



Highlights
Towards sustainability
2005-2006

(UK water industry Sustainability Indicators 2005/2006)

Foreword



I welcome this latest annual report on the water industry's sustainability indicators. The indicators give us valuable information on progress made towards achieving sustainable development, as well as highlighting the areas in which further improvements are needed.

The number and range of these indicators serve as a reminder that sustainable development covers social and economic as well as environmental issues. It also reminds us that the environmental impact of the water industry is not limited to water quality and water supply, but touches on other areas such as biodiversity, use of materials and climate change. I welcome the progress made in a number of these areas, including the improvement in drinking water quality, and the water industry is working hard to deliver in the areas where progress has been slower.

The Stern Review and the drought in the South East of England this summer have highlighted the cost and possible consequences if we fail to tackle climate change. The water industry has a contribution to make by reducing its carbon footprint, and I am pleased that progress has been made in reducing the total energy used and increasing the use of renewable energy. I hope that this translates soon into a reduction of greenhouse gases emitted.

The drought has also highlighted the importance of water efficiency and leakage. The overall reduction on leakage is to be welcomed, and most companies have met their annual leakage targets. Ofwat's review of how leakage targets are set should help ensure that they take into account the full range of costs and benefits, including environmental and social costs.

Delivering a sustainable water sector will require a concerted and coordinated approach and I look forward to continuing to work closely with the industry, its regulators and the Consumer Council for Water to achieve this, through the work of the Water Saving Group and elsewhere.

A handwritten signature in black ink, appearing to read 'Ian Pearson'.

Ian Pearson
Minister of State for Climate Change and the Environment

Highlights for 2005/2006

Demands for water are continuing to rise and maintaining supplies to meet these demands is becoming increasingly difficult. The reasons include climate change, population growth and demographic changes, changing lifestyles and environmental regulations.

Meeting current needs

Water suppliers have implemented a number of responses to meet the needs of customers for water, particularly:

- Reducing the amount of water lost through the distribution system;
- Encouraging water users to cut the amount of water wasted;
- Increasing the level of metering, to regulate demand;
- Developing new or enhanced water resources ;
- Improving local and regional connectivity between water supply zones.

Under extreme dry weather conditions, water suppliers may also have to turn to hosepipe and sprinkler bans and restriction orders to limit water use for non-essential purposes.

Balancing the options

Resource development, demand management (including water efficiency) and leakage control all have a part to play in securing adequate water supplies for existing and future generations. This is a balancing act, between the options and between the financial, social and environmental costs and benefits of the potential solutions.

Resource development

Current water resources will need to be augmented in many areas to ensure the sustainability of future water supplies. New rainwater storage facilities (reservoirs), reuse of treated wastewaters and even desalination may all have a role. All options would need to be reviewed in terms of environmental and social costs. All have implications for additional energy consumption and carbon emissions dependent on the treatment route.

Demand management

Demand management has a strategic role to play. The drivers for more effective demand management include technological development and legislation/regulation to ensure that new homes, and modifications to existing homes, become more water efficient. Understanding customer behaviour is important to target water efficiency measures and messages efficiently and to influence water appliance manufacturers.

Leakage control

Leakage control has been an integral part of water industry business for many years. It is 30% less now than in 1997. Water suppliers are working hard to meet annual leakage targets set by Ofwat and most consistently achieve or better these. As leakage levels are driven down, bursts become harder to find and further leakage savings more expensive. The customer also has a part to play as around 30% of leakage is estimated to arise from customer-owned supply pipes. All water suppliers have a policy to assist customers with repairs.

Towards Sustainability

There is already much debate about water resource provision for the future, particularly given the recent drought in the South East of England. Amongst the questions that need to be addressed are:

- Are predictions about climate change, population shifts and changes, competing demands for water etc. sufficiently robust to allow the correct mix of options for a reliable and truly sustainable public water supply to be delivered?
- Is balanced consideration given to arguments for sustainability in proposals for housing developments to allow consistent and cost-effective water supply into the future?
- To what extent do customers respond to calls to use water wisely, what incentives exist or could be added?
- How far can demand management, water efficiency and further leakage control actually meet future needs for water?
- How will these issues affect the options already open to water suppliers?



Executive summary

The UK water industry is a long-term business that requires major investment in infrastructure, operational skill and maintenance to supply clean water and to collect and treat sewage, so that public health needs today and in the future are fully and efficiently met.

This report shows how the water industry is moving towards sustainability in carrying out its functions and fulfilling its responsibilities to customers, employees, shareholders, suppliers and contractors, neighbours, the community and the environment. It is a self-appraisal, measuring shortfalls as well as achievements – but with a strong industry commitment to sustainability.

The report is structured under the four priority areas outlined in the Government’s sustainable development strategy (sustainable consumption and production; climate change and energy; protecting natural resources and enhancing the environment; and creating sustainable communities and a fairer world).

1. Sustainable Consumption and Production

There has been a small but discernible overall increase in the amounts of materials recycled or reused. With



chemical use optimised, the amount available for recovery afterward remains small. The amounts of aggregates recycled or reused is slightly lower than last year. However, the proportion of excavated spoil diverted from landfill is greater and recycling of drinking water and wastewater sludge continues to increase.

During 2005/2006 the number of licences exceeding

Use and reuse of materials			
Indicator	Result 2004/2005	Result 2005/2006	Progress
Chemicals			
• to supply 1Ml water	0.057 tonnes	0.073 tonnes	↓
• to treat 1Ml sewage	0.07 tonnes	0.07 tonnes	↔
• recycled	0%	0.1%	↔
Aggregates	65%	61%	↓
• recycled			
Excavated material			
• total	> 6m tonnes	> 4.3m tonnes	↑
• diverted from landfill	35%	45%	↑
Sludge			
• total	1.3m tonnes	1.35m tonnes	↔
• reused	81%	88%	↑

Delivering drinking water			
Indicator	Result 2004/2005	Result 2005/2006	Progress
Compliance with abstraction licences			
• number of exceedances	94	38	↑
• Ml in excess	4,280	299	↑
Loss from supply network (Ml/day)	4,950	4,858	↑
Tests complying with drinking water standards	99.86%	99.88%	↑

Industry Overview

Indicator	Result 2004/2005	Result 2005/2006	Progress
Operating cashflow	£4,823m	£5,528m	↑
Amount of interest paid	- £1,124m	- £804m	↑
No. operators with management systems for sustainability	Env: 17 Qual: 21 H&S: 24	Env: 18 Qual: 22 H&S: 24	↔
No. of convictions	101	91	↑
Value of investment in industry wide research	£3.06m	£3.2m	↑

their daily abstraction limits fell and only one exceeded its annual abstraction limit. In the prevailing climate, this was a notable success. Good progress was also made in less water being lost in distribution and in drinking water quality.

At the industry level, the cash flow in 2005/2006 was sufficient for maintaining its operational and capital programmes. The extensive range of formal management systems were extended during 2005/2006 to even more areas of business and to new operational units. Convictions for breaching regulatory conditions fell in 2005, and mainly related to sewage, water resources and road and street works. Expenditure on one-voice research remained constant at just over £3million.

2. Energy and Climate Change

The water industry uses substantial amounts of energy, notably in treating water and wastewater and at its pumping stations, but continues to make good progress in reducing its energy use.



Emissions of greenhouse gases

Indicator	Result 2004/2005	Result 2005/2006	Progress
Greenhouse gases emitted			
• total (tonnes)	4.14m	4.15m	↔
• in supplying 1Ml water	0.249 tonnes	0.289 tonnes	↓
• in treating 1Ml sewage	0.641 tonnes	0.406 tonnes	↑
• CO2 from road transport	0.00183 t/p	0.0017 t/p	↑

Use of Energy

Indicator	Result 2004/2005	Result 2005/2006	Progress
Energy used			
• total (GWh)	8,110	7,703	↑
• supply 1Ml water	663kWh	586kWh	↑
• treat 1Ml sewage	663kWh	634kWh	↑
Renewable energy			
• used	8.45%	14%	↑
• generated	392GWh	493GWh	↑



There was also positive progress in the use of non-renewable sources of energy, achieved through increased generation and use of energy from water industry processes and by taking renewable energy from the national grid.

Water industry emissions of greenhouses gases remained steady in 2005/2006 at just over 4 million tones. They arise from the use of gas and of electricity generated from fossil fuels, from transport and from some water industry processes.

3. Protecting natural resources and enhancing the environment

Major improvements in river water quality occurred in the 1990s, mainly due to improved sewerage treatment. River quality is now fairly constant with 76% of UK rivers estimated to be of good biological and 74 % of good chemical quality.

The recent good compliance record for the 570 designated bathing waters in the UK was maintained in the 2005 bathing season.

Managing land

Indicator	Result 2004/2005	Result 2005/2006	Progress
Status of SSSIs on water industry landholdings			
• favourable	18%	17%	↔
• stable/recovering	68%	72%	↑
Land area assessed for biodiversity	50%	70%	↑
Assessed area covered by management plans	35%	80%	↑
Targets in management plans met	50-100%	50-100%	↔

Improving water quality

Indicator	Result 2004/2005	Result 2005/2006	Progress
Rivers with very good to fair			
• chemical water quality	95%	94%	↔
• biological water quality	95%	95%	↔
Bathing waters achieving			
• Mandatory	98.4%	98.4%	↔
• Guideline standards	74%	74%	↔
Population equivalent connected to compliant waste water treatment work	97%	88.0%	↓

Environmental Accounts

Indicator	Result 2004/2005	Result 2005/2006	Progress
Environmental costs of avoiding/abating emissions of			
• CO ₂		>£3.3m	
• NO _x		>£36.5m	
• SO ₂		>£5.3m	

Although the majority of the population was served by compliant wastewater treatment works, compliance fell in 2005/2006.

The status of Sites of Scientific Interest (SSSIs) on the water industry's extensive land holdings is similar to the previous year, with most favourable or unfavourable but improving or stable.

Some water industry land has also been assessed for biodiversity value and then has management plans in place to protect it. Most annual targets are met. Results are better than last year but data are limited.

Sustainable accounts place a monetary value on the cost to avoid selected impacts on the environment or to restore any damage. This new indicator is based on limited data

but, extrapolated, suggest that the water industry overall took measures against air pollution that saved over £120m of environmental damage.

4. Sustainable communities

Serving customers

There were considerable regional and seasonal variations in weather conditions during 2005/2006. For several areas rainfall was below average, especially during winter months, and security of water supply was a problem. Six companies suffered water deficiencies in some supply zones, two acutely.

Domestic water consumption continued to rise during 2005/2006, with customers with unmeasured supply using 10 litres a day more than those who were metered.



Supply/Demand balance

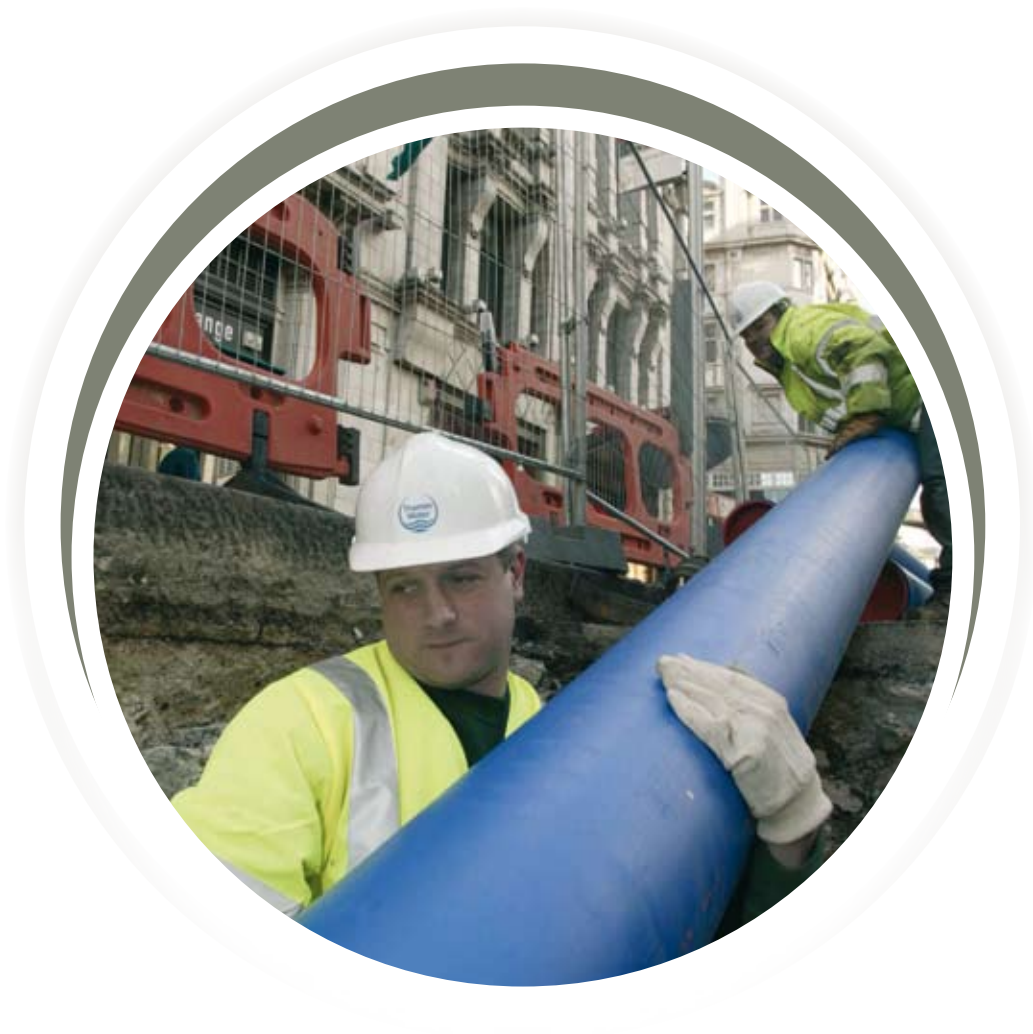
Indicator	Result 2004/2005	Result 2005/2006	Progress
Security of supply index score	100 to -63	100 to -91	↓
Water demand			
• domestic	150.65 l/p/d	151.5 l/p/d	↓
• non-domestic	1.47 l/£GDP	1.31 l/£GDP	↑
Total water consumed	13,355 Ml/day	13,234 Ml/day	↑

Water supply infrastructure

Indicator	Result 2004/2005	Result 2005/2006	Progress
Properties with low pressure supply	19,265	20,052	↓
No of properties with interruptions to supply	734,567 (2.68%)	757,965 (2.76%)	↓
Investment in assets	£1.94bn	£1.98bn	↑

Wastewater infrastructure

Indicator	Result 2004/2005	Result 2005/2006	Progress
Sewer flooding			↑
• properties at risk	0.042%	0.032%	↑
• flooded	0.021%	0.023%	↓
Investment in assets	£2.272bn	£2.077bn	↓





Non-domestic customers used less water per GDP than in previous years.

Similar numbers of properties to last year received water at low pressure or experienced unplanned interruption in water supply.

A large investment, slightly higher than previously, was made in 2005/2006 to maintain and extend the water supply infrastructure.

Properties at risk of sewer flooding are relatively few. Investment to reduce the number at risk from internal flooding has continued. More than 1,600 properties benefited in 2005/2006.

Society

The water industry plays an active role locally, using its skills and resources to support local needs and, through

Water Aid, international needs. It donated substantial amounts of money and employee time to support local community activities in 2005/2006, though this was notably less than a year ago.

The industry also helps to sustain the local and wider economy. It continues to choose its suppliers and contractors carefully to ensure that the principles of sustainability apply throughout the chain. The results are similar to the previous year but with a more reliable dataset.

For existing customers, the industry provided a good service in 2005/2006 with fewer households than in recent years entitled to compensation for failure to meet guaranteed standards. However, there was an increase in the number of successful applications in England and Wales for vulnerable customer status, reflecting prevailing economic conditions.

Society			
Indicator	Result 2004/2005	Result 2005/2006	Progress
Value of community investment	>£10m	>£6m	↓
• Contracts with sustainability criteria	74%	62%	↓
• Sustainability criteria used to assess suppliers	71%	62.8%	↓
• Resources for supplier relations (work-days/yr)	>25,000	>20,000	↓
• Contracts paid in accordance with agreed terms	80%	80%	↔
No. of payments made against Guaranteed Standards Schemes	17,458	13,759	↑
Households with water bills >3% income	9%	9%	↔
No of vulnerable customers	9,809	12,961	↓

Worker profile

Indicator	Result 2004/2005	Result 2005/2006	Progress
Employee turnover rate	10.34%	10.3%	↔
Investment in employee training and development	£390/p	£342/p	↓
	17hrs/yr	17hrs/yr	↔
Age	6% 18-24yrs 69% 25-49yrs 25% 50-64yrs	6.8% 18-24yrs 67% 25-49yrs 26% 50-64yrs	↔
Gender	29% female	26% female	↔
Minority ethnic background	4%	>1.5%	↔

Working conditions

Indicator	Result 2004/2005	Result 2005/2006	Progress
Workforce with access to formal bargaining	97.4%	98%	↔
Average no. of days lost through absence	6.5 d/p/year	5.6 d/p/year	↑
Reported accidents/ 100,000 employees	1,374	917	↑

Employment

The turnover rate in the water industry has been fairly constant over recent years, at around 10.3%.

During the year over £10 million was invested in training employees, in addition to on-the-job training. This was down on the previous year.

The age, gender and ethnic profile of the industry was consistent with previous years.

Apart from senior employees or those on temporary contracts, employees had full access to worker

representation in 2005/2006. The majority had a formal policy on this.

The average number of days lost per employee through absenteeism continued to improve in 2005/2006.

The water industry aims to have safe, well-maintained plant operated by trained and safety aware employees. In 2005 there were 337 reported accidents amongst the industry's employees, with a similar rate reported for contractors working for the industry. This was an improvement over the year before.



Sources of Information from the Water Industry (website links)

Water UK	www.water.org.uk
Eureau	www.eureau.org
UK Water Industry Research Ltd (UKWIR)	www.ukwir.org.uk
Anglian Water Services Ltd	www.anglianwater.co.uk
Bournemouth & West Hampshire Water plc	www.bwhwater.co.uk
Bristol Water plc	www.bristolwater.co.uk
Cambridge Water plc	www.cambridge-water.co.uk
Dee Valley Water plc	www.deevalleygroup.com
Dwr Cymru	www.dwrcymru.com
Essex & Suffolk Water (part of Northumbrian Water)	www.eswater.co.uk
Folkestone & Dover Water Services Ltd	www.fdws.co.uk
Mid Kent Water plc	www.midkentwater.co.uk
Northern Ireland Water Service	www.waterni.gov.uk
Northumbrian Water Ltd	www.nwl.co.uk
Portsmouth Water plc	www.portsmouthwater.co.uk
Scottish Water	www.scottishwater.co.uk
Severn Trent Water Ltd	www.stwater.co.uk
South East Water plc	www.southeastwater.co.uk
South Staffordshire Water plc	www.south-staffs-water.co.uk
South West Water Ltd	www.southwestwater.co.uk
Southern Water	www.southernwater.co.uk
Sutton & East Surrey Water plc	www.waterplc.com
Tendring Hundred Water Services Ltd	www.thws.co.uk
Thames Water Utilities Ltd	www.thameswater.co.uk
Three Valleys Water plc	www.3valleys.co.uk
United Utilities Water plc	www.unitedutilities.co.uk
Wessex Water Services Ltd	www.wessexwater.co.uk
Yorkshire Water Services Ltd	www.yorkshirewater.com

Government and Regulators' Websites

Countryside Council for Wales	www.ccw.gov.uk
Department for Environment Food and Rural Affairs (DEFRA)	www.defra.gov.uk
Drinking Water Inspectorate (DWI)	www.dwi.gov.uk
English Nature	www.english-nature.org.uk
Environment Agency	www.environment-agency.gov.uk
European Commission	europa.eu.int
Health & Safety Executive (HSE)	www.hse.gov.uk
Joint Nature Conservation Committee (JNCC)	www.jncc.gov.uk
Northern Ireland Department for Regional Development	www.drdni.gov.uk
Office of Water Services (OFWAT)	www.ofwat.gov.uk
Scottish Environment Protection Agency (SEPA)	www.sepa.org.uk
Scottish Executive	www.scotland.gov.uk
Scottish National Heritage	www.snh.org.uk
Water Industry Commission for Scotland	www.watercommissioner.co.uk

Water UK represents all UK water and wastewater service providers at national and European level.

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