

# Sustainability Indicators 2007/08





## Executive Summary

This annual report shows how the water industry is performing in a range of areas related to sustainability. Following extensive consultation over the last few years or so, the number and nature of the indicators has changed. The revised suite of indicators focuses on the key aspects of sustainability performance for the industry. The robustness and reliability of the information has been improved, and the information presented is more closely linked to the most relevant sustainability issues for the sector. These changes are part of a process to improve the way in which the industry measures, reviews, and communicates performance towards delivering sustainable outcomes. A summary of this consultation process can be found at [http://www.water.org.uk/revised\\_indicators.pdf](http://www.water.org.uk/revised_indicators.pdf)

The information in this report has been provided by all 23 of Water UK's member companies, which are the statutory water and wastewater service providers in England, Wales, Scotland and Northern Ireland. The indicators provide detail about the industry as a whole, and (in some areas) specific information about companies, comparing these to previous years where appropriate.

A number of new, or substantially revised, indicators have been included for the first time. For each indicator, information is provided on why we are reporting in this area, what the information tells us, and which key issues have been (or need to be) addressed.

The report shows that the industry is making good progress in a number of areas, but there are still many challenges to address. Water companies, regulators, policy makers and others will be able to use the information to help guide future industry-related policy and planning.

The water industry is committed to continued high-quality provision of its essential services in a sustainable way, recognising and addressing the important role it has in areas related to the environment, communities and society in general. In the future, pressures of continued growth, increasing statutory and regulatory requirements, affordability and climate change will make this commitment even more challenging. We look forward to working with a range of stakeholders to help us address the issues identified in this report, and welcome any feedback.

## How to use this document

At the front of this report is a summary table showing performance of the water industry as a whole against sector indicators for 2007/08.

Each indicator is then presented in turn using a combination of tables and charts. Eight of the 36 indicators are 'Core indicators' where each individual company performance is reported.

The booklet is divided into broad sustainability sections, and these are colour coded throughout:

- Customer Experience;
- Climate Change and Energy;
- Natural Resource Protection;
- Sustainable Consumption and Production; and
- Corporate Governance, Management and Performance.

The following information is provided for each indicator:

- Why we are reporting the indicator;
- Data related to the indicator;
- The number of companies reporting <sup>1</sup>;
- Highest and lowest industry figures <sup>2</sup>;
- Confidence gradings <sup>3</sup>;
- Total or average industry figure (where appropriate); and
- Trend performance (where appropriate) <sup>4</sup>



## Notes

- 1 **The number of companies reporting** – There should be 23 companies reporting on each indicator (12 for wastewater specific indicators). Where this is not the case, this has been highlighted in the text.
- 2 **High and Low figures** – The data table for each indicator also shows the highest and lowest reported company figure against that indicator.
- 3 **Confidence gradings** – We have provided the levels of confidence that companies have self-assessed for each of the data points provided. We have based the system on Ofwat regulatory reporting requirements. This is scored in terms of the **reliability** and **accuracy** of the data on a sliding scale from 'low' to 'high'.

Data that is classed as having 'high' **reliability** is that which is based upon sound textual records, procedures or analysis that has been properly documented, and is recognised as the best method of assessment. Data of 'low' reliability is usually based only upon unconfirmed verbal reports or cursory inspections/analysis.

Data that is classed as having 'high' **accuracy** is that which is considered to be accurate to within +/- 1%. Data of 'low' reliability is usually only considered to have an accuracy of +/- 50%.

- 4 **Trend performance compared to 2006/07** – For all regulatory data the performance compared to 2006/07 has been provided. A ✓ represents an improvement in performance, a ✗ represents a decline in performance while a ↔ represents no change in performance.

In a number of cases the indicator is new for 2007/08, and therefore we are unable to provide trend information. In these cases trend performance is indicated in the table as a 'new indicator'. It is the intention in these cases that this year will set the baseline for future trend analysis.



Table 1 – Summary Table – Water UK Sustainability Indicators 2007/08

Indicators in **bold** are core indicators reported by company as well as for the industry as a whole

Indicator	Measure	Units	Result 07/08	Performance compared to 06/07
Drinking Water quality	Compliance with drinking water standards, England and Wales	Percentage	99.96%	↔
	Compliance with drinking water standards, Scotland	Percentage	99.76%	✓
	Compliance with drinking water standards, Northern Ireland	Percentage	99.34%	✓
Low Pressure Supply	Number of properties in the UK with a low pressure supply	Count	10,732	✓
<b>Water Supply Interruptions</b>	<b>Number of properties with interruptions to supply (in excess of 6 hours in duration)</b>	<b>Count</b>	<b>289,190</b>	<b>✗</b>
<b>Risk of Sewer Flooding</b>	<b>Number of properties with a greater than 1 in 10 year risk from sewer flooding per 100,000 properties connected</b>	<b>Count per 100,000 properties</b>	<b>26.2</b>	<b>New Indicator</b>
Incidents of Sewer Flooding	Number of properties actually affected by sewer flooding	Count	3,847	✓
Household Water Affordability	See relevant section in report			
Total Energy Use	Energy used for operational purposes (water and wastewater treatment) and administrative functions (annual)	Gigawatt Hour	8290.1	✗
Renewable Energy Generation	Renewable energy generated by water and wastewater companies	Gigawatt Hour	529.8	New Indicator
Renewable Energy Purchased	Renewable energy purchased by water and wastewater companies	Gigawatt Hour	383.7	New Indicator
Greenhouse Gas Emissions	Total greenhouse gas emissions (from water supply, wastewater treatment, offices and transport)	Million tonnes CO <sub>2</sub> equivalent	4.93	New Indicator
<b>Greenhouse Gas Emissions – water supply</b>	<b>Greenhouse gas emitted in supplying water</b>	<b>Tonnes CO<sub>2</sub> equivalent/ Megalitre</b>	<b>0.276</b>	<b>New Indicator</b>
<b>Greenhouse Gas Emissions – wastewater treatment</b>	<b>Greenhouse gas emitted in wastewater treatment</b>	<b>Tonnes CO<sub>2</sub> equivalent/ Megalitre</b>	<b>0.693</b>	<b>New Indicator</b>

Indicator	Measure	Units	Result 07/08	Performance compared to 06/07
<b>Water Abstraction – Total volume relative to licensed quantities</b>	<b>Total annual volume of water in excess (or within, if shown in brackets) abstraction licences</b>	<b>Megalitre/year</b>	<b>(3,847,293)</b>	<b>✓</b>
Water Abstraction – Relative volume in relation to licensed limits	Total annual volume of water in excess (or within, if shown in brackets) abstraction licences	Percentage	(39%)	✓
Water into Supply	Total volume of water put into supply	Megalitre/day	17,640	↔
Domestic Water Demand	Domestic water demand	Litres/person/day	148.1	✓
Total Loss from the Supply Network	Total leakage	Megalitre/day	4,372	✓
<b>Relative Loss from the Supply Network</b>	<b>Total leakage per 100 km of supply main (average)</b>	<b>Megalitre/day</b>	<b>1.06</b>	<b>New Indicator</b>
Water Saved Through Demand Management Measures	Water saved through demand management measures (households and non-households)	Megalitre/day	67.5	✓
Status of Sites of Special Scientific Interest (SSSIs)	SSSIs in target condition (England only)	Percentage	73%	New Indicator
	SSSI features in target condition (Scotland only)	Percentage	71.3%	New Indicator
Chemicals Use in Water Supply	Chemicals used per MI of water supplied	Tonnes/ Megalitre	0.094	New Indicator
Chemicals Use in Wastewater Treatment	Chemicals used per MI of wastewater treated	Tonnes/ Megalitre	0.047	New Indicator
Company Water Use	Amount of water used, per 1000 full time employees on water company sites	Megalitre per 1000 Full Time Employees	6.2	New Indicator
Use of Aggregates	Aggregates procured from a recycled source	Percentage	16.4%	New Indicator
Sludge Management	Total waste water sludge	Thousands of tonnes of dried solids	1784.8	[Volume increased]
Sludge Use	Waste water sludge sent for recycling (agriculture, land reclamation, other)	Percentage	82.6%	✓
Non-Sludge Waste	Other waste recycled	Percentage	57.8%	New Indicator
Cash Interest Cover	Sector cash interest cover ratio	Ratio	5.8	New Indicator
Management Systems for Sustainability	Number of companies with certified or non-certified Environmental Management System (EMS) in place across all or part of their operations	Count	15	New Indicator
<b>Convictions for environmental and public health offences</b>	<b>Number of convictions (sector total)</b>	<b>Count</b>	<b>60</b>	<b>✓</b>
Contracts with Sustainability Criteria	Indicator still under development			
Reported Accidents	Major/fatal accidents to employees arising whilst undertaking water company related activities	Count per 1000 employees	0.73	New Indicator
Occupational Ill Health	Days lost due to occupational ill health (per employee) (sector average)	Days per employee	5.4	New Indicator
Employee Turnover	Employee Turnover (sector average)	Percentage	10.4%	✗
Employee Absence	Number of days lost through absence during the reporting year (per employee) (sector average)	Days per employee	7.0	✗
Community Investment	Total value of financial contributions to community during reporting year	£	7,767,469	✓

## Drinking Water Quality

Information about drinking water quality is monitored and regulated by the Drinking Water Inspectorate (DWI) in England and Wales, the Drinking Water Quality Regulator (DWQR) in Scotland, and by the Environment & Heritage Service in Northern Ireland. Drinking water quality is based upon tests of water and how it performs against strict standards based on advice from the World Health Organization (WHO) for water quality at customers' taps.

Drinking water remains at a consistently high standard overall, with the percentage compliance in England and Wales at similar levels to 06/07 and in Scotland and Northern Ireland improving against last years' performance.

A key issue for the industry is the rising cost of treating raw water to very high standards, and therefore the challenge is to find more sustainable ways of achieving further improvements in water quality.

**Table 2 – Compliance with drinking water standards**

	% compliance	High	Low	Performance compared to 06/07
Compliance with drinking water standards at customers' taps (%), England and Wales	99.96%	100%	99.38%	↔
Compliance with drinking water standards at customers' taps (%), Scotland	99.76%	NA	NA	✓
Compliance with drinking water standards at customers' taps (%), Northern Ireland*	99.34%*	NA	NA	✓

Source: Drinking Water Inspectorate (England and Wales), Drinking Water Quality Regulator (Scotland). Please note, information about drinking water standards in Northern Ireland is released in December and therefore not available for 2007/08 at the time of printing.

\* 2006/07 results.

### Confidence



## Low Pressure in Supply

The low pressure indicator refers to the total number of properties in the company water supply area which have received and are likely to continue to receive water pressure below the company's reference level. Low water pressure can cause inconvenience, for example during the use of appliances such as modern washing machines.

The number of properties in the UK (excluding Northern Ireland who do not record this information) with a low pressure supply has fallen in recent years and continues to do so. The number of affected households is 10,732, a reduction from 13,216 in 2006/07 and 30,744 in 2002/03.

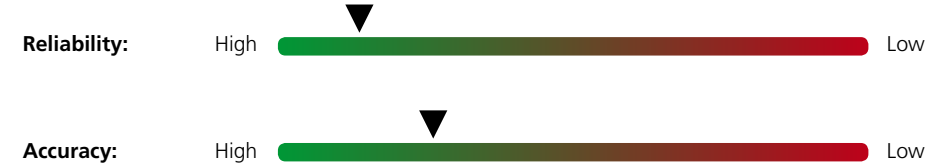
Despite significant projected household growth, planned investment in the water supply network should mean that the numbers of customers experiencing low pressure continues to fall in future.

**Table 3 – Number of properties in the UK with a low pressure supply**

	Total	High	Low	Performance compared to 06/07
The number of properties in the UK with a low pressure supply	10,732	5,907	2	✓

Note: Northern Ireland Water do not record this information.

### Confidence



## Water Supply Interruptions

This is a measure of the number of properties (households and non-households) which are affected by unplanned interruptions of more than 6 hours. Unplanned interruptions to water supply may occur due to emergencies such as burst pipes.

Across the industry, the total number of properties with unplanned interruptions to supply rose in 2007/08 to 1.04%, up from 0.75% in 2006/07. The graph shows individual company performance for the year normalised as the number of properties affected per 100,000 properties connected, and is reported for the first time.

The majority of water companies continue to maintain low levels of interruptions to supply. However, extreme events can have significant effects on results. Severn Trent Water's performance is mainly due to the Gloucester floods in July 2007, which affected 138,000 properties. Similarly 89% of the interruptions to water supply in Welsh Water's regions were due to the Gloucester flood in July 2007.

**Table 4 – Number of properties with interruptions to supply**

Core Indicator	Total	High	Low	Performance compared to 06/07
The number of properties with interruptions to supply*	289,190	195,235	77	<b>X</b>

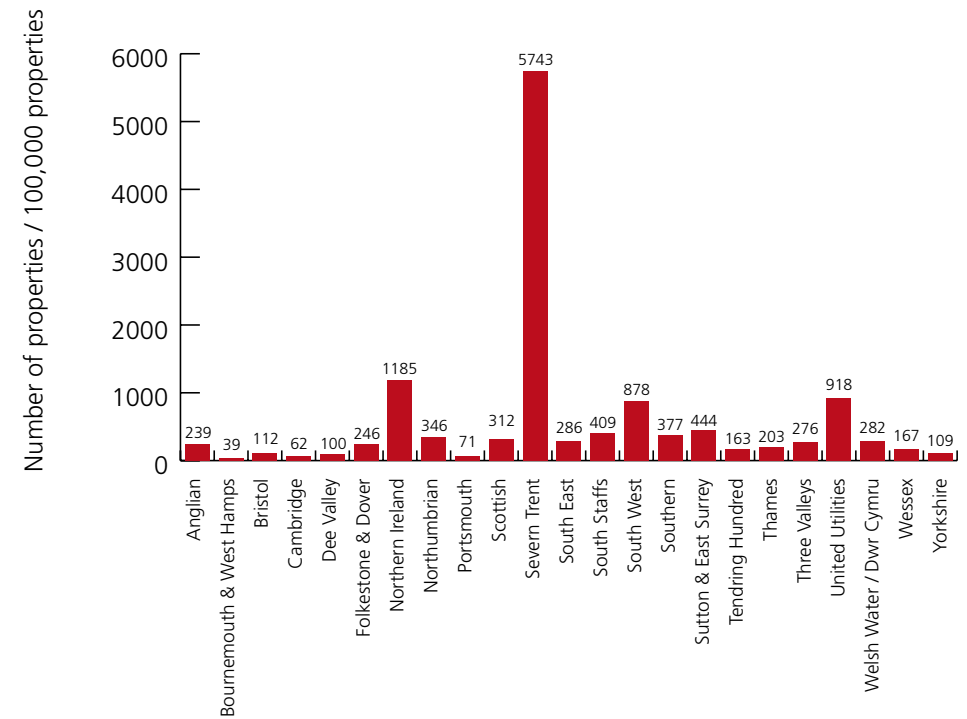
\* In excess of 6 hours in duration

### Confidence

Reliability: High  Low

Accuracy: High  Low

**Figure 1 – Number of properties with interruptions to supply**



## Risk of Sewer Flooding

This indicator shows how many properties are at risk of internal sewer flooding, defined as the total numbers of properties that have a level of risk greater than 1 in 10 (once in ten years) per 100,000 properties connected.

The total number of properties with a greater than 1 in 10 year risk from sewer flooding was 7,107 representing 0.026% of total properties. The individual company results are shown on Figure 2. The industry average for 2006/07 was rounded up to 0.03%, however we intend to report to a greater degree of accuracy in the future.

These figures include properties on the 1 in 10 and 2 in 10 flood risk registers which companies are directly funded to reduce. Companies can and do undertake additional work to reduce internal and external flooding at properties at lower risk than this, but their primary focus is on the highest risk properties, as the industry understands that sewer flooding is amongst the worst service failure customers can experience.

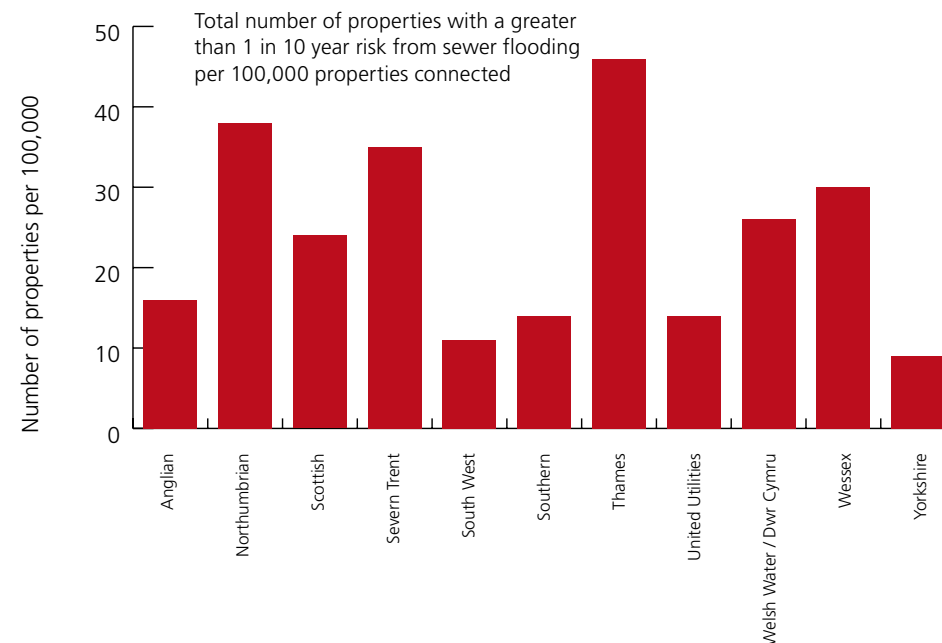
Companies in England and Wales are investing around £1.6 billion in the current planning period 2005-09 to address flooding caused by a lack of capacity in the sewerage network. Under companies' proposals for the next planning period (2010-14) the number of properties at risk of flooding internally at least once in ten years in England and Wales would fall from approximately 6,500 (as at March 2008) to about 2,900 by March 2015.

Table 5 – Number of properties with a risk from sewer flooding

Core Indicator	Average	High	Low	Performance compared to 06/07
Properties with a greater than 1 in 10 year risk of sewer flooding per 100,000 properties connected	26.2	46	9	New Indicator

Note: Northern Ireland Water do not record this information.

Figure 2 – Number of properties at risk of sewer flooding



### Confidence

Reliability: High  Low

Accuracy: High  Low



## Incidents of Sewer Flooding

This indicator shows that the number of properties that have actually been affected by internal sewer flooding, highlighting the number of properties which have suffered the resulting adverse social and economic impacts.

The number of properties actually affected is lower than in 2006-7, with only 0.014% of the total number of connected properties affected compared to 0.02% in the previous year.

The number of properties impacted is significantly affected by extreme events such as the summer flooding in 2007. In some locations over 100 millimetres of rain fell in a single day, resulting in flooding to properties from both overloaded public sewers and rivers.

**Table 6 – Number of properties actually affected by sewer flooding**

	Total	High	Low	Performance compared to 06/07
Properties affected by internal sewer flooding	3,847	1,686	62	✓

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Household Water Affordability

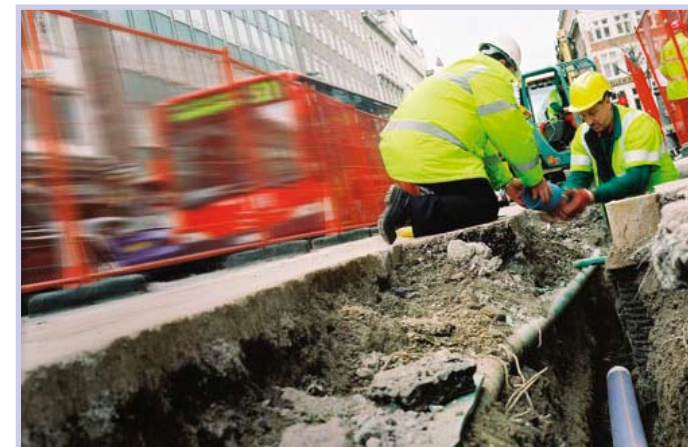
This indicator shows the proportion of customers facing bills that are high compared to their household income. Work is continuing between the water industry, Government and consumer bodies such as the Consumer Council for Water to best define and develop measures that are representative of affordability issues and the extent of water poverty amongst householders.

Until an agreed measure is developed we report here against a previously used affordability indicator defined as the proportion of households where water and sewerage bills are greater than 3% of disposable income. Although not related directly to water poverty, this does enable us to show changes in affordability.

Since 2003/04, Ofwat figures show that average household water bills have risen by 18.7% in England and Wales (in real terms). Projections from the *Cross Government Review of water Affordability* published in 2004 indicate the proportion of customers who pay more than 3% of their income on water and sewerage is likely to have risen from 7.8% in 2004/05 to 10.7% in 2009/10.

The water industry will continue to play an active role in helping to tackle affordability through:

- Providing measures to help the vulnerable and those struggling to meet their water bills (e.g. flexible payment plans, help with paying through Water Direct, variable tariffs, promoting the WaterSure tariff and providing debt advice and debt relief for the most financially disadvantaged)
- Measures to tackle those that can pay but do not pay
- Lobbying for legislative change to reduce the debt burden and working with consumer bodies to improve help with water affordability



## Total Energy Use

This indicator presents energy (GWh) used for operational purposes (water and wastewater treatment) and for administrative functions. It does not distinguish between different types of energy, but helps to provide an indication of how much energy the industry is using in the provision of core water supply and wastewater treatment services.

The total energy use across the whole industry has fluctuated around an average of 8,000GWh in recent years, although the trend in the last two years shows a slight increase, representing around 0.4% (source: digest of UK energy statistics 2008) of total energy use in the UK. This reflects the intensification of energy use in water and wastewater treatment as standards tighten and as new treatment works are commissioned.

The water industry is committed to increase energy efficiency as part of wider initiatives to reduce its contribution to climate change through emissions of CO<sub>2</sub> and non- CO<sub>2</sub> gases.

Figure 3 – Energy used for operational purposes and administrative functions (2002/03-2007/08)

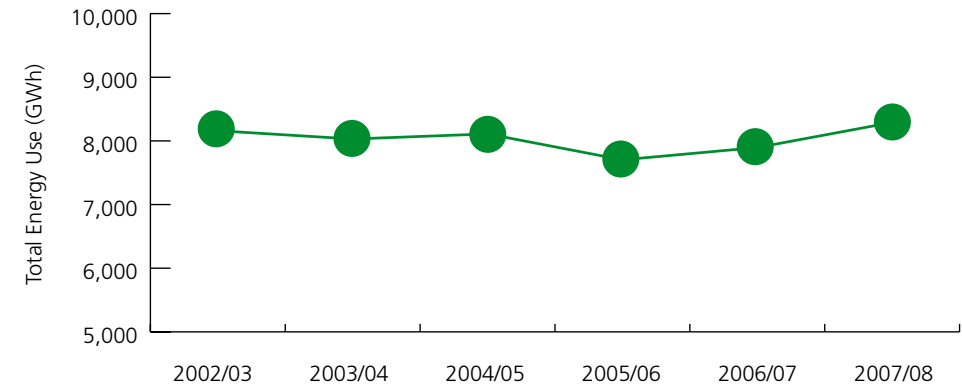


Table 7 – Energy used for operational purposes and administrative functions

	Total	High	Low	Performance compared to 06/07
Energy used for operational purposes* and administrative functions (GWh, annual).	8290.1 GWh	1436.8	6.6	✘

\* Water and wastewater treatment

## Confidence



## Renewable Energy Generation

The increased generation of renewable energy in the water industry is a key part of the drive towards reducing the dependence on fossil fuels, and also helps to reduce greenhouse gas emissions.

The total annual renewable energy generation reported by the sector (at 529.8 GWh) is about 6.5% of the total energy use. The renewable energy generated is either used on-site by the company or sold and exported to the national grid to benefit the UK as a whole.

The water industry is continuing to explore opportunities to include renewable generation as part of their planned investment programmes. Currently, renewable generation opportunities are largely associated with sludge recycling and associated energy recovery activities within the wastewater treatment processes. However, wind, hydro and other renewable power is also important. It should be noted that some companies are at a geographical disadvantage when it comes to resources available for renewable energy generation.

**Table 8 – Renewable energy generated by water and wastewater companies**

	Total	High	Low	Performance compared to 06/07
Renewable energy generated (annual)	529.8 GWh	169 GWh	0 GWh	New Indicator

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Renewable Energy Purchased

This indicator shows how much renewable energy is purchased by the industry from other energy suppliers. This energy is often used to supplement renewable energy generation. In addition to renewable energy, some companies do also purchase 'green' tariff energy, although 'green' tariff energy is not reported here.

This is a revised indicator, which together with renewable energy generation provides a more complete picture on the industry's contribution to renewable energy. In future reports, we will aim to develop a core indicator for renewable energy for individual companies.

It is important to note that purchasing of renewable or 'green' tariff energy is not considered by government or regulators to have a carbon benefit attached and cannot be reported for statutory or regulatory purposes. Nevertheless, it does contribute to total demand and helps stimulate the overall market for renewable energy.

**Table 9 – Renewable energy purchased by water and wastewater companies**

	Total	High	Low	Performance compared to 06/07
Renewable energy purchased (annual)	383.7 GWh	189.5 GWh	0 GWh	New Indicator

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Greenhouse Gas Emissions

Greenhouse gas emissions stem from energy use and from waste and wastewater treatment processes. They contribute to global climate change through emissions of primarily carbon dioxide, methane and nitrous oxide.

Total greenhouse gas emissions have been calculated using a revised standardised industry reported tool (UKWIR Carbon Accounting in the UK: Water Industry Workbook).

The normalised information from individual companies is shown in Figure 3. The variation across the individual water company emissions data is associated with geographic and operational differences.

Continued growth and increasingly stringent quality standards are the key drivers for increased energy use and emissions. However, companies and regulators are working together on greenhouse gas mitigation to make a positive contribution to the UK targets set by Government, while also delivering high quality and sustainable water and wastewater services.

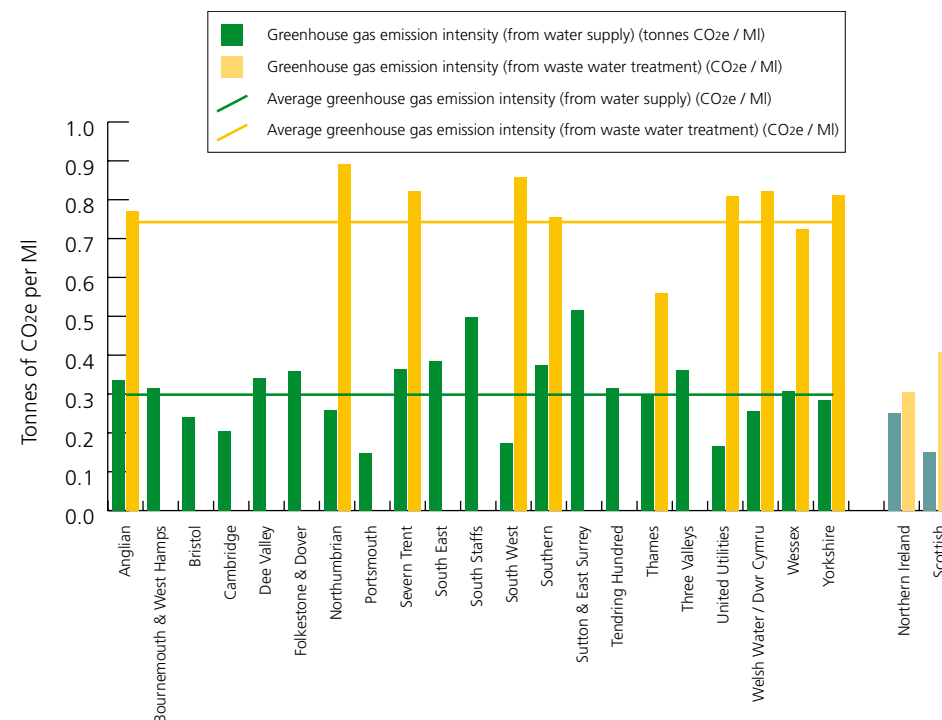
**Table 10 – Greenhouse gas emissions**

Core Indicator <sup>1,2</sup>	Total	Performance compared to 06/07
Total greenhouse gas emissions (from water supply, wastewater treatment, offices and transport)	4.93 Million tonnes CO <sub>2</sub> e	New Indicator
Greenhouse gas emissions from supplying water (CO <sub>2</sub> e per MI of water supplied)	0.276 tonnes CO <sub>2</sub> e / MI	New Indicator
Greenhouse gas emissions from wastewater treatment (CO <sub>2</sub> e per MI of waste water treated)	0.693 tonnes CO <sub>2</sub> e / MI	New Indicator

1. Note: Scottish Water data is 06/07, as 07/08 data is not available at the time of printing. Northern Ireland Water is not yet using the 'Carbon Accounting Workbook' to calculate greenhouse gases.

2. The volume of wastewater treated is based on information reported to regulators. In reality, water from highways drainage, run off and infiltration also enters the sewerage network and is treated. This means that the ratio for wastewater treatment appears higher than is actually the case.

**Figure 4 – Greenhouse gas emissions – from water supply and wastewater treatment**



Note: Scottish Water data is 06/07, as 07/08 data is not available at the time of printing. Northern Ireland Water is not yet using the 'Carbon Accounting Workbook' to calculate Greenhouse gases. Neither company's data have been included in the 'average' calculations in the individual company performance shown above.

### Confidence

Reliability: High  Low

Accuracy: High  Low

## Water Abstraction

The granting of abstraction licences is based on the ability of the environment to cope with a reduction in surface or groundwater quantities and river flows. Identifying the quantity and severity of over-abstraction helps to indicate whether abstractions are being managed sustainably, and whether there are changes in the potential risks to the environment.

In 2007/08 abstraction was well within the licensed total. This reflects the reduced demand during that year due to the wet summer (see also 'Water into Supply' below). Information from individual water companies is shown in Figure 4.

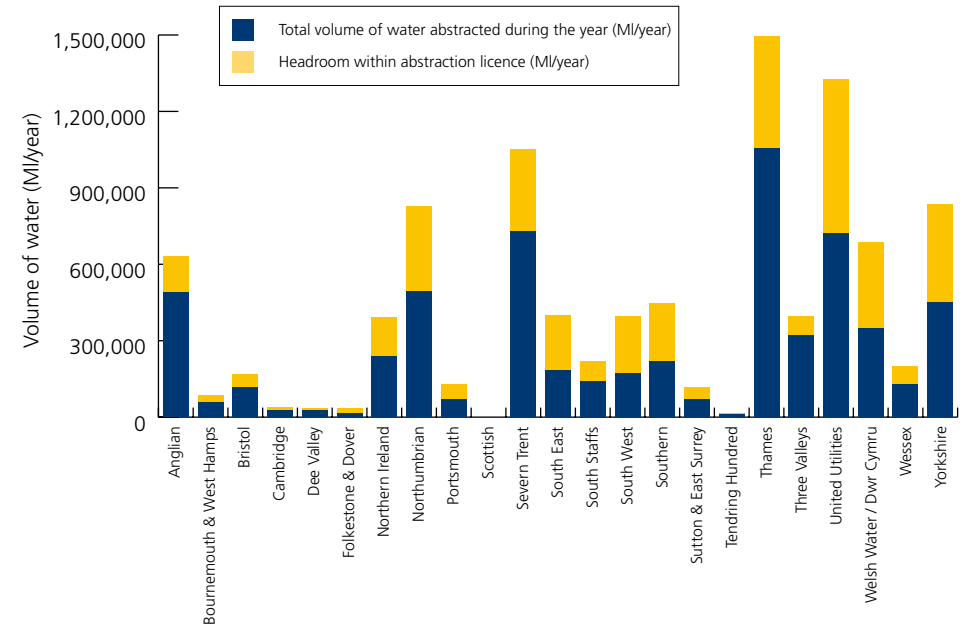
The total licensed quantity for each company reflects the potential resource needed in any year to ensure that average and peak demands can be met. The headroom provided by the licensed total is essential to maintain security of supply during drier periods, droughts and periods of high demand. It will vary across the country depending on the nature of water sources and regional characteristics.

**Table 11 – Volume of water abstracted in relation to abstraction licence limits**

Core Indicator	Total	Performance compared to 06/07
Total annual volume of water in excess (or within) abstraction licences (Ml/year)	(3,847,293)	✓
Total annual volume of water in excess (or within) abstraction licences (%)	(39%)	✓

*Note: Water abstraction is under a new regulatory regime in Scotland; a capital programme is in place to gather this type of information, which should be able to provide accurate data by 2011.*

**Figure 5 – Volume of water abstracted in relation to abstraction licence limits**



### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Water into Supply

The supply of water to homes, businesses and industry is the core function of any water company. This indicator helps to provide an important context to a range of other indicators including abstraction, water demand, loss from the supply network, and total energy and resource use figures.

There is a very slight increase in the volume of water supplied for 2007/08 compared to last year (17,531 MI/day was supplied in 2006/07).

The industry plans and works hard to balance supply and demand for water. The amount of water put into supply will be impacted by weather patterns, and pressures to increase supply resulting from population growth, increased consumer demand and a range of other factors. However, leakage management, improving water efficiency and investing in infrastructure can help to reduce the total volume of water required for supply.

**Table 12 – Total volume of water put into supply**

	Total	High	Low	Performance compared to 06/07
Total volume of water put into supply (MI/day)	17,640	2,572	29	↔

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Domestic Water Demand

Changes in domestic water demand reflect a range of issues, including trends in behaviour, water use and the results of efforts (by the industry and others) to manage consumer demand and to reduce wastage.

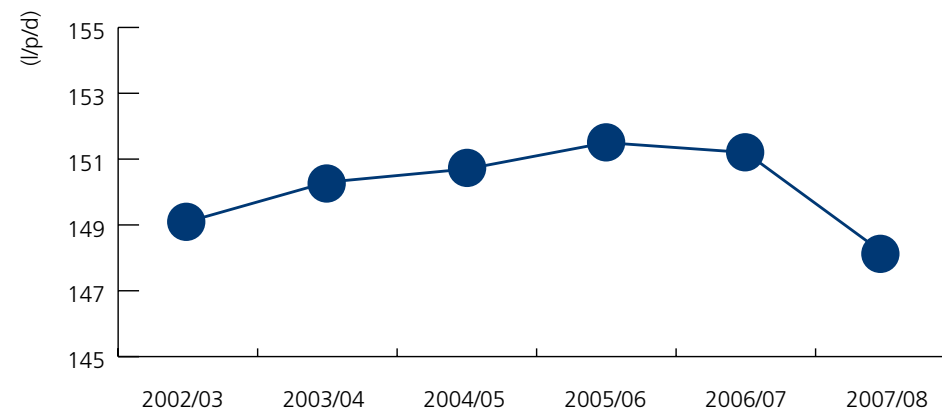
The sector average for domestic water consumption has fallen slightly for the second year in a row, which at least partly reflects recent wet summers following the drought in the south east in 2005/06.

While domestic demand is not directly under the control of companies, reductions can help offset new and existing pressures on water resources, and the water industry is working with others to encourage more efficient use of water amongst all customers.

**Table 13 – Domestic water demand**

	Average	High	Low	Performance compared to 06/07
Domestic water demand (average, l/p/d)	148.1	169	117	✓

**Figure 6 – Domestic water demand (2002/03- 2007/08)**



### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Total Loss from the Supply Network

The indicator shows the total amount of water that has been abstracted, treated and lost before reaching the customer.

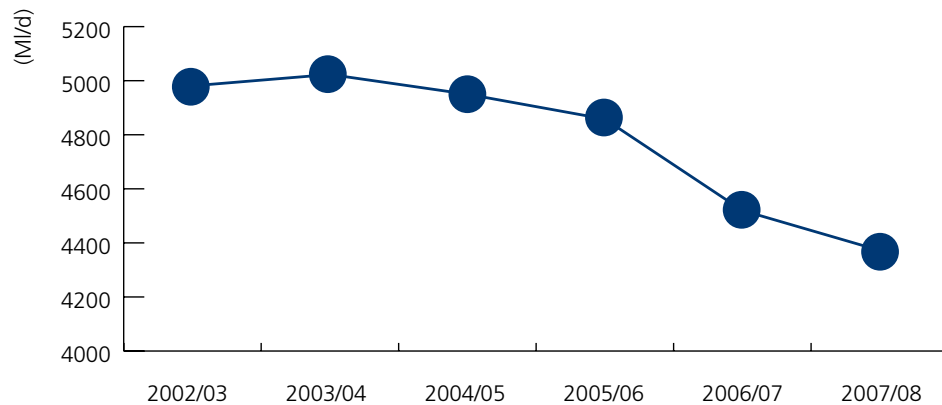
Companies have invested significantly over the last five years and industry leakage has fallen consistently during this period. The total volume of water leakage (4,372 MI/day) is lower than in previous years, and continues the downward trend shown over the last four years.

Companies are working to ensure that losses are reduced to the point where the costs of additional leakage management are greater than the costs of obtaining water from an alternative source. This is defined as the sustainable (economic) level of leakage.

**Table 14 – Total leakage**

	Total	High	Low	Performance compared to 06/07
Total leakage (MI/day)	4,372	924	5	✓

**Figure 7 – Total leakage (2002/03- 2007/08)**



### Confidence

Reliability: High Low

Accuracy: High Low

## Relative Loss from the Supply Network

Leakage rates vary depending on geographic factors and the condition and age of the water mains.

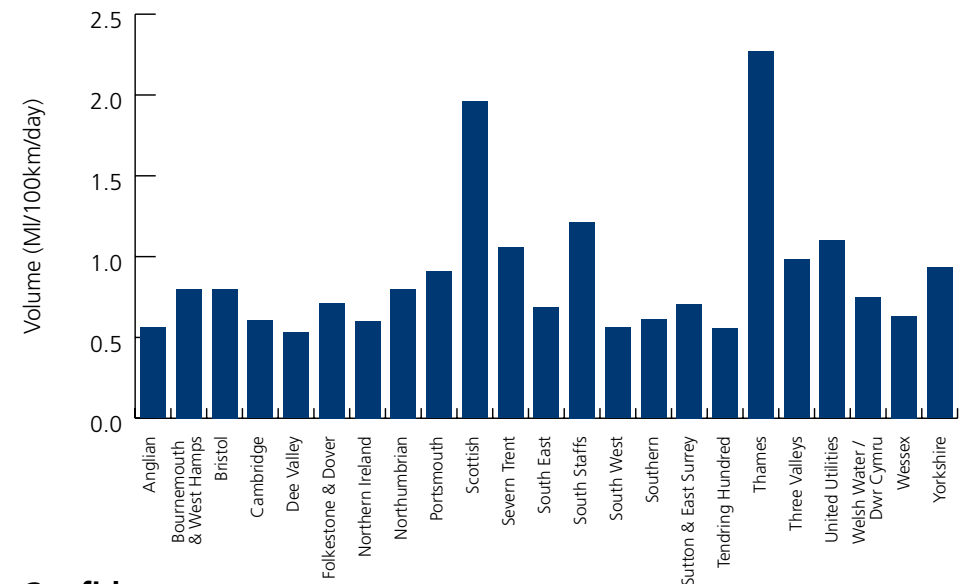
For this indicator, individual leakage rates for companies have been normalised by length of water main (MI/100km/day), and are reported for the first time. Each company in England and Wales met its individual leakage target for 2007/08 as set by the industry regulators. For example, Thames Water has beaten its leakage target for two consecutive years after renewing more than 1,300 kilometres of pipes in London.

The industry recognises the wider benefits of leakage reduction in terms of reduced abstraction and treatment requirements, and will therefore aim to continue managing leakage at its economic level, while also investing in mains replacement where appropriate.

**Table 15 – Total leakage per 100 km of supply main (average)**

Core Indicator	Total	High	Low	Performance compared to 06/07
Total leakage per 100 km of supply main (MI/day)	1.06	2.27	0.53	New Indicator

**Figure 8 – Leakage per 100 km of supply main (average)**



### Confidence

Reliability: High Low

Accuracy: High Low

## Water Saved Through Demand Management Measures

Managing water demand from domestic and non-domestic customers is one of the ways in which companies can help to reduce the amount of water that they need to abstract.

Measuring demand management savings is difficult, and this is reflected in the low confidence scores for this indicator.

Water companies are working with a range of other organisations to collect more robust data for water efficiency activities, many of which are included in business plans for the next five year period. Companies in England and Wales will also be working to meet new water efficiency targets set by Ofwat.

**Table 16 – Water saved through demand management measures**

	Total	High	Low	Performance compared to 06/07
Water saved through demand management measures* (MI/day)	67.5	14.7	0.02	✓

\* Households and non-households.

Note: There is only very limited information held by Northern Ireland Water and Scottish Water does not record this information.

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Status of Sites of Special Scientific Interest (SSSIs)

Water industry landholdings contain a significant area of land designated as Sites of Special Scientific Interest (SSSI), which are areas protected for their wildlife and/or geological importance. The condition of SSSIs is measured differently in the various devolved administrations. In England, condition is measured by Natural England as a percentage of the total SSSI 'area', whereas in Scotland, Wales and Northern Ireland condition is measured by their appropriate agencies based on 'units' or 'features'.

The percentage of SSSI meeting target status is 73% (target status is defined by Natural England as land either in 'favourable' or 'unfavourable recovering' condition). Companies are working with regulators and others to achieve 95% by 2010 by improving the status of land which they own or on into which they have a major input.

**Table 17 – Status of Sites of Special Scientific Interest (SSSI)**

	Average	High	Low	Performance compared to 06/07
% of SSSIs on water industry landholdings in target condition (England only)*	73%	100%	22%	New Indicator
% of SSSIs on water industry landholdings in target condition (Scotland only)	71.3%	-	-	New Indicator

\* Status information does not include data for Welsh Water or Northern Ireland Water. In Wales the Countryside Council for Wales has not yet completed their assessment of SSSI status. The status of SSSIs on Northern Ireland Water landholdings is not known.

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

Note: Confidence levels are affected by external factors, e.g. frequency of regulatory condition assessments

## Chemicals Use in Water Supply

This is a new indicator that has been developed to measure performance against this key resource use for the industry. Chemicals such as disinfectants, oxidising or reducing agents, coagulants, flocculants or precipitation agents are used at various stages of the water supply process. These chemicals require high levels of resources and energy to produce, and can cause damage to ecosystems.

Since this is a newly developed indicator, there is variation in the scope of returns from the industry. Water companies will help to refine this data collection, and we anticipate that it will be possible to provide more comparable results in future years.

The industry is looking to reduce chemical use where possible, without compromising the quality of water supplied.

**Table 18 – Chemicals used for water supply**

	Average	High	Low	Performance compared to 06/07
Chemicals used for water supply (tonnes/MI)	0.094	0.310	0.0014	New Indicator

*Note: Only 20 companies have reported information against this indicator.*

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Chemical Use in Wastewater Treatment

This is a new indicator for chemicals associated with wastewater treatment processes, and therefore mirrors the previous indicator for water treatment.

There is also variation in the scope of returns from the industry for chemicals use. Further refinement is required to provide more comparable results in future years.

The industry is continuing to look into the reduction of chemical use where possible, without affecting the quality of final effluent discharged to the environment.

**Table 19 – Chemicals used per MI of water treated**

	Average	High	Low	Performance compared to 06/07
Chemicals used in wastewater treatment (tonnes/MI)	0.047	0.245	0.00002	New Indicator

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Company Water Use

The industry recognises the need to ‘practice what you preach’ and companies have an important role in demonstrating the efficient use of water throughout its operations.

This indicator is still under development. Given that there is variation in the scope, measurement and reporting throughout the water sector this year, companies were asked to report (as a minimum) the water used within headquarters buildings or key offices.

In total, 18 companies reported on this indicator. One company reporting was unable to split water use data for the headquarters buildings and other site based operations, and so this data has not been included here.

It is not possible to draw any specific conclusions about company water use at present, but improved and more detailed reporting in future will enhance consistency and enable more meaningful comparisons to be made over time.

**Table 20 – Amount of water used on water company sites**

	Average	High	Low	Performance compared to 06/07
Average company water use, per 1000 FTE employees on reported sites (Ml, annual)*	6.2	35	1.7	New Indicator

*Note: Information regarding company water use was only available for 18 companies.  
\* Scope of reporting varies*

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Use of Aggregates

Aggregates are used in maintenance work and in many of the new projects undertaken by the water industry, including work to repair and improve pipes and construct new assets. Monitoring the use of primary and recycled aggregates helps to indicate whether the industry is improving its use of existing resources, or using high levels of primary materials.

This is a new indicator and this is reflected in the number of companies who could report data. Even for those companies reporting, the confidence levels in the reported data were relatively low.

It is not appropriate this year to draw any specific conclusions from these data. In future, companies will be aiming to improve the robustness of data, for example by managing information reported via their supply chain and contractors.

**Table 21 – Aggregates procured from a recycled source**

	Average	High	Low	Performance compared to 06/07
% of aggregates procured from a recycled source	16.4%	45.2%	6.1%	New Indicator

*Note: Information regarding aggregates was only available for 15 companies for infrastructure projects and 11 for non-infrastructure projects.*

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Sludge Management

Sludge is a by-product of wastewater treatment, and this indicator shows the total amount produced.

The total amount of sludge requiring recycling or disposal is higher than last year. This may not necessarily be a bad thing, since sludge is a natural product that can be beneficially used.

Tighter treatment standards for wastewater often result in increased sludge production. The re-use or disposal of sludge in a sustainable manner is a major challenge for the industry, and this indicator provides context to the following indicator on sludge use.

**Table 22 – Total waste water sludge**

	Total	High	Low	Performance compared to 06/07
Total wastewater sludge (thousands of tonnes of dried solids) (ttds)	1784.8	397.4	35.0	[Volume increased]

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low


## Sludge Use

Sludge can be re-used, recycled or disposed of in different ways. In general, recycling of sludge to land is the favoured and most sustainable route as biosolids can reduce the need for artificial fertiliser and have soil improving properties. The choice of routes is related to local circumstances and requirements for transport, energy use, and other resources.

The industry continues to increase the percentage of sludge beneficially recycled to land. The proportion going to landfill is low, and in some companies is avoided altogether.

Thermal destruction allows energy recovery, and when combined with other materials the efficiency of the combustion process is improved. Technologies such as advanced anaerobic digestion, pyrolysis and gasification are currently being developed to improve energy recovery.

**Table 23 – Waste water sludge sent for recycling**

Core Indicator	Average	High	Low	Performance compared to 06/07
% waste water sludge sent for recycling (agriculture, land reclamation, other e.g. composting)	82.6%	100.0%	50.9%	
% waste water sludge sent for thermal destruction <sup>1</sup>	16.1%	46.6%	0%	New Indicator
% waste water sludge sent to landfill <sup>2</sup>	1.3%	5.5%	0%	New Indicator

<sup>1</sup> This includes wastewater sludge that is sent for energy recovery or co-firing with other fuels.

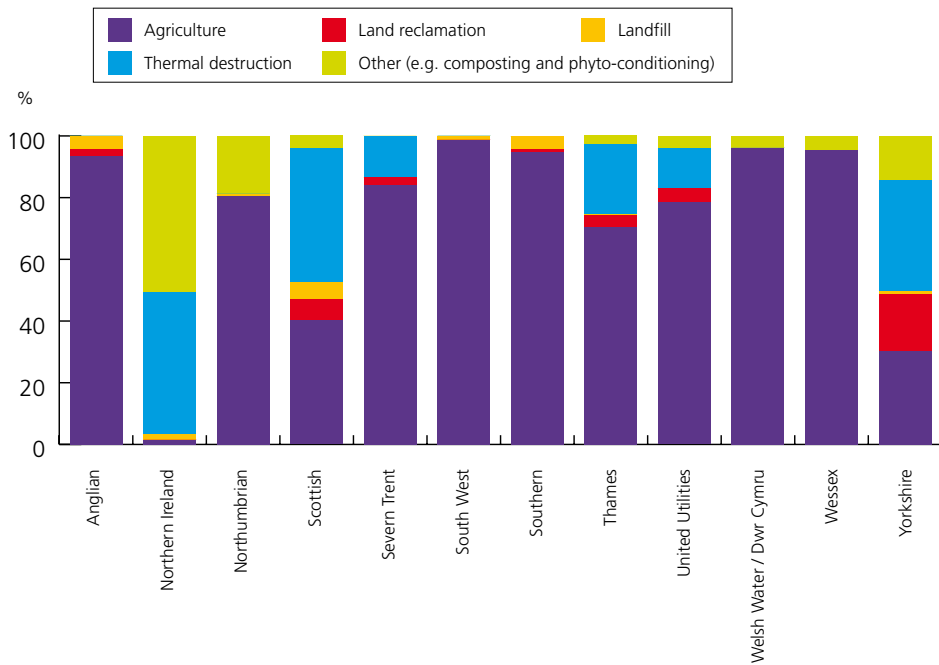
<sup>2</sup> This does not include the grit and screenings component.

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

Figure 9 – Waste water sludge sent for recycling



Note: Wastewater sludge sent to landfill does not include the grit and screenings component.



## Non-Sludge Waste

Other (non-sludge) waste arisings are important for evaluating how well water companies are managing their waste, and ensuring that the maximum amount of waste is diverted from landfill. Types of other waste include office and administrative waste, grit and screenings from wastewater treatment, sludge produced from raw water treatment, construction waste from non-infrastructure projects, and excavated material.

This is a new indicator for 2007/08, and as such there is a significant variation in the scope of reporting. It is anticipated that the quality and scope of data reported for other waste arisings will improve in future years, allowing for more accurate trend analysis and industry performance measurement.

Table 24 – Other waste recycled

	Average	High	Low	Performance compared to 06/07
% of waste recycled	57.8%	78.3%	1.3%	New Indicator

Note: Information regarding this indicator was only available for 14 companies.

## Confidence

Reliability: High  Low

Accuracy: High  Low

## Cash Interest Cover

Whilst the reporting of this indicator by the water industry for sustainability purposes is new, companies have reported this information to regulators and other financial stakeholders for a number of years.

Cash interest cover is a key financial ratio used by regulators to assess the long term financial viability of utility activities. The indicator assesses the sufficiency of utility cash flow into a company to pay the interest on its debts. It is a ratio of the number of times gross interest payments are covered by funds from operations. In general the higher the number is above a ratio of one, the better (although this must be balanced against other financial needs). The sector average reflects the long-term debts built-in within the industry, which are sufficiently covered by income.

This indicator is still under review and if appropriate the development of other financial indicators will be considered in the future.

**Table 25 – Sector cash interest cover ratio**

	Average	Highest company specific ratio	Lowest company specific ratio	Performance compared to 06/07
Sector cash interest cover ratio	5.8	22.6	1.8	New Indicator

Note: Information regarding this indicator was available for 21 companies.

### Confidence



## Management Systems for Sustainability

Management systems help companies to identify their impacts, improve their processes and comply with legislation. This indicator demonstrates the degree of commitment across the sector to improve performance and sustainable business management.

This indicator has been refined this year to provide clearer definitions of different system types and their coverage. Therefore it is not possible to compare directly with data from previous years. More than half of companies have formal environmental management systems, and even more have quality and/or health and safety systems.

The water industry is committed to sustainable management practices and will continue to seek improvements in this area of reporting.

**Table 26 – Number of companies with management systems for sustainability in place and their coverage**

	Total	Performance compared to 06/07
Number of companies with certified or non-certified Environmental Management System (EMS) in place across all or part of their operations	15	New Indicator
Number of companies with certified or non-certified Quality Management System (QMS) in place across all or part of their operations	17	New Indicator
Number of companies with certified or non-certified Health and Safety Management System in place across all or part of their operations	21	New Indicator

Note:

EMS Coverage – Of the 15 companies who have a formal or informal EMS, 11 have 100% staff or site coverage. The remaining 4 have part coverage.

QMS Coverage – Of the 17 companies who have a formal or informal QMS, 9 have 100% staff or site coverage. The remaining 8 have part coverage or are developing their QMS.

H&S Coverage – Of the 21 companies who have a formal or informal system, 19 have 100% staff or site coverage. The remaining 2 have part coverage.

### Confidence



## Environmental and Public Health Convictions

On rare occasions, water companies receive criminal convictions for environmental and public health offences which arise directly from the carrying out of regulated functions. The indicator includes convictions relating to drinking water quality, emissions to water, and wastewater treatment and disposal. Convictions of contractors engaged in utility activities (such as construction activity or of non-compliance with Street Works Act) are not included in this indicator.

The total number of convictions fell from 2006/07 (when there were 83 convictions), but performance across the industry continues to vary.

The numbers of convictions changes from year to year because of the range of operational and external factors that can contribute to incidents and prosecutions. However, the industry is working to reduce rates of incidents (and therefore the potential risk of prosecution and conviction).

**Table 27 – Number of convictions (sector total)**

Core Indicator	Total	High	Low	Performance compared to 06/07
Number of Convictions (Sector Total)	60	12	0	✓

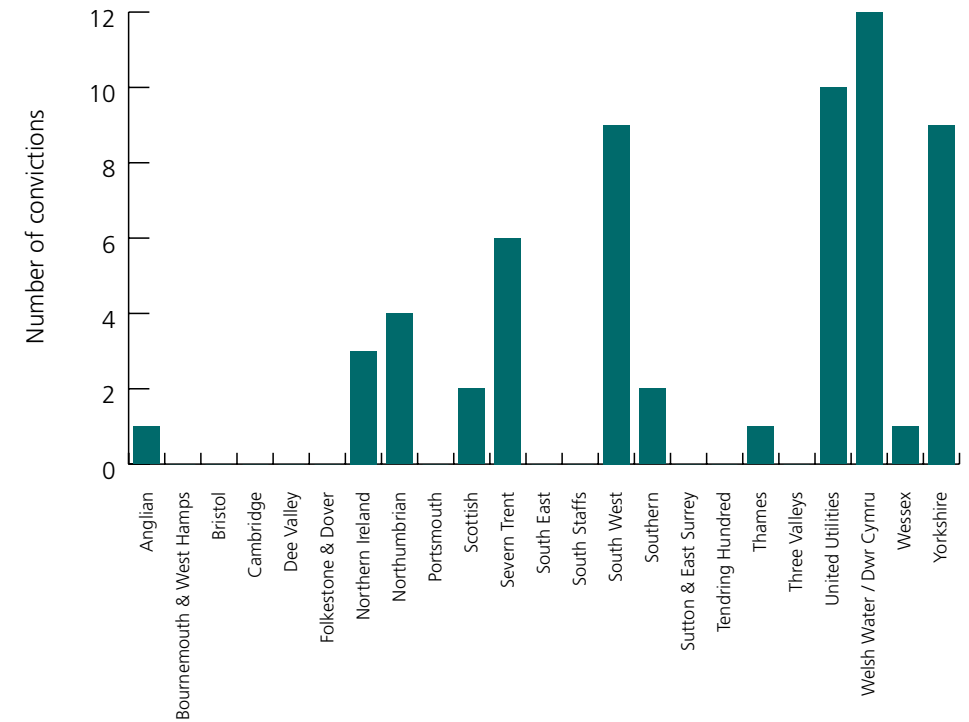
*Note: On 1st April 2007 The Department for Regional Development (DRD) Water Service became Northern Ireland Water. This resulted in the loss of crown immunity which meant that Northern Ireland Water became subject to full Environmental Regulation and with it the threat of prosecution.*

### Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

**Figure 10 – Total convictions relating to drinking water quality, emissions to water, waste water treatment and disposal**



## Contracts with Sustainability Criteria

Sustainability criteria can be incorporated into suppliers' contracts to set the minimum performance standards that all suppliers of a particular type must meet, along with further optional criteria which they are encouraged to achieve.

This indicator has been amended for 2007/08, and the scope of returns throughout the industry varies. The weighting given to sustainability criteria within supplier contracts varies between about 5% and 50%, with most companies reporting around 10-15%. However, this weighting can vary considerably depending upon the nature and scale of the contract in question, and therefore no single industry average is reported this year.

The standard types of information requested by the majority of water companies from their suppliers include whether they have environmental, sustainability and/or health and safety policies, if there is a certified Environmental Management System in place, questions relating to the financial status of the supplier, fraud and corruption, and ethical trading. A number of companies also use the Achilles procurement system to help gather this type of information.

The information gathered during this year will be used to help further refine this indicator for reporting in future years. This will assist in producing guidance and standards for the water industry in terms of procurement and supply chain management.



## Reported Accidents

The approach of a business to the protection of its employees is one of the ways it can affect their working environment. Accidents are by their nature difficult to predict, but all companies have systems in place to improve practice and employee wellbeing and to reduce accidents in their organisations.

The method of reporting these data is new (normalised per 1000 employees) and therefore caution is required in comparisons with data from previous years. Accidents associated with contractors and with construction and asset maintenance make up the majority of those recorded.

The industry's commitment to health and safety (H&S) matters is reflected in the near universal coverage of formal H&S management systems.

**Table 28 – Reported accidents**

	Total	High	Low	Performance compared to 06/07
Major/fatal accidents to employees arising whilst undertaking water utility activities (per 1000 employees)	0.73	4	0	New Indicator
Major/fatal accidents to contractors arising whilst undertaking water utility activities (per 1000 contractors)	0.42	13 <sup>1</sup>	0	New Indicator
Reported accidents arising to employees whilst undertaking water utility activities (accidents resulting in over 3 days off work) (per 1000 employees)	8.49	33	0	New Indicator
Reported accidents arising to contractors whilst undertaking water utility activities (accidents resulting in over 3 days off work) (per 1000 contractors) <sup>2</sup>	1.90	500 <sup>3</sup>	0	New Indicator

<sup>1</sup> The number of accidents may be reported per number of operational contractors or spread across all contractor activity.

<sup>2</sup> Northern Ireland Water and Scottish Water do not have records for contractors.

<sup>3</sup> This very high number came from a company with a very small number of contractors (two) and one accident resulting in over three days off work.

## Confidence

**Reliability:** High  Low

**Accuracy:** High  Low

## Occupational Ill Health

The number of days lost to occupational ill health is an indicator of employee wellbeing and also morale. Occupational ill health topics are defined as:

- Musculo-skeletal disorders (including work-related upper limb disorders);
- Hand-arm vibration syndrome;
- Stress;
- Work related infections; and
- Noise induced hearing loss.

This indicator broadly reflects how well companies support and protect their employees, although some long term conditions can reflect past management rather than current practice.

There is a large range between the highest and lowest industry numbers. The sector average (5.4 days/employee) is not considered high compared to public sector organisations, but is higher than some private businesses (other than construction).

**Table 29 – Days lost due to occupational ill health**

	Average	High	Low	Performance compared to 06/07
Days lost due to occupational ill health (per employee)	5.4	11.8	0.13	New Indicator

### Confidence




## Employee Turnover

A competent and committed workforce is important for any company to achieve its goals, but all businesses will experience some employee turnover, as people leave for a variety of reasons. However, businesses with high employee turnover regularly lose a high proportion of employees that have training and skills applicable and useful to the business. A company with a higher priority on employee welfare would be expected to better retain trained skilled, employees and be attractive to potential recruits.

The industry average of just over 10% turnover in staff is lower than a recent public sector survey average of 13.5% (Chartered Institute of Personnel and Development [CIPD] – Recruitment, retention and turnover survey 2008), and much lower than the overall UK average of 17.3%. However, the highest turnover reported within the industry is high at 26.4%. Information regarding this indicator was available from 20 companies.

Employee turnover can vary from year to year as organisations go through periodic changes or restructuring. However, the industry aims to provide a long term secure environment for employees and for business.

**Table 30 – Employee Turnover**

	Average	High	Low	Performance compared to 06/07
Employee Turnover* (%)	10.4%	26.4%	5.97%	

\*Turnover refers to the total number of leavers, including people who left involuntarily due to dismissal, redundancy or retirement.

### Confidence



## Employee Absence

This indicator shows the total number of days absence (lost days) per 1,000 water company employees. Although recognised as an imprecise measure because of the large number of factors involved in absence, the indicator is considered relevant in helping to identify employee satisfaction and welfare.

The sector average is 7.0 days, which is slightly higher than more recent CIPD reports from private sector businesses (about 6 days), but is lower than the average of about 9 days for the public sector.

Important factors in managing absence are a pleasant workplace environment and good communication. Companies are working in a range of ways to ensure that staff feel valued and have opportunities to raise issues that may be troubling them at an early stage so that they can be addressed. Effective absence management is also about creating work environments which focus on positive attitudes and conditions.

**Table 31 – Number of days lost through absence**

	Average	High	Low	Performance compared to 06/07
Number of days lost through absence during the reporting year (per employee)	7.0	12.2	0.9	✗

### Confidence



## Community Investment

The support provided by businesses to communities can include providing employment, training, employees' time or skills, financial contributions, or education. Some of this support has a direct financial value, for example funding for particular community projects. In other cases, the financial value can be estimated, for example where the business provides goods, services or employee time.

The total cash value of community support is slightly higher than that reported in 2006/07 (£7.6 million). Following the Gloucestershire floods in July 2007, Severn Trent Water decided to make a one-off fund of £3.5 million available to local community projects affected by the floods, thus recognising the important long-term role the company has to play in the community and thanking local people for their support during the incident.

Companies have submitted information on staff time for community projects for the first time. However, as confidence in this data is lower than for other indicators, and because of variation in data returns, this information has not been converted into a cash equivalent.

It is anticipated that companies will improve their internal reporting of staff time inputs to community investment. As this happens it is expected that the numbers of companies reporting and the total hours reported will increase. The sector as a whole remains committed to supporting the communities within which it is based.

**Table 32 – Total value of financial contributions to community**

	Total	High	Low	Performance compared to 06/07
Total value of financial contributions to community during reporting year (£)	7,767,469	2,747,566	2,135	✓

*Note: Information regarding this indicator was available for 21 companies.*

### Confidence



[www.water.org.uk](http://www.water.org.uk)



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