

Visiting students

Our education centres have also supported a range of other community groups and events. For the second year running we supported the Oxfordshire Science Festival by opening the Didcot tour for a public open day. We also welcomed visits from university groups, youth groups such as scouts and guides, and from the University of the Third Age.

Hogsmill sewage treatment works has been able to combine visits to the operational site along with visits to the nature reserve so schools have had an additional opportunity for learning while on a Thames Water site.

7.4 Responsible operations / Access recreation and heritage

We manage more than 100 sites with public access across London and the Thames Valley. Whether it is fishing from a boat on Farmoor Reservoir, pond dipping at the London Wetland Centre, or bird watching at one of our internationally recognised nature reserves, we have a programme to put our sites to the best possible community use.

Flagship projects

Walthamstow Wetlands

The development phase for the Walthamstow Wetlands project at our Walthamstow reservoirs has now been completed and the stage 2 submission for Heritage Lottery Funding was made in March 2014. The stage 2 submission included fully costed designs, management and maintenance plan, activity plan and a 10- year business Plan.

The project includes the refurbishment of the Marine Engine House to create a café, exhibition space and an educational classroom, alongside a network of paths and two new access points to allow people to enjoy the site. Habitat creation and enhancement are also planned, to improve and enhance the biodiversity on site. A decision on the Stage 2 submission is due in the summer of 2014. If successful we hope to start work on the ground this year, with a view to opening in 2017.

Woodberry Wetlands

In March 2014 the Stage 2 submission for Heritage Lottery Funding for the delivery phase was approved. This project, in Stoke Newington, is being delivered in partnership with the London Wildlife Trust, who will be starting the project on the ground later this year. The focus is on the renovation of the Gas House building into a community space and visitor centre. The entrance will be via a floating board walk through reed beds on our reservoir.

7.4.1 Responsible operations / Access recreation and heritage / Access to our sites and recreation

Angling and nature reserves

Farmoor and Walthamstow reservoirs are now regarded as some of the best fly fishing and carp fishing venues respectively in the UK. We supported a number of charitable events as well as providing help in developing angling both nationally with the Angling Trust and Environment Agency and locally with clubs and conservation groups. A number of clubs lease our smaller bodies of water; they too worked closely with us to develop the quality of angling, habitat and usage agreements.

During 2013/14 changes were made to the opening ours of Farmoor and Walthamstow as a result of consultations with customers, who felt that some of our opening and closing times were often not conducive to 'good' fishing.

Farmoor Reservoir and fishery

Farmoor is now being cited as one the second best reservoir for trout fishing in the UK with many comments about the trout being the best eating in the country. We often receive letters of praise from first- time visitors,

and return visits are becoming very common from anglers as far afield as Yorkshire and Cardiff. It is also an approved site for the Angling Trust's Young Talent Pathway, which develops young fly anglers for the national fly fishing team.

During 2013/14 we had over 15,900 visits, made up of day ticket and season ticket visits, walkers, sailors and bird watchers.

Walthamstow Reservoir and fishery

The last year saw a considerable rise in popularity for the coarse fishing at Walthamstow in the angling press; the site was, voted runner-up in the South East's best fishery award by the Anglers Mail editor and featured in several angling TV programmes and DVDs. A number of charitable fish-ins were facilitated and supported including hosting the British Carp Angling Association Qualifying rounds, the Armed Forces carp matches and the Walthamstow Fly Fishers WaterAid match.

Walthamstow Reservoir saw over 23,000 anglers and almost 7,000 bird watchers during 2013/14.

Sailing

We have maintained good relationships with sailing clubs on our reservoirs have been maintained with open days, pontoons and safer landing stages all positively supported. The sailing clubs at Farmoor hosted over 5,000 visitors during the year, demonstrating the popularity of both sailing and windsurfing at the reservoir.

Nature reserves and wetlands

During 2013/14 we continued to work closely with various organisations to develop and maintain our nature reserves, from Wiltshire Wildlife Trust through to more local environmental groups such as the Maple Lodge Conservation Society and Friends of Surbiton Lagoon.

The improvements have enabled us to develop more opportunities for user groups to enjoy these sites – such as local schools and beekeeping groups – and to instigate opportunities for local volunteer services.

Hosting events

During 2013/14 we hosted events on several sites with the aim of encouraging customers to understand more about what we do and get close to our rich and unique heritage.

London Open House

We took part in London Open House, a city-wide celebration of architecture, people and places. The event, held in September, featured more than 800 buildings. This forms part of our ongoing commitment to opening our sites to the public where possible.

We once again opened the doors of a number of our heritage site and were pleased to welcome over 900 members of the public to sites including Abbey Mills, King George V pumping station and the historic Oak Room at New River Head, the former headquarters of the Metropolitan Water Board. Many visitors were surprised that we were custodians of such structures, and pleased that our employees were willing to give up time to manage this event.

"I wanted to tell you what a magnificent visit we had this morning and to thank you most warmly for arranging it. Abbey Mills more than fulfilled our hopes and it was a truly extraordinary experience to see such a great example of 19C architecture, engineering and forward thinking. The builders and designers would be proud that it still serves London and with much of the infrastructure having stood the test of time."

Patricia Morberly, visitor to Abbey Mills

Four hundredth Anniversary of the New River

The New River celebrated its 400th anniversary (quadri-centennial) in 2013. Site improvements were carried out along the New River path including new gates, signage and improvement to Chadwell Springs and we have also supplied communications to museums.

We worked with a number of stakeholders across six local boroughs to support their plans for the anniversary:

- Ware Museum, Enfield Museum and Bowes Park Exhibitions
- New River Guided Walks, London Wildlife Trust, London Borough of Hackney
- Sponsored Walk, Water Conservation Trust, Ware to Broxbourne, Hertfordshire
- Re-publication of "The New River Head" by G.F. Stringer, Amwell Society
- New River Festival, London Borough of Haringey.

King James 1st authorised the construction of the New River in 1604. He provided half the costs of the works upon the condition that he received half the profits. The New River was officially opened on the 29th September 1613.

"The money we raise (on the sponsored walk) will be used to support the Trust's expanding Schools Programme to enhance water-related science and environmental education in our schools. This helps to encourage more of our children to consider a career in science, particularly the water industry, to help secure the future of London's water supply following in the footsteps of Sir Hugh Myddleton 400 years ago. Our Schools Programme also involves working closely with Thames Water to encourage thinking about water efficiency and care of the environment at an early age."

Colin Bland, chairman of the Water Conservation Trust

Kempton Steam Railway

In May 2013, our Chief Executive Officer Martin Baggs officially opened the Hanworth loop on the new Hampton and Kempton Waterworks Railway. The pumping engines at Kempton water treatment works were once connected to the River Thames by a narrow gauge railway which supplied the coal and distributed sand to the filter beds. It connected all the pumping engines at Kempton and Hampton so that they could be supplied from the river or from a standard gauge railway at Kempton via the Shepperton branch. The line which was more than three miles long was built in 1916 and closed about 1946.

7.5 Responsible Operation / Protecting our habitats and heritage

We occupy a region that is incredibly rich in wildlife habitats and heritage. This influences how we run our business through a legal obligation to ensure that we conserve specific habitats, species or historical assets.

There are two ways in which we might encounter legally protected wildlife or heritage sites during our daily operations: we either own a protected site or have to pass through one while maintaining and improving water and wastewater services.

During 2013/14, we assessed the ecological, archaeological and cultural heritage impacts of 179 construction projects at 362 sites.

Projects may involve laying new pipelines, repairing water pipes and sewers or upgrading existing treatment facilities. Our screening team, engineers and contractors work collaboratively when planning new schemes, with the aim of avoiding or minimising any negative impacts on the environment.

Screening process

We use a specialist in-house geographical information system and biodiversity database to help check prospective work areas for important wildlife, habitats, and archaeology and heritage sites. At this initial stage, the detail we look for ranges from listed buildings and scheduled monuments to local nature reserves and Sites of Special Scientific Interest (SSSIs).

The finer details of the project are then assessed by carrying out field surveys. This gives us an opportunity to examine the proposed working areas for more specific clues about the presence of legally protected or rare species such as the great crested newt, and to assess any potential impact to habitats such as trees and hedgerows.

If necessary, we will consult local biological records centres and historic environment records for further information about the ecology and heritage within and surrounding the proposed working area.

Additionally, we will liaise with statutory and non-statutory bodies, such as English Heritage, Natural England, the National Trust, local wildlife trusts, and county and borough archaeologists, to avoid impacting particularly sensitive sites or species.

We aim to minimise our impacts on the natural and historic environment. Our in-house team of specialists are on hand to provide advice when required, and helps us build relationships with the partners who help look after the ecology and heritage on our sites. Read more about some of the interesting biodiversity and ecology discovered on our sites_during 2013/14.

7.5.1 Responsible Operation / Protecting our habitats and heritage / Habitats and Ecology

We work with our ecology partners to protect and enhance our sites, whilst strengthening our regulatory approach to ecology.

Highlights from 2013/14 include:

Crossness water voles

As part of our upgrade to Crossness sewage treatment works in Bexley, we carried out habitat enhancements for the resident water vole population, which was temporarily relocated whilst construction work took place. Three new lagoons, a reedbed, an extended wader scrape and several new ditches have been created, and have already attracted water voles and wetland birds.

Resident bats found roosting in buildings

We have conducted a number of bat surveys ahead of routine maintenance projects on some of our buildings. As a result a number of bat roosts have been discovered at sites in Berkshire, Gloucestershire and Oxfordshire. Bats and their roosts are legally protected and ongoing surveys and mitigation are required before any maintenance can be carried out to buildings containing roosts.

Aylesbury nature reserve

We plan to create a nature reserve at Aylesbury sewage treatment works.

It will incorporate a bird hide and nesting boxes, and will involve the management and conservation of existing flora and fauna which, including badgers, barn owls and kingfishers, plus many breeds of wild fowl and reed-meadow based birds, invertebrates and reptiles.

The reserve will be run by our on-site team and members of the community, and will be accessible to local residents and interest groups

Great crested newts at Bracknell sewage treatment works

Bracknell sewage treatment works is one of our strongholds for great crested newts and has also been the subject of a large-scale development project. We worked to ensure the development did not have a negative effect on the newt population. The development work was completed last year.

Riverside water voles

Riverside sewage treatment works, at Rainham in Essex, welcomed back a number of legally protected water voles, which had been removed from the site in 2011 to make way for a large construction project. The voles were taken to a captive breeding centre in Kent, where they were looked after until their new wetland home was ready.

7.5.2 Responsible Operation / Protecting our habitats and heritage / Archaeology and cultural heritage

We work with our heritage partners to tell the story of our historic buildings and infrastructure, engaging our customers, community and employees about our history, while strengthening our regulatory approach to heritage.

Highlights from 2013/2014 include:

Bronze Age farming community confirmed at Wroughton

Archaeological excavations on a new pipeline serving a housing development in Swindon discovered a late Bronze Age site, incorporating grain storage pits, pottery, flint and bone tools and even the skeleton of a cow.

Four hundredth anniversary of Sir Hugh Myddelton's masterpiece – still an essential part of London's water supply

During 2013 the New River, which brings drinking water from Hertfordshire to north London, celebrated its 400th anniversary. The aqueduct still carries up to 220 million litres every day for treatment – eight per cent of London's daily water consumption.

The impressive feat of engineering was completed in 1613 at an estimated cost of £18,500. It is as important today as when it was conceived and built so well by Hugh Myddelton and his team all those years ago.

First central London reservoir for more than a century, and striking Victorian architecture

We were treated to a rare glimpse below the surface of Hampstead's Kidderpore reservoir when contractors began replacing the roof last summer to reveal the original arches that were built in 1867.

This fantastic Victorian architecture was being filmed by BBC London as part of a story on water resources in London. Once the work is completed in early 2015, the original reservoir will be back up and running to supply 11,000 local properties and hold 12 million litres of water.

Celebration to mark 125 years of sewage works engine

The restored Markfield beam engine from Tottenham sewage treatment works was set to fire up for its 125th anniversary this year. The restored Grade II listed engine house and parts of the settling tanks are all that remain of this sewage works and the site is now a working steam museum and cafe.

Located a few yards from the River Lea towpath between Stonebridge Lock and Springfield Marina in Markfield Park, it was originally constructed in 1888. The treatment works were operational until 1964, when all the incoming sewers were diverted to the extended East Middlesex Works at Deephams, Edmonton.

Museum is steaming ahead

A museum housing some of the rarest steam engines in the world reopened with our help. The London Museum of Water and Steam (formerly Kew Bridge Steam Museum) is one of London's most significant Victorian visitor attractions. Following the £2.3m refresh, it opened its doors on World Water Day, Saturday 22 March 2014, to showcase working steam engines in their original location.



5 Climate change

Due to the exceptional winter rainfall, we had to pump significantly more wastewater through our sewers than during a typical winter, as a result our energy consumption during 2013/14 increased. Of the 1286GWh of electricity we used to pump and treat water and sewage 12.7% was renewable electricity we produced ourselves. This is essential to our approach to providing a more sustainable service for our customers.

Understanding and addressing the causes and adapting to the inevitable consequences of climate change are therefore a key element of our business planning. Historical greenhouse gas emissions mean that some climate change impacts are unavoidable; these will emerge as variations in weather patterns and increased frequency of droughts and other extreme weather events. We carefully review where and when we source water, the capacity of our sewers and protecting our sites against flooding.

Despite an increase in our energy consumption, our greenhouse gas emissions fell from 770 kilotonnes of carbon dioxide equivalent in 2012/13 to 739. This was predominantly due to a change in the carbon intensity of grid electricity and the delivery of almost 30 GWh of new energy efficiencies across our business.

We know we must act now to find solutions that balance competing environmental, social and economic demands in a more sustainable way. It is a central theme of our five-year Business Plan from 2015-20 which outlines how we aim to reduce our contribution to greenhouse gas emissions and adapt to its effects.

During the year, we have continued to work closely with a wide range of organisations in developing our response. We have worked with a range of organisations leading the debate, including The Aldersgate Group, Defra, the London Climate Change Partnership, Climate Change Committee's Adaptation Subcommittee, the Customer Challenge Group and the Prince of Wales's Corporate Leaders Group on Climate Change.

5.1 Climate change / Adapting to climate change

The impacts of climate change often appear to be something that will happen in the distant future. However during the past year we have all experienced weather events that are different to what we might have expected.

The 2013 UK winter was severely affected by an exceptional run of winter storms, resulting in widespread persistent flooding. Although no individual storm was regarded as exceptional, the clustering and persistence of the storms is highly unusual. For England and Wales this was one of, if not the most, exceptional periods of winter rainfall in at least 248 years. The December and January rainfall total of 372.2mm for southeast and central southern England, our customer catchment area, was the wettest any 2-month period in the series from 1910. Before this in 2012 we had to deal with the consequences of a 2 year drought which then transitioned into the wettest year on record in England. This illustrates the type of weather we may experience in the future due to a changing climate.

We recognise we need to deliver appropriate adaptation measures to protect public water supplies and the environment in the future. This means building and maintaining our understanding of the implications and impacts of weather and climate change – making decisions based on sound science.

Climate change is one of many risks that could impact on the customer service we are able to deliver. We have also been working with Ofwat, the Environment Agency, other water companies and academics to understand the impacts of climate change in terms of resilience to natural hazards to understand the effectiveness of our plans to respond. In 2013 we published 'Our long-term strategy 2015 – 2040', a 25-year forward look at issues for the business. We identified potential climate change impacts and actions needed to ensure we mitigate and adapt effectively and responsibly.

Our key issues can still broadly be described:

- Water resource planning (to protect the security of future water supplies such as rivers and groundwater)
- Sewerage design and capacity
- Resilience of our assets to flooding.

Our business plan for the period 2015-20 reflects future climate is likely to be different. We are continuing to work with the Environment Agency, Ofwat, the UK Climate Impacts Programme (UKCIP), UK Water Industry Research Ltd (UKWIR) and key academics to establish how best to apply the UK Climate Projections 09 (UKCP09) to water resource planning.

Flood resilience

By 2015 we plan to have checked and dealt with flood resilience at 17 sites both clean water and wastewater sites. During 2013/14 we completed improvements at 4 water sites. In the next year we intend to complete flooding resilience projects at a further four sites. All of the locations where we have delivered



increased flooding resilience since 2010 remained operational during last year's flooding event, ensuring a more sustainable supply.

Flood resilience is a critical issue for us. To understand the risk of flooding and therefore potential impacts on customer service carried out a detailed assessment of our sites and assets to flooding using the most up to date information available. We have assessed the flood risk potential at almost 7000 clean and wastewater sites or key assets. For the sites that are currently at risk of flooding today, we have identified potential solutions and put these forward in our business plan submission to Ofwat, our regulator. We reviewed these proposals in light of our experience during last winter's flooding event.

Reporting on adaptation

We intend to update Government on our actions to understand and respond to climate change in 2015 and also identify actions we intend to take to improve our overall resilience to climate change impacts until 2020.



5.2 Climate change / Mitigating climate change

We are committed to reducing our contribution to climate change and aim to reduce emissions in accordance with government policy, the Carbon Reduction Commitment Energy Efficiency Scheme and the Climate Change Act 2008. Our voluntary target is to achieve a challenging 20 per cent reduction in emissions (compared to 1990 levels) for our scope 1 and 2 emissions*.

To achieve our target we will undertake a range of activities in addition to the projected decarbonisation of grid electricity:

- Deliver further ongoing energy efficiencies.
- Increase our capacity to generate renewable energy, including new Combined Heat and Power (CHP) capacity, CHP enhancement, Photo-voltaic and wind power.
- Continue to invest in low carbon operational processes and assets.
- During 2013/14 our carbon emissions totalled 739 KtCO₂e. Increased electricity consumption in 2013/14 from the previous year has occurred due to increased pumping and treating of wastewater. This has been impacted by significant rainfall and flooding during the year.

**Scope 1 emissions refer to greenhouse gas emissions associated with the operation of our assets. Scope 2 emissions are emissions associated with the use of grid electricity.*

5.2.1 Our carbon emissions

We have set ourselves the challenging target of cutting our greenhouse emissions (CO₂e – carbon dioxide equivalent) by 20 per cent by 2015, compared with 1990 levels, for the emissions associated with our operations and electricity and natural gas use.

There are two elements to our greenhouse gas emission reduction plans:

- I. Actions that are under our control that we as a company can take to reduce or avoid energy consumption or increase renewable energy generation and
- II. Actions that are being delivered as a consequence of Government policy such as the decarbonisation of the grid electricity we consume.

We will deliver those actions that are under our control such as becoming more energy efficient but we have assumed that grid electricity intensity – the amount of carbon used in generating it – will decrease in line with projections in the Government's Low Carbon Transition Plan. Looking forward, due to changes in the carbon intensity of grid electricity achieving our carbon reduction goal in 2015 looks challenging but we will continue to use our best efforts to achieve it.

Since 2007/08 we have reduce our overall consumption of energy by almost 5 percent from 1348 GWh to 1286 GWh. Of the 1286GWh of electricity we used to pump and treat water and sewage last year, 156 GWh

was renewable electricity we produced ourselves. In addition to the renewable electricity we generated we also produced 75 GWh of renewable heat energy which helped reduce our reliance on natural gas and gas oil.

Carbon impact of delivering customer service

Service	2012/13	2013/14
Water service - kg of CO ₂ equivalent emissions per MI of treated potable water	293.2	270.9
Wastewater Service - kg of CO ₂ equivalent emissions per MI of treated wastewater	266.1	272.5

The emissions associated with delivering a mega litre (MI) of drinking water have decreased by 22.3kg of CO₂ equivalent emissions per MI compared to 2012/13. The emissions associated with the delivery of wastewater services have, however, increased by 6.4kg per MI between 2012/13 and 2013/2014.

5.2.2 Managing our carbon footprint

We generated 156 GWh of renewable energy at our operational sites. We used 154-GWh of this electricity ourselves and exported the remaining 2 GWh to the National Grid. In total, 12.7 per cent of our electricity needs were covered by self-generated renewable electricity.

During 2013/14 we increased our renewable energy generation capacity by 4.6 MW. Here are some of the key initiatives we delivered during the year:

- We installed new wind turbines at our two largest sewage works, in east London. In the right weather conditions, the turbine at our Beckton works and its counterpart at Crossness will each be capable of generating 2.3 megawatts.
- We won Carbon Reduction Initiative of the Year at the national Water Industry Achievement Awards for an innovative scheme at Lower Basildon sewage works, where we used specially planted reed beds to filter wastewater, removing the need to import power to the site. This is a good example of where innovative thinking has not only saved energy; it has also had a significant impact on the environment providing a new habitat for wildlife. Read more about wildlife on our sites. [LINK TO Wildlife](#)
- We refurbished 29 large water pumps, on top of our normal replacement programme, to improve their efficiency.
- We completed work at our biggest 24 sites to fit dozens of 'sub-meters' at each location, allowing staff to monitor where the most power is being used and take action to reduce it. These sites use 65 per cent of our total power consumption.
- We have reduced the amount of power needed at sewage works for aeration, in which we bubble air through the sewage to encourage its natural breakdown. This 'activated sludge' process treats about 80 per cent of the waste produced by our 15 million sewerage customers. The large amount of energy

required is due to the low solubility of oxygen in water. We aim ultimately to reduce aeration power costs by up to half through a range of methods.

- In the last year, we made successful changes at six sites, including control enhancements at Little Marlow sewage works.
- We sponsored and participated in Climate Week, a national campaign, to raise awareness of the role our employees and contractors each play in tackling these issues. This involved competitions, volunteering events and events both in the workplace and schools and community groups.
- Between 2010 and 2015 we are investing £250m in renewable energy from sewage sludge by installing industrial scale pressure cooker like equipment – Thermal hydrolysis process (THP) plants. These THP plant will condition sludge to produce biogas which can then generate more electricity to help power our treatment plants and reduce greenhouse gas emissions. This will have the added benefit of reducing the volume of treated sludge and also the cost of beneficial disposal. This investment will help us achieve our target to self-generate renewably over 33% of our annual electricity requirements by 2020.

During 2013/14 we delivered 29.8 GWh of new energy efficiencies at our sites and over the past two years this is almost 50 GWh. This is the equivalent of enough energy to power 15,000 houses.

Looking forward

By the end of 2014/15 we forecast we will have delivered over 140 GWh of energy efficiencies, to mitigate against climate change, increased populations, and higher wastewater treatment standards.

We plan to:

- Complete installation of our THP plants at five sites, enabling us to produce more renewable energy. Start using our new sub-metering systems on our top 24 sites to identify further efficiency opportunities.
- Complete major pumping efficiency upgrades at two key sites, Hampton Water Treatment Works and Littleton Raw Water Pumping Station.
- Complete the first phase of our LED lighting programme, upgrading almost 7,000 fittings across 11 sites.
- Deliver improved control of four more aeration sewage treatment processes, including at Beckton, our largest works.

5.3 Climate change / Working with others

Our employees play an essential role in our journey to becoming more sustainable, we also want to make it easy for our teams to make more sustainable choices. We also work with others to create opportunities to deliver key energy efficiency messages and develop engaging programmes.

During 2013/14 we sponsored and participated in Climate Week, delivering sustainable travel days at two of our key sites, Kemble Court and Clearwater Court in conjunction with Reading Council, to promote active travel and public transport, supporting their efforts to reduce traffic in the centre of Reading. We also ran various competitions and drop in days to provide information on own approach to energy and water efficiency – and the simple steps that employees can take both at work and at home.

We have continued to work closely with a wide range of organisations to tackle the issue of climate change and lead debate, including The Aldersgate Group, Defra, the London Climate Change Partnership, Climate Week, the Climate Change Committee's Adaptation Sub-committee, the Customer Challenge Group, the Prince of Wales's Corporate Leaders Group on Climate Change WaterUK, UKWIR and leading academics.

We continued our partnership with Irrigatia, to provide our customers and employees with the opportunity to buy an energy efficient watering system at a discounted rate. This system uses rainwater that been collected in a water butt and powered by solar panels; the system helps save water, energy, carbon and money.

We hosted a water and energy-efficiency road show with British Gas who we have entered into a long-term partnership with. Together we will offer water-saving devices, including shower heads, Hippos to reduce water used in toilet-flushing, tap inserts to aerate water and four-minute shower timers.

"Using less water makes energy-saving sense too, because around a third of all the energy we use in our homes every day goes on heating water. So if we use less water, we use less energy - and we spend less on bills."

Piers Clark, Commercial Director Thames Water

We have actively been working with Mitie, our facilities services provider to identify and deliver ways to reduce water usage and improve water and energy efficiency across our operational sites and buildings.



3 A precious resource

Every day we supply on average 2,600 million litres of drinking water to around nine million people across London and the Thames Valley. In London most of the water we treat comes from rivers, while outside London water is mainly taken from underground aquifers via boreholes.

We have a responsibility, and statutory duty, to provide reliable supplies of safe drinking water to all our customers. We aim to do this with as little impact as possible on the environment, meeting the needs of a growing population, adapting to a changing climate and keeping bills affordable for our customers.

Our strategy is to manage demand to the greatest extent possible, including:

- Making further reductions in leakage
- Moving progressively to becoming a fully metered company
- Actively promoting the wise use of water by our customers.

Current projections highlight that this will be insufficient to bridge the gap between water supply and demand in the longer term, therefore we will need to develop new water resource options that provide overall best value for customers and the environment in the longer term.

3.1 Precious Resource / Clean and safe drinking water

We delivered industry-leading water quality in 2013, passing 99.99 per cent of stringent UK and European standards. Our drinking water remains among the best in the country. To maintain these high standards we carry out tests on water samples routinely collected from our treatment works, service reservoirs and randomly selected homes and businesses.

We provide an average of 2,600 million litres of drinking water to our customers every day, sourcing untreated water from rivers and boreholes, treating it at one of our 102 water treatment works and distributing it to our customers through our network of water mains.

In 2013 we carried out more than 450,000 tests on samples taken from source to tap. We achieved a compliance score of 99.99 per cent – our highest – against stringent UK and European standards. This was up from 99.97 per cent in 2012 and placed us top among water and sewerage companies.

This high performance follows a number of improvements in recent years, such as replacing ageing mains in Chipping Norton and lead pipes in Enfield, which has led to fewer local issues with water quality. We also have an ongoing programme of upgrades to parts of our water treatment processes – including refurbishing slow sand filters – which has enhanced supplies.

The number of customer contacts related to drinking water quality remained at a very low level, falling from 0.69 per thousand people in 2012 to 0.60 in 2013 – better than the industry average of 1.91.

However, we need to improve our performance against the Drinking Water Inspectorate's 'reservoir integrity index', which monitors the quality of samples taken from storage reservoirs. In 2013, 99.93 per cent of samples passed the relevant tests. Although this is an improvement on 2012, it is not as good as we believe it should be, and we have a range of measures in place to improve our score.

We have also begun studies to explore more sustainable ways to reduce the volume of pollutants, such as pesticides, that can enter the rivers and groundwater sources from which we take water. This approach, called 'catchment management', aims to lessen the impact on our water treatment processes.

For example, monitoring has allowed us in some cases to avoid taking water from the Thames and other rivers into our water treatment works when we know pesticide levels are high due to run-off from agricultural land. While demand requirements mean this is not always possible, we have seen a significant reduction in samples above the European Union drinking water standard for pesticides.

We have been studying watercourses to identify 'hotspot' areas with high concentrations of potential pollutants. In 2013/14, this enabled us to focus on individual rivers, including the Evenlode, a tributary of the Upper Thames. We aim to widen this approach from 2015 to include all rivers that supply our treatment works.

This will help us decide where to target physical barriers, such as ditches and ponds, to reduce run-off from agricultural land, and where to work with farmers to reduce the impact of pesticide application. By tackling the problem of pollution at source, we aim to avoid the need for costly and complex water treatment processes.

We have continued with our programme of lead pipe replacement and last year replaced more than 10,400 pipes, keeping us on target to meet our five-year plan and our long-term strategy to meet the recently tightened lead standard.

3.2 Precious Resource / Promoting our product

We have been campaigning for the reduced use of bottled water through our 'Fit to drink!' campaign in collaboration with London Sustainability Exchange. We launched the initiative after research showed that some customers, particularly amongst immigrant communities, were buying bottled water, as they were unaware they could drink tap water.

Fit to drink!

In January we launched our brand new resource for primary schools, Fit to drink!, which promotes drinking tap water to youngsters. The resource is available for free from our website (www.thameswater.co.uk/schools) and includes a film featuring Olympic gold medallist rower Andy Triggs Hodge in training. An interactive game and downloadable activities complete the pack.

Make a Splash

Our involvement in the highly popular Make a Splash swimming programme in London has continued this year with our support to provide water for temporary pools in community and school locations. The initiative is part of the Mayor of London's Olympic Legacy programme, which aims to increase participation in sport.

During 2013/14 more than 7,000 people from deprived communities in London made use of the pools and the opportunity to have lessons from ASA- qualified swimming instructors. School sessions catered mainly for pupils aged seven to 11, but ranged from nursery schools to sixth formers. Community sessions included parent and child lessons, women-only sessions and family fun. Feedback from the programme has been highly positive.

"Our children and our community have really benefitted from the opportunity to swim regularly and have been supported by highly qualified and competent instructors.....Over 400 of our pupils have now benefitted from regular swimming tuition, not to mention all of the other local schools involved. It has had an appreciable and immediate effect on the children's confidence and enjoyment of swimming."

Head Teacher of local school

Hydrachill

Pupils at Eversley Primary School in Enfield took delivery of a Hydrachill machine, after winning our 2013 competition to design a new water bottle. The machine was first prize in our Fit to drink! Competition and is now providing chilled tap water for children at the school.



A Hydrachill machine has also been installed within the refurbished Museum of Water & Steam in Kew. Visitors will be able to fill up their water bottles free of charge or pay for a water bottle and fill. Sales of the bottles will provide a revenue source for the museum.



3.3 Precious Resource / Ensuring we have sufficient water resources

Pressure on local water resources is widely recognised and the South-East is designated by the Environment Agency as an area of “serious water stress”. We must strike the right balance to ensure there is sufficient water for society and the economy without causing damage to the environment.

Water Resources Management Plan

Every five years we produce a Water Resources Management Plan explaining how we aim to ensure we can meet the demand for water over the next 25 years.

During 2013/14 we engaged with customers as we developed our strategy for the period from 2015 to 2040 to ensure we understood and took account of their views and priorities. We received 350 responses to our formal consultation on the draft plan.

In the first five years of our plan, we intend to mainly focus on reducing demand for water and set out the following activity:

- We will continue metering all connections across our region. We will install 900,000 new ‘smart’ meters in London by 2020, and extend this across our whole region by 2030.
- We will reduce leakage further, aiming to cut levels by 59 million litres per day to 606 million litres per day by 2020. Our long-term target is to bring this figure down to 556 million litres per day by 2030.
- We will extend the promotion of water efficiency activity to help customers use water wisely.
- We have agreed new water trading agreements and will develop new small groundwater schemes.

In the longer term we forecast that we will need significant new resources in the late 2020s. We are exploring a wide range of options to provide additional resource including innovative solutions such as reusing treated wastewater, desalination of saline and brackish water, transferring water between companies and regions, and more traditional solutions such as additional storage in reservoirs. We will work with stakeholders and customers over the next five years to study the leading options and identify the best one. This resource development may be a solution to meet the needs of the wider South-East. We will continue to work with other companies to ensure there is integrated water resource planning at a regional level.

3.4 Precious Resource / Ensuring security of supply

We have a responsibility to ensure we have sufficient water to meet our customers' demand for water. Our regulators monitor this using the 'security of supply index'.

We use the security of supply index to measure our ability to meet customers' demand, even in hot dry weather. We compare the amount of water available in a dry year with likely demand to ensure we do not have to impose restrictions on water use, such as temporary use bans, more often than in our agreed levels of service.

The security of supply index is assessed over a full year (annual average) and over a peak week which occurs in the summer (peak demand). The maximum score that we can achieve is 100, which means that we will not need to impose restrictions more frequently than in our agreed in our levels of service.

The security of supply index calculated on the basis of the annual average is 100. We have achieved this maximum level for the last four years. This means we should never have to apply severe water restrictions but may still need to introduce a hosepipe ban during really dry conditions.

Our index score for the peak demand has dropped to 99. This was due to a small shortfall in Guildford water resource zone. This arose as a result of more pumping to meet high demand in the summer, to ensure customers were kept in supply. This caused more leaks and bursts in the area, which already had heightened leakage levels. We are reducing leakage further in Guildford to prevent this issue recurring.

3.5 Precious Resource / Abstractions and low flows

About 70 per cent of our water comes from rivers and the remaining 30 per cent from groundwater sources. The removal of this water, a process known as abstraction, is regulated by the Environment Agency through its abstraction licensing process. During 2013/14, we achieved 99.91 per cent compliance with our daily licenses.

Compliance with daily licenses for public water supply (per cent)

Year	2009/10	2010/11	2011/12	2012/13	2013/14
Daily abstraction	99.89	99.97	99.93	100	99.91 ¹

Abstracting water in some areas can contribute to low flows in rivers, which can be ecologically damaging. During 2013/14 we continued to work with the Environment Agency as part of its programme to reduce low flows in rivers. This involves identifying sources that could be causing a problem and agreeing ways to address this.

The process usually starts by the Environment Agency asking us to carry out an investigation. If this concludes that our abstraction is environmentally harmful, we then carry out an 'options appraisal' to examine possible solutions. These can include reducing how much water we take, doing so at different times or supplementing it with supplies from other sources. Another way to lessen the impact is river restoration work, which can involve improving habitat by narrowing sections of river or changing their course.

During 2013/14 we completed investigations on the effect of our abstractions from the Thames on the lower freshwater part of the river and the tidal estuary. This found that the principal significant damaging impact is the low levels of oxygen that occur during periods of low flow in the upper tidal section. We will look at measures to address this in 2015-20.

We also carried out investigations at four sites where it is thought our groundwater abstractions may be causing problems in local rivers at times when flows are already low – for example, at the end of the summer or during a drought.

One concluded there was no need for further action, and a further two are currently the subject of an options appraisal: our Pann Mill source, near the RiverWye in Buckinghamshire, and our Childrey warren source, close to the Letcombe Brook in Oxfordshire. The fourth site, at Waddon in south-east London, will have an options appraisal carried out after April 2015.

¹ NB This figure is dependent upon meter verification compliance may be higher



During the year, we completed a further five appraisals which were already in progress. At four of these sources, we plan to tackle the problem by river restoration, and have included proposals in our business plan for 2015-20.

We plan to close the remaining source, at Ogbourne in Wiltshire, benefiting the River Og and River Kennet. The solution in this case will be to lay a pipeline to bring water from Farmoor Reservoir near Oxford. The new main will also allow us to reduce abstraction from our nearby groundwater source at Axford, which was the subject of an earlier investigation. We plan to have completed the work by the end of 2016, although this depends on not encountering environmental or planning issues.



3.6 Precious Resource / New resources

By 2040 the number of people we supply is expected to rise from nine million today to 10.4 million. We can bridge the projected gap for the next five to 10 years through a further reduction in leakage, installing many more meters and encouraging the wise use of water coupled with small resource development. However, after 2025 we are likely to require a major new source of water.

During 2013/14 we began work on new underground water storage reservoir in Reading. The new tanks combined will hold over 14 million litres of water. Some innovative techniques have been used to ensure the work is quick and efficient having minimal impact and disruption on the local community. When the project is complete it will include the planting of native British trees alongside a wildflower meadow to support wildlife in the area.

We continue to explore a wide range of options to provide additional resources, including reusing treated wastewater, transferring of water between companies and regions, and more traditional solutions such as new reservoirs. We are also working with other companies in the South-East to ensure there is integrated water resource planning at a regional level.

3.7 Precious resource / Reducing leakage

Reducing leakage remains a key priority. Over the last 12 years we have completed a large-scale programme of mains replacement but a significant proportion of our distribution network remains in relatively poor condition.

During 2013/14, we achieved a leakage level of 644 million litres a day (Ml/d), which was a reduction of 2 Ml/d compared to 2012/13. We beat our target of 673 Ml/d by 29 Ml/d – enough to supply more than 185,700 people. We have now hit our leakage target for eight years running, during which time we have reduced levels by around a quarter.

Performance during 2013/14 was impacted by a colder than average start to the year and a period of very high summer demand, which required additional pumping to meet demand. These factors significantly increased leakage levels during the first half of the year. Recovery plans were put in place, aided by a milder than average end to the year.

To maintain leakage at current levels still requires high levels of ongoing leakage control activity. Our water distribution network continues to deteriorate each year, this is visible to our customers and community when they see burst water mains.

We proposed to further reduce leakage in our 2009 Water Resources Management Plan. Our regulator, Ofwat, determined that we should maintain leakage at roughly the current levels for the period 2010/11 to 2014/15, and undertake further work to build the evidence case for a wider programme. This work has resulted in an additional 60 Ml/d of leakage reduction being included in our 2014 Water Resource Management Plan.

Leak detection

During 2013/14 we completed over 45,000 repairs on our network and a further 10,000 repairs on our customers' pipework - equivalent to one repair every 9.5 minutes. We also continued to replace ageing mains, including 19km of pipes in London, Reading, Slough and Swindon, targeting those that leak and burst the most. This means we have replaced over 450km of mains in the last four years.

This not only helps reduce leakage but also future disruption and inconvenience to our customers. We have also introduced new schemes to improve pressures throughout our water network ensuring fluctuations and excessive pressures are minimised.

Customer communications

We urge our customers to report a leak to us as the sooner we can fix it, the more water we can save. Customers can call our free Leakline on 0800 714614 or tweet us @thameswater using the #tweetaleak hash tag.

In the run up to winter, we urge our customers to get their pipes ready for the cold months to prevent freeze-related bursts in their homes. In support of the national Get Ready for Winter campaign, backed by the Cabinet Office and Defra, we posted a series of cold weather tips and short films on our website advising customers of simple ways to protect their homes.

Annual average total leakage targets (in million litres per day or MI/d)

MI/d	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Thames Water pipes*	624	571	516	506	485	481	461	467	466
Customer pipes*	239	219	197	193	185	184	176	179	178
Total leakage	862	790	713	698	670	665	637	646	644
Leakage targets	830	810	755	715	685	674	673	673	673

* Responsibility changes at the boundary of the customer's property

3.8 Precious Resource / Promoting metering

Managing water supplies will become more challenging as our population grows and our climate changes – bringing less summer rainfall and more weather extremes including flooding and droughts. We consider metering an essential tool to achieve a more sustainable management of water and a key part of our long-term water resources strategy. A meter shows customers how much water they have used and is the fairest way to pay for water.

Installing 'smart' meters through our progressive metering programme between now and 2030 is at the heart of our plan to manage demand. The meters, which can be read remotely, provide detailed information on water consumption, which customers will also be able to view online - putting everyone in control of their usage and their bill. We consider this to be the fairest way to pay for water as you only pay for what you use, as for gas and electricity.

Smart meters will also enable us to detect leaks remotely across our network, so that we can fix them faster and better target our mains replacement programme. The meters will highlight leaks from both our pipes and those belonging to customers. If we find a customer's supply pipe is leaking we will fix this free of charge and correct their bill.

"Being aware of how much water we use is a key step in making sure that we don't take any more than is necessary from the environment. We fully support the use of metering, as it has been shown to reduce the demand for water."

Howard Davidson, Environment Agency regional director, South East

Progressive metering programme

During 2013/14 we started our progressive metering programme in Bexley and by the end of March had installed 4,100 smart meters. We are committed to introducing metering with as little inconvenience as possible and are working closely with local councils and stakeholders to achieve this.

As we progress, our expert teams will be on hand to make the move to a meter as easy as possible, helping customers save water, energy and money. This includes providing, and even installing, the latest water-saving devices in homes as part of our free Smarter Home Visits.

Everyone who gets a new meter will have two years from the date their meter is activated to adjust before being switched to a metered bill, unless they want to switch early. In our [five-year business plan](#) we set out how we intend to continue metering all connections across our region. We will install 900,000 new 'smart' meters in London by 2020, and extend this across our whole region by 2030.

During 2013/14 we also continued to promote our optant meter service, through which we install meters at the request of customers. We installed 30,627 meters for customers who had asked us to do so.



We are mindful that metering will cause concern for some households. To protect customers who are struggling to pay, we have a number of measures in place. This includes our recently launched new social tariff called WaterSure Plus, which will halve the bills for customers in most need of help. This is in addition to our existing WaterSure tariff and our Customer Assistance Fund.

Where households find they are paying a higher bill, we will provide support and practical advice to help them reduce their water use. Read more about our water wisely programme.

We are on track to meet our target to reduce demand for water by 20 million litres per day by 2015. This is enough to supply over 120,000 people.



3.9 Precious Resource / Using water efficiently

Saving Water, Energy & Money. Water efficiency is an essential part of our long-term sustainable management of water. We have an established programme to promote responsible use of water to our customers and to raise awareness of the importance and benefits of saving water both at home and in the workplace. We continued to encourage our customers to save water, energy and money – during 2013/14 this resulted in a saving 5.19 million litres a day.

Throughout 2013/14, we continued to work on campaigns to encourage our customers and community to save water and to raise their awareness of the importance of more sustainable water use.

Customers in our region each used an average of 156 litres per day in 2013/14. Our water efficiency programme aims to help domestic customers and businesses reduce their water use. We have exceeded our annual water efficiency target for the past four years. During 2013/14, our activities resulted in a saving of 5.19 million litres per day, compared to the target figure of 4.42 million litres per day.

Our water efficiency activities included offering customers a range of free water- saving products and behaviour change advice via a number of routes and promoting the message by attending external events. During 2013/14, we dealt with 54,909 orders and distributed a total of 214,614 water saving products.

Our online water use calculator 'Waterwisely' gives tailored advice on water use and how customers can save water, as well as identifying the most suitable products for their homes. During 2013/14 over 17,500 customers used it to find out more about their water consumption. www.thameswater.co.uk/savewater

Our water efficiency programme, we work directly with our household and non-household customers via a number of projects including our progressive metering programme. This includes partnership projects with third parties to help deliver engagement, water audits and water efficiency retrofits and installs. We have continued our automatic meter reading work with non-domestic properties, including schools and universities. We are looking to build on this work, working in different sectors, to understand the differing water management needs of non-household customers.

As a business we plan in five year cycles. We have met the water saving targets we set for ourselves and have a good platform from which we can further embed more sustainable water use into our programmes. Looking to the future, this puts us in good stead for the challenging AMP6 period; our next five years, where targets are more challenging and the focus will be on measured water reductions.

Partnership projects

We have worked with a wide range of organisations and third parties such as housing associations, local authorities and schools, to help reduce water usage and engage with customers.

We are in the final year of Save Water Swindon, a partnership in which we have worked with a variety of organisations to help local people save a total of one million litres per day. The project – the UK's first single-town water efficiency campaign – is on track to hit this target by the end of 2014.

Working with the Greater London Authority and the Environment Agency, we have promoted water efficiency to a number of secondary schools in the capital. The 'London Schools' project has involved encouraging them to fit water-saving devices, leak detection equipment and 'smart' water meters, as well as engaging pupils on the importance of saving water.

Community and employee engagement

Community engagement plays a key part in saving water and achieving long-term behaviour change. We continue to support external environmental and community events and provide water saving leaflets showing how to order water saving freebies, stickers and kids' packs. Volunteer staff who took part in our speaker programme gave talks to schools and community groups, engaging more than 7,500 people on issues such as water conservation.

We attended the Blenheim Palace Flower Show, in partnership with Irrigatia solar powered garden watering systems, to provide free water saving products and advice on water efficient gardening. We spoke to more than 500 visitors and discussed more water efficient ways of keeping gardens green.

Engaging our employees is also key to our programme to conserve water. During Climate Week we ran a drop in session to raise employees awareness of how saving water, can save energy and money. We also ran a 'water amnesty' to get our employees to flag up any dripping taps and leaking toilets in our own buildings, plus offered free water saving home makeovers for a limited time to our employees.

Working with businesses

We have carried out water audits for many of our key commercial clients, advising them on how they could use water more wisely. As we increase our water efficiency work with business customers, we expect to start helping make some substantial savings in water usage.

We work with our business customers, offering them advice and free water-saving products to help them reduce their consumption. Our Water Regulations team also identifies ways to save water whilst carrying out inspections of business premises.

We are constantly looking for new and innovative ways of doing things. For example, our commercial services team promotes new water saving products such as Irrigatia solar powered watering system, waterless urinals, and WOWshine, a waterless car wash product as a water efficient alternative to mains supply.

3.9.1 Precious Resource / Using water efficiently Water efficiency campaigns

Throughout 2013/14 we continued to raise awareness of the importance of saving water with our customers and communities.

Save Water Swindon

Our flag ship campaign is Save Water Swindon, an innovative project aimed at challenging domestic and non-household customers to reduce their daily water use to protect water levels in the River Kennet.

Save Water Swindon has continued to be a focus for water efficiency, and activities over the last year have included an eight- week media campaign, which included radio adverts, daily newspaper articles and adverts, billboards and bus stop posters. This was combined with direct mailings to over 50,000 Swindon homes offering water- saving devices and free home water makeovers. We have also carried out water audits and leak detection for a number of schools and non-household properties in the town.

Care for the Kennet

This community-led initiative, in partnership with local group, Action for the River Kennet, (ARK) is based in the upper Kennet valley, which includes Marlborough and Hungerford. During 2013/14 ARK engaged with a number of local schools in the Upper Kennet with an Eels project. Free water saving installations were offered to local households. This project aims to help customers understand more about their river - making the link between the river, their taps and more sustainable water use by making it easy to reduce their water use.

Water meter trial

We tested different water efficiency mailshots with households in five areas where we have been trialling different types of 'smart' water meter. The ongoing analysis of the results will help us identify the most effective means of promoting free water-saving devices and the savings achieved when householders install these products.

H2O for Life – Girl guide Badge

We have worked in partnership with the Girlguiding South West region to develop a water efficiency Girl Guide badge called 'H2O 4 Life' (Home 2 Ocean). This resource is now available for guides to order via the online shop.

The pack includes a number of activities and games which raise awareness of water and wastage.

Water efficient mosque

Working in collaboration with Wapping Bangladesh Association, we are in the process of installing a grey water system within a mosque under construction. Muslim prayer rituals (ablutions) use considerable quantities of water. We are looking to fit water efficient taps that are sensitive to the ablution practice, but

are also water efficient. This water will be collected and recycled to flush toilets in the mosque. This refit is part of a much larger programme of works to understand how messages on sustainable water use can be made sensitive to ethnic and religious considerations.

London Water for Schools project

We continued to utilise existing AMR meter sites to identify and prioritise leak detection work. We carried out leakage/wastage investigations at 13 sites, and are using the AMR data to confirm the savings achieved. This process also provided useful insight into water management issues in schools, which will prove valuable for future work in this sector. We are looking to expand on our schools project this year.

Energy Saving Trusts 'At Home with Water' Phase 1

We supported the Energy Saving Trust project 'At Home with Water' which looked at 80,000 online water calculator results to summarise and quantify water use in the home. This project won the Environment Agency and Waterwise 2014 UK Water Efficiency Award.

Money Saving Expert

In March 2014, Thames Water teamed up with Save Water Save Money to promote our free water saving products on the Money Saving Expert website, and a link ("free showerhead worth £17") was included in the MSE weekly email. This resulted in 10,000 product orders in one week.

Looking forward

We are carrying out a non-household audit project across different sectors of commercial customers to determine what water savings can be achieved and create case studies to use for future water saving programmes.

We will continue to work alongside our progressive metering programme, offering free Smarter Home Visits to help newly metered customers to reduce their water use.

The results of the Energy Saving Trust 'At Home with Water' phase 2 will be published in 2014. The results will help improve future water efficiency communication and customer engagement.

We are planning a full programme of work to understand ethnic and religious water use practices to help us develop our water efficiency messages and information to be used in wider community groups.

4 Sustainable Drainage

We collect and treat sewage from our 15 million customers and recycle it safely to the environment. We work hard to ensure that pollution incidents and flooding from sewers are reduced as far as possible; this includes raising customer awareness of what can and can't be put down the drain. During 2013/14 we also generated 12.1% of our own electricity needs by using sewage sludge as a resource. Creating energy from this residue of wastewater plays an essential part to Thames Water providing a more sustainable service.

Around ninety-nine per cent of sewage is water, which we treat and recycle to local rivers and streams. The process leaves a solid residue, called sludge which we treat at our 350 sewage works and also use to produce renewable energy.

Within this section you can read about what we are doing to prevent sewers from flooding, the schemes in place for pollution prevention, and detail on our three major engineering schemes to help stop sewer overflows and improve water quality in the River Thames. We also provide an overview of our work with our customers, to help them to reduce the volume of water returned to the sewer by introducing more sustainable drainage practices in their homes and businesses.

During 2013/14:

- We continued to develop alternative approaches to flood alleviation, using Sustainable Urban Drainage Systems and green infrastructure such as rain gardens, permeable paving and water butts, to either return rainwater to the ground, or to slow it down before it enters our sewers
- We completed the upgrade of the sewage treatment works at Mogden, boosting the treatment capacity of the UK's third largest sewage works by 50%; this will significantly reduce the storm overflows into the River Thames.
- We generated 156GWh, 12.1%, of our electricity needs by using sewage sludge, from wastewater, as a fuel source. Reducing our reliance on non-renewable energy, this also saves money and provides a more sustainable solution for our customers.
- 'Bin it don't Block it', our sustainable behaviour change campaign focused on raising awareness of 'sewer abuse', was awarded a Big Tick award by Business in the Community, recognising it as a campaign of best practice.

4.1 Sustainable Drainage / Pollution

We operate and maintain a huge sewerage network comprising over 68,000km of sewers, more than 2,500 sewage pumping stations and 349 sewage treatment works. The size of this network combined with the age of some of the infrastructure, the unpredictable nature of weather and the difficulty of controlling unlawful discharges to sewers means that preventing pollution from our sewer network is a major challenge. We recognise that the environmental damage and impact on our community caused by spillages from our network is unacceptable and work hard to prevent them.

The Environment Agency categorises pollution incidents on a scale from one (the most serious) to four (no significant environmental impact). During 2013:

- The total number of Category One and Two pollution incidents was 22 – an increase of six from 2012.
- The number of Category Three pollution incidents rose by 28 per cent to 590 incidents.

The period 2013/14 was a second successive year of extreme weather. In July, after a cold spring, we saw the highest summer demand for 19 years. This was followed in December by the start of the wettest winter on record. The heavy rainfall – more than twice the level we would normally expect – brought distressing problems for many of our customers, some of whom had their homes or gardens flooded. The increase in pollution incidents was partly due to this heavy rainfall, and in some areas breached the capacity of sewers and flooded pumping stations.

We continue to work hard to prevent pollution taking place and to improve our response when it does. Every Category One and Two pollution incident is thoroughly investigated and is subject to a detailed review with our Chief Executive Officer and Operations Director. Our aim is to understand the cause, whether the incident was predictable (and therefore preventable) and whether our response could have been improved. Substantial selections of the Category Three incidents are also reported to our incident investigation committee, chaired by our Chief Executive. We also share the lessons learnt from these reviews with other operational teams, to prevent similar incidents occurring in a different location.

The pollution and tankering desk we introduced during 2012/13 has now become part of our standard operation, ensuring that our employees and the Environment Agency have a single point of contact in dealing with instances of pollution.

During 2013/14, our average response time reduced and we focused on priority activities. By the end of 2013, we were attending 79 per cent of incidents within an hour – a significant increase from 48 per cent in April 2013.

We have also reinforced to our employees the importance of 'self-reporting' any pollution they become aware of directly to the Environment Agency. The proportion of such 'self-reported' incidents – as opposed to those reported by members of the public – has as a result increased from 46 per cent of all cases to 59 per cent.

All pollution incidents are regrettable and we are working hard to improve our performance. During 2013/14, we were convicted for 2 separate incidents, with fines totalling £35,500, which resulted in costs of

£33,246.15. The costs are those incurred by the Environment Agency for the prosecution of Thames Water and include recharges of their time spent investigating the pollution incident, analysing samples and work with their legal representatives to prepare their prosecution case, as well as all of their legal costs.

4.1.1 Sustainable Drainage / Pollution / Pollution prevention

The most common cause of failure in our network is when sewers become blocked. This is often a result of households and restaurants tipping fat and grease down the sink. We clear around 55,000 blockages from our sewers each year at a cost of £12m and over 7,000 customers suffer from sewer flooding in their homes and gardens – a truly miserable experience. We aim to raise awareness of this problem among our customers, to change behaviours in an attempt to reduce blockages.

Bin it don't block it - Working with our customers and community

'Bin it don't block it' is our campaign to educate our customers and community about 'sewer abuse' – which is putting anything other than human waste or toilet tissue down drains.

During 2013/14 we decided it was time to harness the power of 'yuck' through a multi-channel campaign, underpinned by creating the UK's most googled new story of 2013 – the fatberg. We took an out of sight out of mind issue to the front of our customers' and community's minds.

During 2013/14 we targeted over 50,000 customers in blockage hotspots with direct mailings. This included fat traps and letters to 40,000 customers and over 10,000 fat-munching bacteria sachets aimed at reducing blockages. The combined efforts of all our work to educate customers have resulted in an annual blockage reduction of around 3,000.

This sustainable behaviour change campaign was awarded a Big Tick award by Business in the Community in 2014, recognising it as a campaign of best practice and sustainable change.

Fats oils and grease

Pouring cooking fat down the sink sets hard forming 'fatberg' blockages. This prevents sewage from flowing and can cause it to back up.

During 2013/14 it was agreed that fat and oil from restaurants and build-ups in drains will be fed into what will be the world's largest fat-fuelled power station at Beckton. It is set to produce 130 GWh a year of renewable electricity - enough to run 39,000 average-sized homes.

Sewer cleaning

We have a team focused on cleaning and maintenance at blockage hotspots, and we have improved alarm systems to identify any problems with our sewers and pumping stations before they cause a pollution incident. During 2013/14 we have undertaken nearly 200km of additional sewer cleaning, worked with our

contractors to reduce response times and installed a large number of additional monitors on our network to detect when problems are likely to occur.

We worked collaboratively with Waitrose to get our message to almost 20,000 customers through providing 'fat traps' with each Turkey over the Christmas period – making it easy for our customers to make sustainable choices.

Product labelling

Unsuitable products such as wet wipes and sanitary items mix with the fat, leading to waste backing up into homes and streets, and having a devastating impact on the environment. Confusing and misleading product labelling can encourage customers to flush unsuitable items. There are currently no restrictions in place to prevent these products being sold as 'flushable'. The only product to pass water industry 'flushability' tests so far is toilet paper. Manufacturers have their own tests, which are more lenient resulting in a greater number of products being labelled 'flushable'.

During 2014/15 we will be working with a number of partners to try and resolve this.

4.2 Sustainable Drainage / Sewer flooding

Like many other parts of the UK, during 2013 our region saw the wettest winter on record, which proved very challenging. Our sewer network was overwhelmed by flood water from rivers, surface water and groundwater, causing it to overflow in some places. We estimate around 69,500 customers are likely to have been affected by river, groundwater or sewer flooding as a result of this winter's rainfall.

Urbanisation, climate change, population growth and modern lifestyles are putting our sewerage network under increasing pressure. The system is largely in good condition, but after heavy rainfall many networks handle much larger volumes of water than they were built for.

During 2013/14 there were 471 repeat incidents of internal flooding at properties, this is a reduction of 78 from the previous year. Despite the decrease, we recognise that this is an unacceptable service failure for our customers and will continue to focus on this area.

We are responsible for making sure our sewer network is well maintained and running smoothly. Although our remit does not extend to groundwater, river flooding and surface water problems, we are committed to working in partnership with local authorities and the Environment Agency to investigate these issues. In some cases, it is more sustainable and economic to manage the flow into our sewer network, rather than to simply build larger sewers. We will contribute to schemes such as these where it is cost beneficial to do so.

We have brought forward a scheme to reduce sewer flooding in the Counters Creek catchment in west London, and now expect to spend an additional £26m before April 2015 to begin to reduce the risk of flooding in this area.

We began work on the £17.5m flood alleviation scheme in Maida Vale. Recognising the impact our works can have on the local community, for the duration of this programme we have planned a number of community support initiatives including providing sports facilities in the surrounding area.

Over the year we also spent time clearing blockages – often caused by cooking fat down the kitchen sink and things flushed down toilets that shouldn't be such as wet wipes. This can lead to sewage escaping from manholes and polluting the environment. In severe cases, it can flood homes. We continue to raise awareness of this issue with our customers through our Bin it don't block it programme.

4.2.1 Sustainable Drainage / Sewer Flooding / Reducing the risk

During 2013/14 we inspected over 1,100km of London's waste network. We have fitted sewer depth alarms in more than 250 manholes to warn us when sewage levels rise, so that we can potentially prevent overflows from our network.

We are also making ongoing efforts to reduce pollution incidents in the future. Among a range of actions, we are:

- Improving the way in which we prioritise work so that we can deal with incidents before a pollution occurs
- Undertaking thorough investigations upstream and downstream of each incident to really understand the root cause and resolve the problem.
- Introducing new analytical tools to better understand the potential impact of pollution on sites across our region, to ensure we target maintenance work more effectively.
- Exploring the use of technology that would allow staff to relay photos and video footage of pollution direct to our control desk.

4.2.2 Sustainable Drainage / Sewer Flooding / Reducing sewer blockages or collapses

Over the past year, we recorded an increased number of sewer blockages – often caused by items like nappies wrongly flushed into the sewers. But it is fat, oil and grease deposits which cause more than half the blockages in our area.

Blockages pose a risk of sewer flooding and can lead to incidents of pollution. During the year, we started work on a programme of surveying, cleaning and fixing some of our biggest problem areas. We're looking to educate customers about sewer misuse as well as carrying out minor construction work, such as removing 'interceptors' (U-bends in the sewerage network that are particularly prone to blocking). In some areas we have been trialling biological dosing, which breaks fat down, reducing the risk of a blockage occurring.

Our pollution prevention programme aims to raise awareness about the potential consequences of disposing of fat and oil to the network while our 'Bin it – don't block it' campaign aims to stop customers disposing of fat and other unsuitable material down the kitchen sink.

We also worked with council environmental health departments to get their backing in targeting campaigns to specific hotspots. We are members of the WaterUK Sewerage Network Abuse Prevention (SNAP) group, which represents the national water and sewerage sector, and aims to prevent incorrect usage of public sewers.

4.2.3 Sustainable Drainage / Sewer Flooding / Misconnected drains

Across most of London, we have what is known as a combined sewer system, however in other parts of our region, domestic and industrial waste is conveyed to our sewage works through one system of pipes, while separate surface water sewers carry away untreated rainwater to a local watercourse. Pollution can occur when household drains, connected to washing machines, dishwashers and basins, and are wrongly connected to the surface water drain, instead of the foul water system.

Our customers sometimes inadvertently pollute watercourses by misconnecting toilets and kitchen and bathroom appliances to surface water drains instead of the sewer network. In 2013/14, our work has required customers to fix faulty plumbing at 765 properties, where we identified 1,596 misconnected appliances, including toilets and washing machines. These were causing pollution at 50 points of discharge

in our region, including Boundary Brook in Oxford and Ewell Court Lake in Epsom, all of which have now been rectified.

"The Environment Agency is really pleased that Thames Water's hard work has helped clean up the flow of polluted water to the brook. Sewage was regularly discharging into the watercourse and reducing the water quality for the wildlife and creating an unpleasant environment in the brook.... To ensure that this doesn't happen again in the future we encourage homeowners to check that they are connected right – you can find information on how to do this on the [ConnectRight](#) website."

Jessica Bates, Environment officer Environment Agency

We work in partnership with the Environment Agency and local authorities to trace and reduce the number of misconnections, but it is predicted that there are at least another 60,000 misconnections still to be found.

In total we have carried out corrective work at 171 such outfalls since 2010, which means we are on track to reach our five-year target of 189 by 2015.

Thames Water is working in partnership to promote awareness of misconnections. We are working with Catchment Improvement Groups on the River Brent, River Colne, River Crane, River Lee, the Roding, Beam and Ingrebourne and the River Wandle to contribute to delivery of Water Framework Directive targets.

We continue to develop new ways to engage with our customers regarding misconnections, through creating a misconnection information card, using pictures and diagrams to describe the problem of misconnections to householders, through to the development of a Thames Water Approved Plumber Scheme and supporting the launch of the new ConnectRight website - the public face of the National Misconnection Strategy Group.

One significant challenge is the resources of the Local Authorities to use their powers to enforce outstanding misconnected drainage. Until a change in legislation occurs, we will continue to work in partnership with Local Authorities and the Environment Agency to utilise existing enforcement powers, as the current statutory powers to rectify misconnected drainage is challenged.

4.3 Sustainable Drainage / Sustainable Drainage schemes

A more sustainable way of managing surface water runoff to prevent sewer flooding and to improve water quality in rivers is to create Sustainable Urban Drainage Systems (SuDs). This also helps reduce our energy use as surface water is not unnecessarily treated as wastewater. They also create greener and more diverse surroundings in urban areas.

'Urban creep', loss of green space, climate change and population growth all put pressure on the sewerage network. Urban creep also puts pressure on the environment, as pollutants from transport and industry are washed off of impermeable surfaces and into rivers. There is no single solution to address this and different circumstances require different approaches.

We recognise that we need to manage the quantity and quality of surface water entering our sewers, as well as building more capacity where it is needed. We have therefore been working to develop alternative approaches to surface water, using green infrastructure such as rain gardens, permeable paving and water butts, to either return rainwater to the ground, or to slow it down and clean it before it enters our sewers.

Working in partnership with London Borough of Southwark, during 2013/14 we started plans on a scheme to alleviate the risk of flooding in Herne Hill, Dulwich by attenuating surface runoff using SuDS.

Our pilot trial in West London called 'Greenstreets' is testing the feasibility of retrofitting SuDS to existing streets. As well as testing their effectiveness, the trials will identify the challenges involved in delivering SuDS and the attitudes of the public and other stakeholders towards them.

Because the SuDS will be highly visible at properties, the support of our customers is essential to the project. The community is involved in all stages of the design and selection of the systems installed.

We expect SuDs will prove beneficial for controlling the quantity and quality of surface water runoff, as well as improving biodiversity and local amenity. SuDS also help clean up surface water runoff by removing pollutants such as silt and oil. Along with reducing discharges from storm overflows, this improves river quality.

4.4 Sustainable Drainage / Sewage treatment, management and compliance

The treated effluent discharged from our sewage works is often a significant element of local river flows. This means the effectiveness of treatment processes is vital to the health of our environment. The Environment Agency is responsible for setting quality standards at each of our 350 sewage treatment works.

For the 2013 calendar year, we have reported two different sewage treatment works discharge compliance scores. This is because on 30 April 2014, the Environment Agency (EA) issued a revised set of compliance scores, which saw our reported compliance for 2013 reduce from 99.14 per cent to 95.71 per cent. The EA has recommended that we report both figures.

The difference is due to a change in the reporting methodology. The regulations relating to the Urban Wastewater Treatment Directive define a minimum number of samples which should be taken each year. On those occasions when we could not take a sample from a sewage works because no treated effluent was being discharged, we did not reschedule these samples. The EA previously considered this an acceptable practice, but has recently told us that it has changed its position and that the revised approach should be applied retrospectively to our compliance figure for 2013. There is no suggestion that the approach we took to sampling caused any damage to the environment.

In a letter to us dated 9 June 2014, the EA said that “we recognise that this was a mistake due to a misunderstanding of how to deal with ‘no flow’ samples. Thames Water did not realise that the requirement is to reschedule these samples. Unfortunately, we did not pick this up early enough to advise the company to make up the shortfall. Such ‘no flow’ samples had been accepted in the past. We note that these failures did not result in any environmental impact.”

To ensure we can meet our standards and our customers’ needs in future, we have carried out the following work:

- We upgraded two major sewage works along the tidal River Thames, which has increased capacity by 41 per cent at our Beckton site and by 62 per cent at Crossness, to meet future demands and quality standards. The work at Beckton was delivered a year early.
- We increased treatment capacity at eight other works in areas where population is growing.
- We improved the quality of effluent at 14 other works, including three which were due for delivery in 2014/15.

4.5 Sustainable Drainage / London Tideway improvements

London's Victorian sewerage system was designed to overflow into the River Thames when the sewers reached capacity to prevent homes and streets from flooding. The system is now struggling to cope and discharges are happening much more frequently.

We have developed three major engineering schemes to help stop sewer overflows and improve water quality in the Thames. This includes upgrades to all five of our major sewage treatment works in London, the construction of the Lee Tunnel and the proposed Thames Tideway Tunnel.

Lee Tunnel

The £635m Lee Tunnel will transfer any discharges from London's largest combined sewer overflow at Abbey Mills pumping station in Stratford to Beckton sewage works, the capacity of which is being expanded by over 60%.

Construction is well under way on the Lee Tunnel, which will help prevent more than 16 million tonnes of sewage entering the River Lee each year. In January 2014, we completed tunnelling work on the Lee Tunnel and moved on to constructing the secondary lining. We remain on target to complete the project by the end of 2015.

"By tackling sewage discharges from London's largest combined sewer outfall at Abbey Mills pumping station, the successful completion of the Lee Tunnel will protect ecology, tackle aesthetic pollution and minimise the health risk to people using rivers in the Lower Lee. All of which can only be a good thing for both the river and its local communities."

Howard Davidson, Regional Director, Environment Agency

The Lee Tunnel received two awards from the Institution of Civil Engineers at the annual London Civil Engineering Excellence Awards. The project received the overall award for the Greatest Contribution to London in March, beating a shortlist of 13 other infrastructure and building projects. It recognises the significant benefits the tunnel will bring to the capital when it is completed in 2015 and eliminates 40 per cent of the total annual sewage discharges to the River Thames.

Thames Tideway

The proposed Thames Tideway Tunnel will address discharges of sewage into the Thames. It will be 15 miles long, and will be one of the longest and deepest tunnels under London.

The public examination of the development consent order for the Thames Tideway Tunnel ended in March 2014. At 200,000-plus pages, it was the UK's largest-ever planning application. A decision on whether the project can go ahead is expected in September 2014.



Procurement for the Thames Tideway Tunnel's three construction packages began in December 2013. The winning bidder is due to be announced in May 2015. Construction on the project is expected to start in 2016 and take around seven years to complete.

Five major sewage treatment works

The third part of the solution is the improvements to our five major sewage treatment works in London, all of which discharge into the Thames.

The upgrade of the sewage treatment works at Mogden was completed in May 2013 and the site was officially opened by Mary Macleod, MP for Brentford and Isleworth. This three year, £140 million upgrade, has boosted the treatment capacity of the UK's third largest sewage works by 50% and will significantly reduce the storm overflows into the River Thames, as well as improving the quality of treated effluent returned to the river.

To ensure we can continue to meet our customers' needs in the future we have carried out work on two major sewage works along the River Thames which has increased capacity by 41% at our Beckton works and 62% at our Crossness works.

