

Water In The Future

Our Commitment To the Environment

Ever since it was founded in 1846, Bristol Water has recognised and met its environmental, social and ethical responsibilities. The Company and its staff take pride in our environmental performance.

We deliver an essential service to over a million people and businesses every day. We recognise the impacts of our activities on the wider society and seek to make these as sustainable and positive as possible.

Vision:

Over the next 25 years our objective is to provide water in a sustainable and affordable way on a highly reliable basis that customers have confidence in and are happy to drink. Among the ways we aim to do this are by:

- Understanding the current and future needs and priorities of all stakeholders
- Understanding risks and managing them to an optimum position
- Minimising water abstractions if there is a risk of environmental damage; encouraging others to use water resources in a sustainable way
- Reviewing other impacts on the environment to minimise adverse effects
- Operating with integrity in a professional manner at all times and within well thought out principles taking specific care in planning for the future
- Maintaining programmes of community involvement and encouraging, where possible, the public to visit our facilities and understand our business
- Providing open and honest channels of communication with the media, local government and others
- Dealing with suppliers in an ethical way but demanding high standards and full contractual compliance from them.

Measuring our Impact: Why we do it

The business of water supply has always been closely linked with the natural world, but we are aware that our activities as a Company can have a significant effect on the environment. We believe it is one of our key responsibilities as a water company to understand this and to reduce this impact wherever possible.

Of course, the effect of our activities can also be positive: the Mendip lakes were created solely for the purpose of water supply, but are now an internationally important area for wildlife. For us to operate as a sustainable company, we have to meet the needs of the present without compromising our environment for the future.

We have identified our most significant environmental impacts, and we measure these on a monthly basis for report to the Company Board and managers. Some of these measures are shown on the following pages, together with an explanation of why this measure is important and the work we do to minimise impact in this area.

Measuring our Impact: Water use

We comply with all the requirements of all our abstraction licences, and where an environmental benefit can be created we have gone beyond these requirements. For instance, we have voluntarily reduced the abstraction from our sources at Long Newton to improve river flows in the Tetbury Avon.

To reduce demand we provide water-saving advice to business and domestic customers, and we hold regular free open days which attract thousands of visitors. At these open days and at other events, we provide information to the public on water-saving measures they can take for themselves, as well as providing water-saving equipment and water butts at a discount rate. There is an extensive display of water saving devices in our visitor centre, together with educational information.

Measuring our Impact: Chemicals

Some 99% of the water we supply needs “complex treatment”, which requires chemicals to remove potentially harmful micro-organisms, chemicals, and to maintain quality in the water mains system. The water we supply is of extremely high quality once treated, but chemicals are an essential part of the treatment process.

Producing treatment chemicals uses natural resources and energy, and the chemicals have to be transported from the manufacturing site. Staff have to handle and manage chemicals to strict levels of control, and chemicals used to remove solids from untreated water create “sludge” which requires proper disposal.

Through the most efficient use of the different water sources available, we can minimise the amount of chemicals needed. This must however be balanced with the need to plan ahead for water supply throughout the year and our absolute requirement that the quality of the drinking water we supply is never compromised.

Measuring our Impact: Energy and CO₂

Water is a heavy material and we treat and supply nearly a third of a million tonnes per day. This requires almost 10 megawatts of power, and the power stations which produce this burn fossil fuels although we do purchase power produced by “good-quality combined heat and power” which produces less CO₂ than more traditional generation systems. Our calculated CO₂ emissions include fuel use from transport, but almost 95% of our CO₂ emission arises as a result of power use, primarily for pumping water from sources to customers

Energy is expensive and our power bill runs into millions of pounds, so it has always made business sense to keep our power consumption as low as possible. For several years we have worked to reduce this through computer modelling of our treatment systems and networks, but this is extremely complex and to address this we have increased the number of staff working on power management. Power minimisation is a key factor in the design of capital schemes.

Measuring our Impact: Leakage

Water lost through a leak is wasted water. The leaking water will eventually return to the natural environment, but there is an impact in the energy and chemicals used when the water is collected, treated and pumped.

We meet the leakage target set by our regulator and have done so year after year - we invest heavily in leakage detection work and are constantly working to improve detection rates and response times. We have programmes of replacing or refurbishing mains where we see the highest burst rates. We would like to do more on leakage and we believe that more money will need to be spent in this area in future, but there remain tight controls from Ofwat on the level of money we can spend.

We control our rate of leakage to below the “economic level”. The easiest way of describing this is to say we spend more on leakage control than the full cost of the water saved, including its environmental costs. We do this because we appreciate that it is unacceptable to allow the level of reported leakage to increase. As our network both grows and ages, our leakage rate is reducing.

Our responsibility for special sites

Bristol Water is responsible for many environmentally important sites, including a total of 19 Sites of Special Scientific Interest (SSSI).

The Government's Public Service Agreement target is for 95% of SSSI land to be designated as in 'favourable' or 'recovering' condition by 2010. All of Bristol Water's SSSIs - covering over 900 hectares – are in 'favourable' status. This performance is at the forefront of the UK water industry and we pledge to continue our responsible management of these assets, including working where we can with other stakeholders whose actions may affect the condition of an SSSI.

Our Biodiversity Action Plans

Bristol Water has a long-established policy to manage land to conserve and enhance its natural beauty and to protect flora, fauna and geological features of special interest. Every year Bristol Water carries out projects to benefit wildlife and to improve access for visitors, and full details of these are available on our website www.bristolwater.co.uk

All our land holdings are managed in ways sympathetic to the needs of wildlife, and our work around sites which are important for biodiversity is carried out in a way laid down in formal Biodiversity Action Plans. These plans are controlled as part of the company's quality assurance management systems and represent "business as normal" for Bristol Water.

The Biodiversity Action Plans (BAPs) have practical results – for example at Cheddar the findings of a survey for a BAP helped inform the way we carried out engineering work, where plans for laying a new water main included protection of a wet area where sedges, rushes and irises had been identified during the BAP survey.

BAPs are now being carried out at all our major treatment works, and are updated to ensure their continued relevance. Regular surveys are carried out and any new findings are added to the BAP species lists, so our understanding of our responsibilities continues to grow.

Climate Change

Climate change represents an enormous challenge to society as a whole, but to the water industry in particular because climate has such an impact on the availability of water and our customers' need for water. We have for many years measured our "carbon footprint" and have set ourselves a demanding target of reducing our own carbon emissions by 50% by 2050 in order to mitigate the impact of our activities, but we also have to adapt to the impacts of climate change.

Our plans over the next 25 years will therefore take account of the impact climate change will have on the way we do business. Current research indicates that weather patterns in our area will include a hotter, drier, summer and a milder, wetter, winter. As a result, it is likely that we will need to create more water storage to capture this winter rain, and we may also see changes in the quality of lakes and rivers in our area. We will also work more closely with our customers on water efficiency measures throughout the year.

Climate change is the subject of intensive research and we will maintain our existing very close links with all the stakeholders involved, to ensure that our understanding remains as up-to-date as possible and that regulators and our customers become aware of any new issues as they arise.

Catchment management

We have for many years worked with farmers and other land users in the areas where our water sources are located to protect the quality of this water. This has led to significant improvements, but the principles of good catchment management are increasing in importance because deterioration in quality at the water source may mean that more sophisticated water treatment techniques are required to ensure we continue to provide drinking water that meets DWI requirements.

One particular case where we have made progress through catchment management has been with nitrate in the Gloucester-Sharpness canal. This important water source can at times show nitrate above the drinking water standard, which limits its use as a water source. By careful investigation and working with land users in the area, we have been able to identify the main sources of nitrate and are now working with these stakeholders to help improve the management of the catchment. If this is successful, it will mean that further, more complex, treatment of the water will not be necessary, which will save thousands of tonnes of CO₂ which would be incurred from increased energy and chemical costs.

We will use the experience we have gained through this project to ensure that all our water sources continue to be protected. Looking to the future, we intend to carry out further catchment assessment for the Mendip Lakes and other sources which may be at risk from deterioration, and we will work closely with land users and other stakeholders such as Natural England and the Environment Agency to ensure that this is addressed as effectively as possible.

Our Commitment

- We will continue our ongoing good management of our environmental assets, including our custodianship of sites of special scientific interest.
- We will continue to measure all our significant environmental impacts and work constantly to ensure these impacts are controlled.
- We will keep all our Biodiversity Action Plans up to date and use them to ensure that our work is carried out in a way which is sensitive to the needs of the environment.
- We will rise to the challenge of climate change. We will ensure that our investment and maintenance is managed in a way which will mitigate our impact on the global environment, and will take account of future change. We will also maintain close links with other stakeholders on climate change research.
- We will gain a better understanding of potential issues in sensitive water catchment areas, and we will work with all the stakeholders involved to reduce the impact that these may have on water quality and biodiversity.