

Sustainability
indicators

2011



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Sustainability indicators 2011

Welcome to the eighth edition of our sustainability indicators booklet. Each of the graphs in this publication are organised against the five capitals model of our sustainability vision and provide an at a glance view of our performance over the last five years in our efforts towards becoming a truly sustainable water company.

This is the sister publication to the sustainability report 'Striking the Balance' which provides more detailed information on the progress we have made and the challenges we face. For further information see the sustainability pages of our website www.wessexwater.co.uk/sustainability

Providing this information in such a way reflects our focus to incorporate sustainability within both the management and planning of the business while identifying where improvements are both seen and needed.



Dr Julian Dennis
Director of compliance and sustainability

The Wessex Water region



About Wessex Water

Our aims

Wessex Water aims to provide high quality water that is sustainable and environmental services that:

- give customers good service and value for money
- protect and improve the environment
- provide employees with the opportunity for personal development and a satisfying career
- give our investors a good return on their investment.

Our values

- We aim to be the best and value everybody's contribution in our pursuit of excellence.
- We are honest and ethical in the way we conduct our business.
- We treat one another, our customers and the environment with respect.

Facts and figures

Wessex Water supplies 1.3 million customers with around 284 million litres of water a day.

To do this we have:

- 97 water sources
- 110 water treatment works
- 209 booster pumping stations
- 340 service reservoirs and water towers
- 11,509 kilometres of water mains

Wessex Water takes away and treats 475 million litres of sewage from 2.7 million customers every day.

To do this our sewerage system includes:

- 17,443 kilometres of sewers
- 405 sewage treatment works
- 1,003 combined sewer overflows
- 1,515 pumping stations

In 2002 we developed our sustainability vision. This sets out the characteristics of a sustainable Wessex Water and the mechanisms needed to achieve our long-term goal of becoming a truly sustainable company.

To aid our progress in achieving this aim our vision is divided into five capitals. Combined, the capitals cover the issues that matter to a sustainable water company, including:

● **Customers and communities**

Having relationships with all our stakeholders that are responsible, clear and co-operative, with governance structures and policies that support sustainable outcomes.

● **Environment**

Helping to protect or enhance all resources and services provided by the environment that are used or affected by our operations.

● **Employees**

Positively contributing to the health, skills, knowledge and motivation of all our employees.

● **Infrastructure**

Elimination of materials that (if not used properly) can result in damage to human health or the environment from all our construction operations and asset maintenance programmes.

● **Finance**

Maintaining a robust balance sheet and long-term stable relationship with shareholders and creditors that share our commitment to sustainability.

Organising ourselves in line with the five capitals helps us understand what a truly sustainable water company would look like and identifies inter-connecting issues across the business.

Within this publication each of the five capitals is divided into coloured sections to easily identify them. Figures are generally reported by financial year unless otherwise stated and, where available, national water industry figures have also been provided for comparison.



Highlights 2010-11

- Topped Ofwat's new league table for overall customer satisfaction.
- 98% of customers who contacted us rating our service as either good or very good.
- Delivered all customer demands for water without restriction.
- Cut leakage and met our new leakage target despite the major increase in bursts caused by the very cold winters this year and last.
- Beaten our water efficiency target.
- Been the first water company in the country to publish information that shows when storm overflows affecting bathing waters have been in use, through a new facility on our website.
- Increased renewable energy production to 44GWh per year providing 17% of our total demand.
- Gained recertification for PAS55, the independent asset management standard.
- Received the Green Apple Award for our partners' programme, which supports environmental organisations in our region.



Drinking water quality and water consumption

Drinking water is treated to standards set by the UK Water Supply Regulations. More than 300,000 compliance tests are conducted every year on around 50,000 water samples taken from water treatment works, service reservoirs and customers' taps. In the last 10 years our compliance with drinking water quality standards has been consistently around 99.9% with 99.98% reported in 2010-11.

Since the 1980s metered water consumption has been available as an alternative to household rateable value for customers' water bills. All newly built houses have water meters fitted as standard but customers without a water meter can request to have one fitted. We are currently running a tariff study to understand the impact of metering and tariffs on customer consumption rates and affordability. Smart meters, that enable customers to check their consumption on a daily basis, have been provided as part of this trial so they can see how different activities affect their rate of use. On average metered customers use around 10% less water per person per day than unmetered customers.

Water companies are duty bound to meet the public's reasonable needs for water. We are proud that through targeted investment and careful resource management we have not had a hosepipe ban for 34 consecutive years.

Ensuring a secure water supply is an important part of our business planning. We need to make sure we have access to sufficient water resources to meet current and future demands. Over the last five years we have consistently achieved the top score of 100, rating us as having no current difficulties. To ensure this trend continues we will be developing our integrated water supply grid over the next 10 years which will not only make more water available but will also lower the amount we need to abstract.

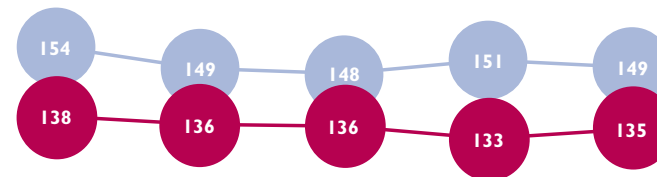
- Drinking water mean zonal compliance with quality standards at customers' taps (%)
- Water consumption unmetered (litres/head/day)
- Water consumption metered (litres/head/day)
- Households metered (% of all households supplied)

Drinking water quality compliance



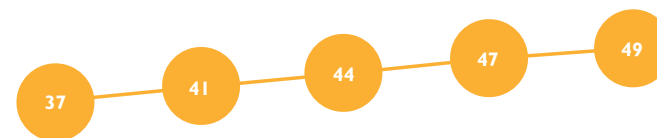
National Value
2009-10
99.95%

Water consumption



149.8
(metered & unmetered combined)

Household metering



2006-07 2007-08 2008-09 2009-10 2010-11



Performance impacts

During the year we had four events which accounted for 84% of all properties affected by unplanned interruptions for more than 6 hours. We have responded quickly and effectively to bursts despite the challenging and sustained cold conditions experienced throughout the winter. This was achieved through a combination of an experienced and dedicated workforce and our capital works that enable supply zones to be quickly isolated and alternate sources provided if problems occur.

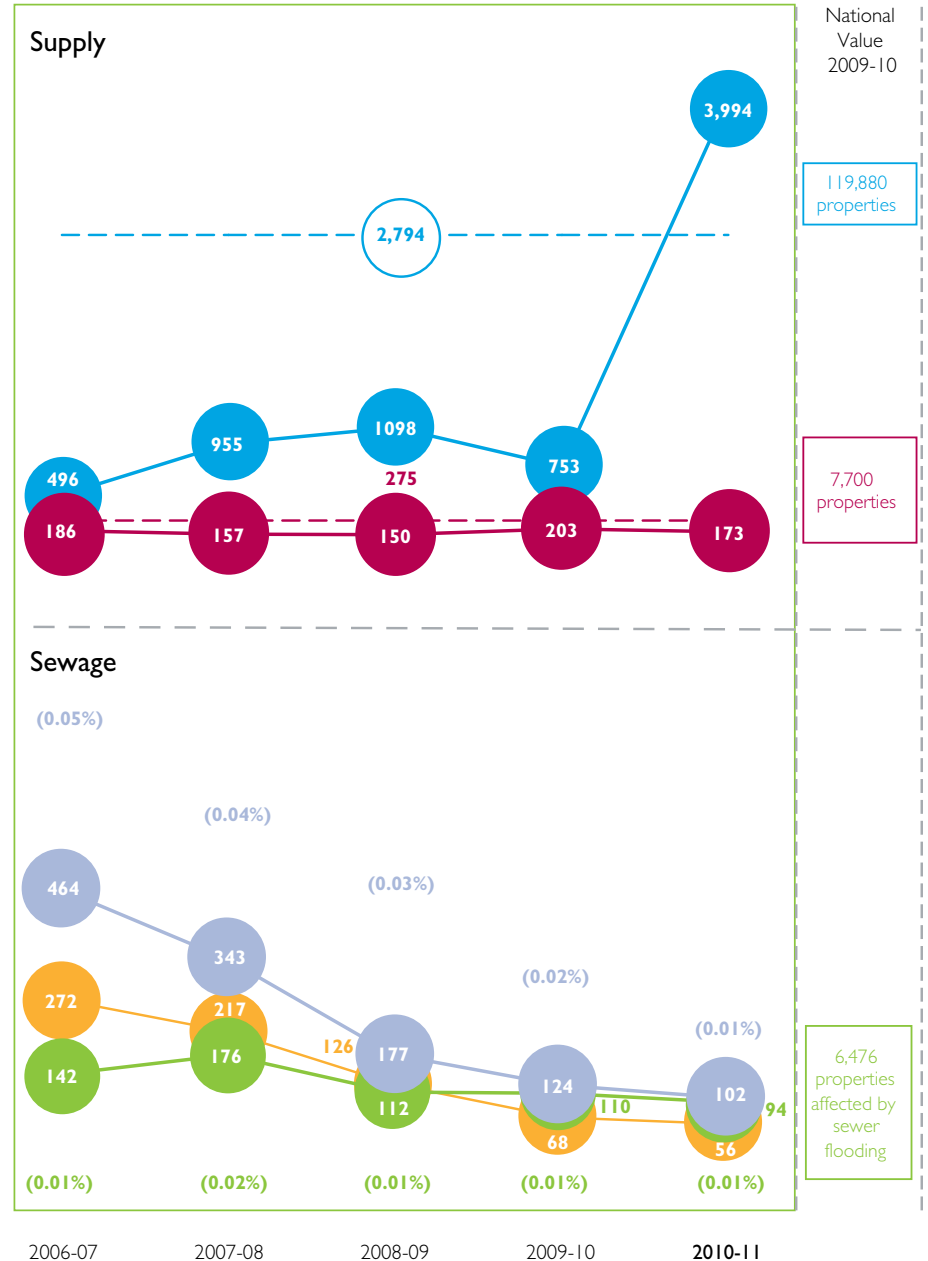
The number of properties receiving low pressure has decreased from 203 to 173 this year. This reduction is due to capital investment to remove the additional properties identified through proactive hydraulic modelling. In most cases, these properties were removed from the register by separating and replacing and/or upsizing the company communication pipe to remove any restrictions together with, in some cases, associated operational improvements.

Sewage flooding is caused by overloaded sewers during severe weather, equipment failure, blockages or sewer collapses. Work to reduce sewage flooding includes more frequent sewer jetting, pumping station improvements and new storm tanks.

The number of properties experiencing internal flooding events is slightly lower than last year and significantly lower than the historic trend. This is believed to be due to the significant investment undertaken during 2005-10 to remove hydraulic problems from the sewerage system, additional focus over the past 24 months to investigate the cause of incidents when they occur and the lack of significant rainfall events in the reporting year.

Sewage flooding is taken very seriously and we continue to make significant reductions in the number of properties at risk with year on year improvements on the number of connected properties at risk of a twice in 10 year internal sewage flooding event.

- Annual target – unplanned supply interruptions (>6 hours)
- Properties with unplanned supply interruptions (>6 hours)
- Annual target – properties at risk of low water pressure
- Annual target – properties at risk of low water pressure
- Properties at risk of sewage flooding (1 in 10 years)
- Properties flooded by sewage
- Properties at risk of sewage flooding (2 in 10 years)





Customers, community and affordability

The measure of customers rating our service as good or very good is based on detailed surveys carried out on a monthly basis to determine customers' views on the end to end experience for both our billing and operational services.

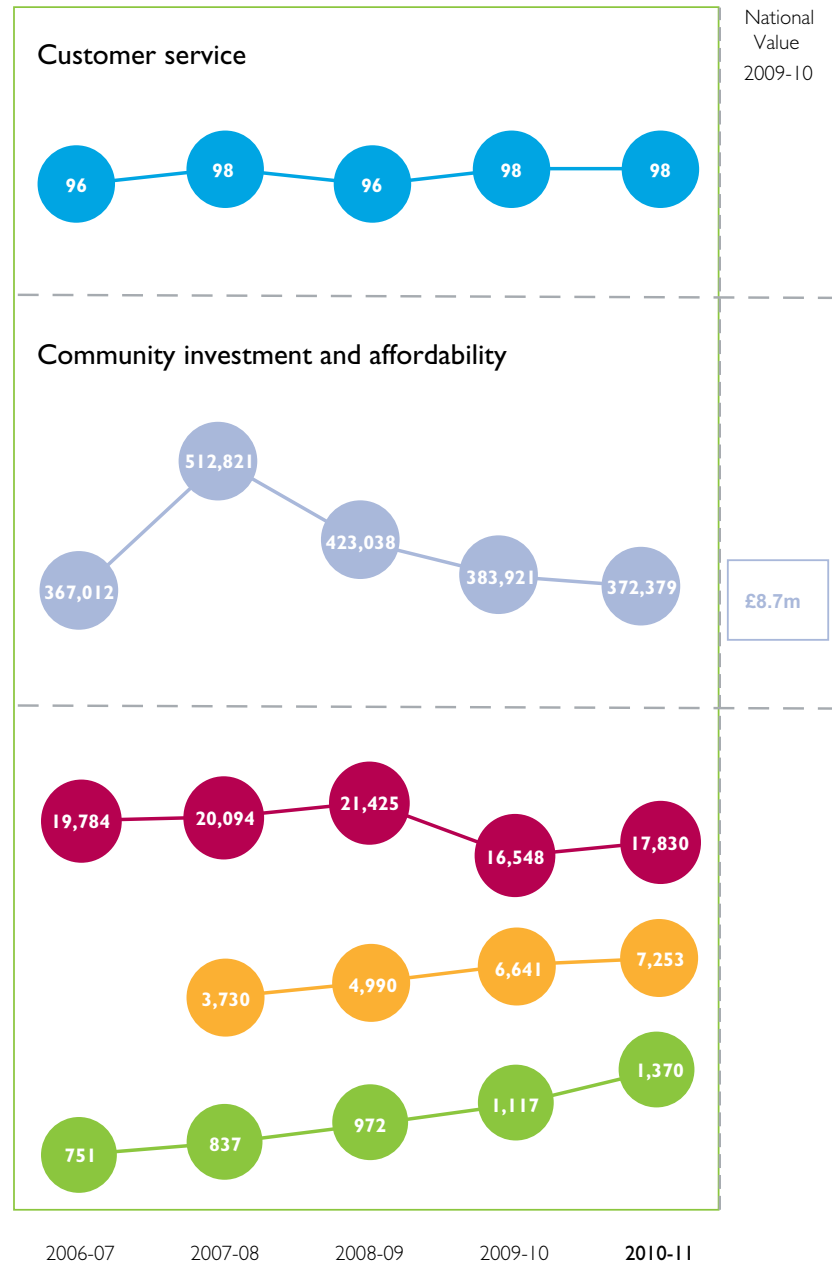
This year we were recognised as the industry leaders in Ofwat's new service incentive mechanism (SIM) independent survey of customer experience – the qualitative element of the mechanism.

Our Wessex Water partnership scheme offers a range of community services for our customers. We also support many charities working in our region and through our Watermark scheme make a number of donations to various individuals and groups working on environmental projects.

Our education service is run by trained education advisers. Last year more than 17,000 children benefited from this service that gives schools access to a number of education centres across our region. Awareness raising is also carried out through public talks, open days and roadshows. Issues discussed include subjects such as the need to use water wisely and the work of the development charity WaterAid.

We have two schemes in place to help vulnerable customers with the payment of their bills: WaterSure (a government initiative) and our own Assist tariff that was launched in 2007. The Assist tariff supports those customers who are unable to pay their water and sewerage bills despite their best efforts. We were the first water company to have a tariff in place that is based on customer's ability to pay and it was this approach that won us the Citizens Advice inaugural award for best customer service in the UK. We continue to work with the Citizens Advice Bureau to help vulnerable customers who are unable to pay their bills.

- Survey – customers rating our services as good/very good (%)
- Community investment – based on PerCent Club (£)
- Number of children/students attending our education services
- Number of customers paying bills through an Assist tariff
- Number of customers paying bills through the WaterSure initiative





Water abstraction and conservation

The water that we put into supply comes from boreholes, springs, rivers and reservoirs across the region. Most of the water abstracted in the region is from groundwater, eg, chalk and limestone aquifers, and the amount taken is controlled by the Environment Agency through daily and annual abstraction licences. Our compliance with annual licences has remained above 99.9% for the last five years.

In 1995/96 the average volume of water put into distribution was 433MI/d; in 2010-11 this figure was 346MI/d. The reduction in the volume of water put into our mains has been achieved through investment in infrastructure, which halved the leakage rate from company supply pipes, and through stabilised levels of water consumption. As a result in 2010-11 we used only 63% of the total volume we are licensed to abstract.

Wessex Water has a water efficiency strategy to promote the wise use of water by our customers. We provide regularly updated information and guidance on water conservation through leaflets, roadshows, classroom teaching and public talks. This information can also be viewed on the saving water pages of our website www.wessexwater.co.uk/savingwater alongside useful tips on how customers can conserve water in the home.

Through promoting free water saving products such as shower flow regulators, save a flush bags and shower timers we have seen a large increase in cistern devices installed during the year. Other water saving products can be viewed through our online shop www.wessexwatershop.co.uk

We offer water audits to our business customers and also work in partnership with housing associations to reduce water use in their properties.

- Compliance with abstraction licenses (%)
- Drinking water production as a % of abstraction licence limits
- Cistern devices installed – cumulative since 1997
- Other water saving devices installed – cumulative since 1997
- Household water audit packs distributed – cumulative since 2000

Water abstraction



Water conservation







Sewage treatment levels by population equivalent

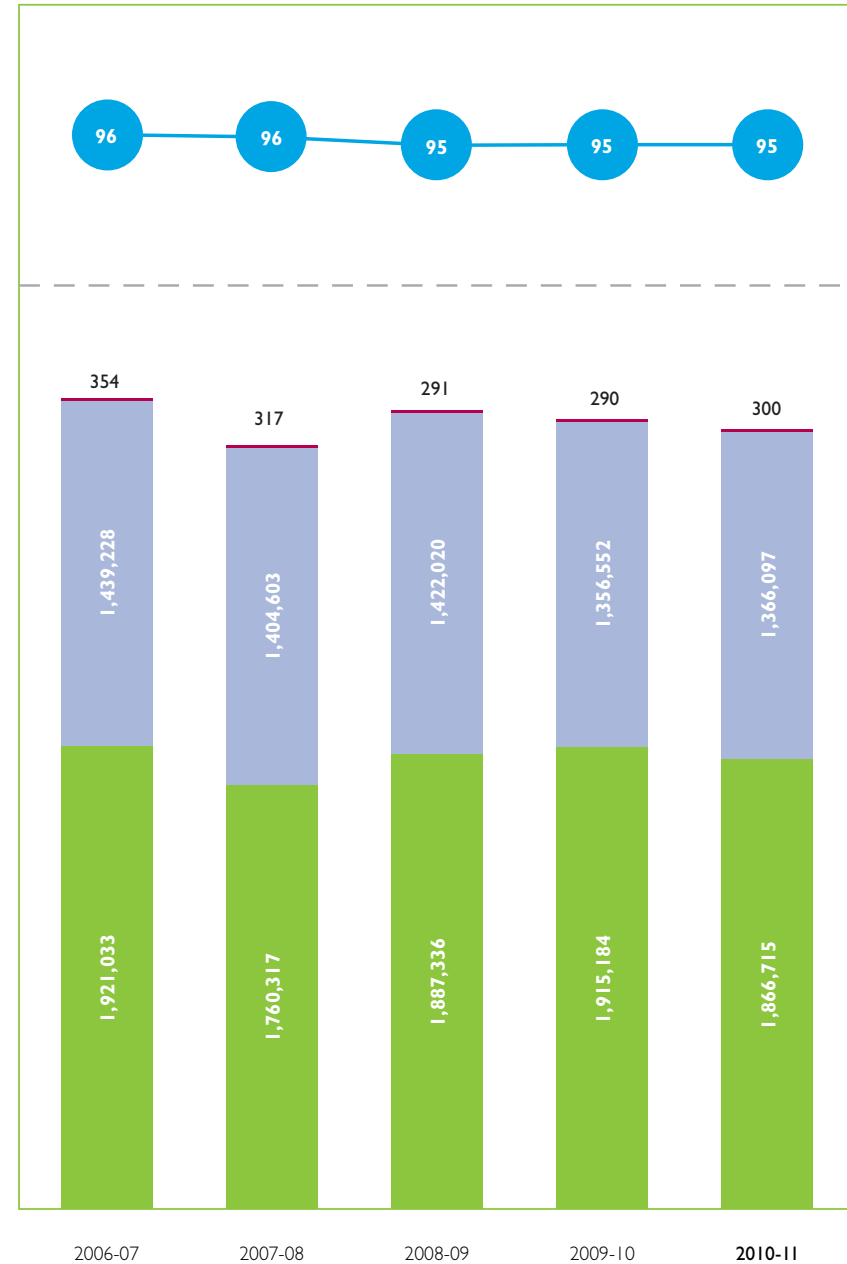
The level of treatment that sewage receives is driven by legislation designed to improve the quality of river and coastal waters, such as the Urban Waste Water Treatment Directive and the Bathing Water Directive. Of all the sewage we treat, 99.99% receives secondary or tertiary treatment. The rest is treated at very small sites that provide primary treatment through septic tanks, each serving an average of nine people.

Secondary treatment typically involves bacteria breaking down organic matter in the presence of oxygen with a further separation of solids.

Tertiary treatment provides additional purifying processes, such as disinfection using ultraviolet light or ultra-fine membranes.

Biochemical oxygen demand (BOD) is a measure of the polluting potential of the organic matter in the sewage. Legislation has resulted in the removal of an increasing amount of organic matter to meet tighter treatment standards. A side effect of our efforts to achieve this has been an associated increase in the energy used in the sewage treatment process.

-  Biological oxygen demand removed (%)
-  Primary treatment only (population equivalent receiving treatment)
-  Primary and secondary treatment (population equivalent receiving treatment)
-  Primary, secondary and tertiary treatment (population equivalent receiving treatment)



Sewage treatment and trade effluent compliance

Discharge consents issued by the Environment Agency define the standards that each sewage treatment works (STW) has to meet. Our compliance against these consents is measured in two ways:

- lookup table determinands which include sanitary standards such as biochemical oxygen demand, suspended solids and ammonia
- numeric consents that include the above as well as other determinands such as heavy metals and pesticides.

Trade effluent compliance remains very high despite a slight decline observed between 2006 and 2007. This was not due to a drop in performance but rather a realignment of our monitoring procedures that now focus more on higher risk sources.

Compliance can be affected by changes in the quantity or strength of trade waste discharged into sewers. Trade effluent customers are given consents specifying limits within which the effluent they discharge must fall. We continuously review this process to ensure it is fair and appropriate and that our sewage works can cope with the sewage they receive.

- Sewage treatment works compliant with sanitary standards (%)
- Compliance with all numeric consents (%)
- Compliance with look-up table determinands (%)
- Traders compliant with consents (%)

Sewage treatment works (with numerical consents) compliant with discharge consents



Traders compliant with consents



2006 2007 2008 2009 2010

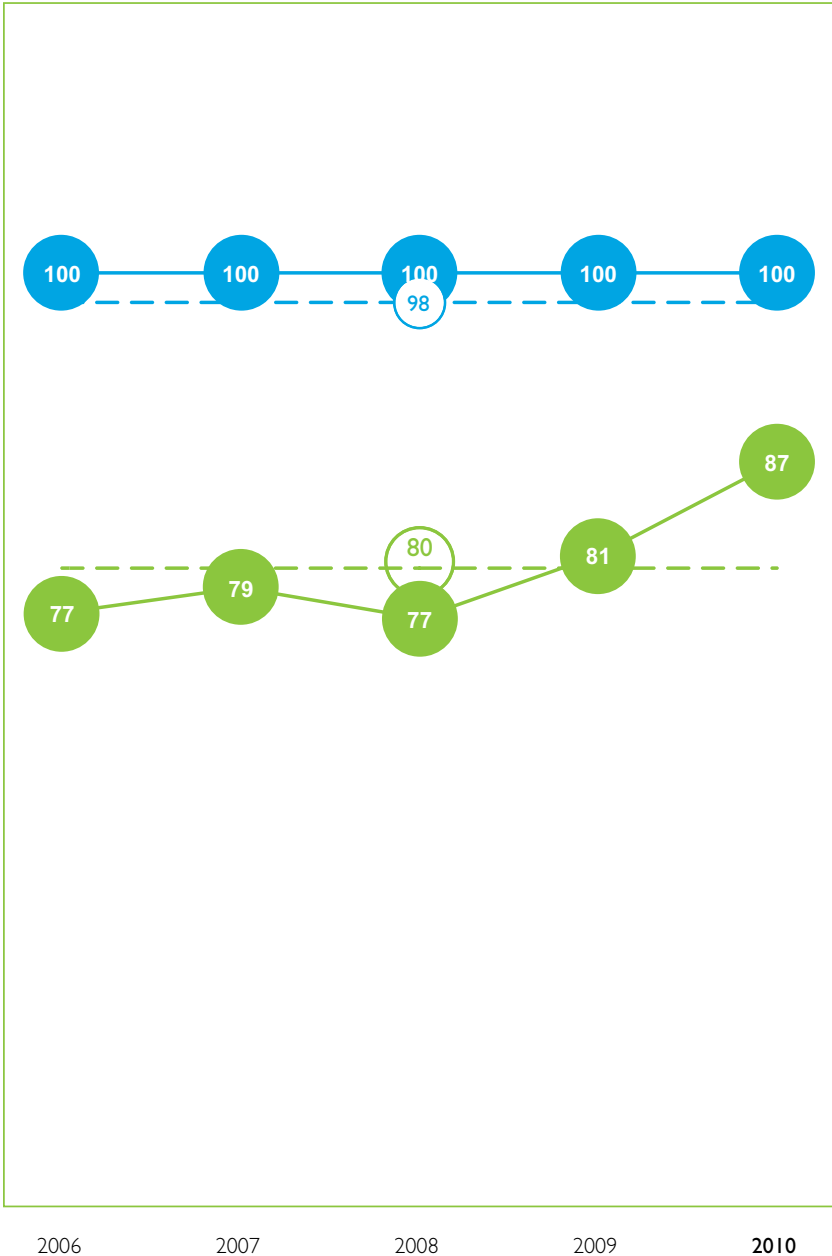


Bathing water compliance

For the sixth year in a row bathing waters around our region have achieved 100% compliance with the EU mandatory bathing standards. They also achieved 87% compliance with the tougher EU guideline bathing standards which sets a higher target.

There are a number of factors that can influence bathing water sample results including rainfall events and bacteria from a number of rural and urban sources. The high levels of treatment provided at our coastal sewage treatment works have helped contribute to these bathing water sites achieving compliance with the mandatory and guideline standards. However, the treatment methods used are often very energy intensive and can result in wider environmental impacts including those associated with greenhouse gas emissions from energy use.

- Bathing water quality – compliance with mandatory standards (%)
- Target compliance with mandatory standards (%) – average 2006-10
- Bathing water quality – compliance with guideline standards (%)
- Target compliance with guideline standards (%) – average 2006-10

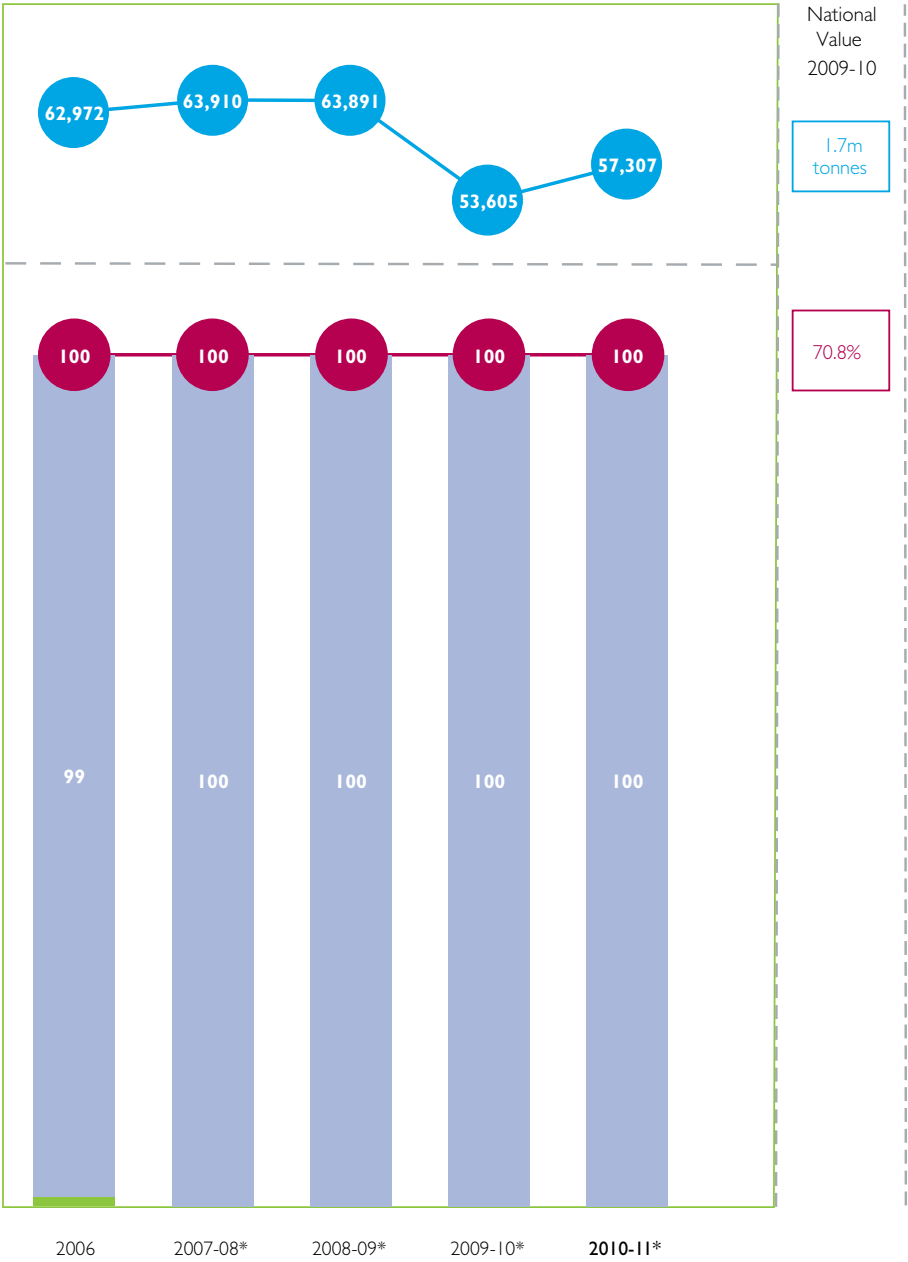
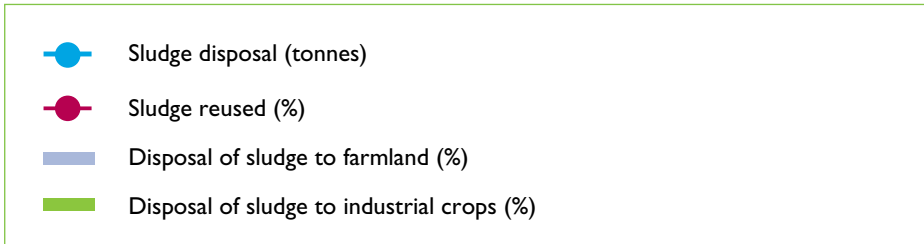




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Sludge production and recycling

Liquid sludge is a by-product of sewage treatment. Sludge treatment is required to stabilise the sludge, reducing odour and killing off pathogens to enable the sludge to be recycled to land. All our sludge is dewatered or dried prior to land application.



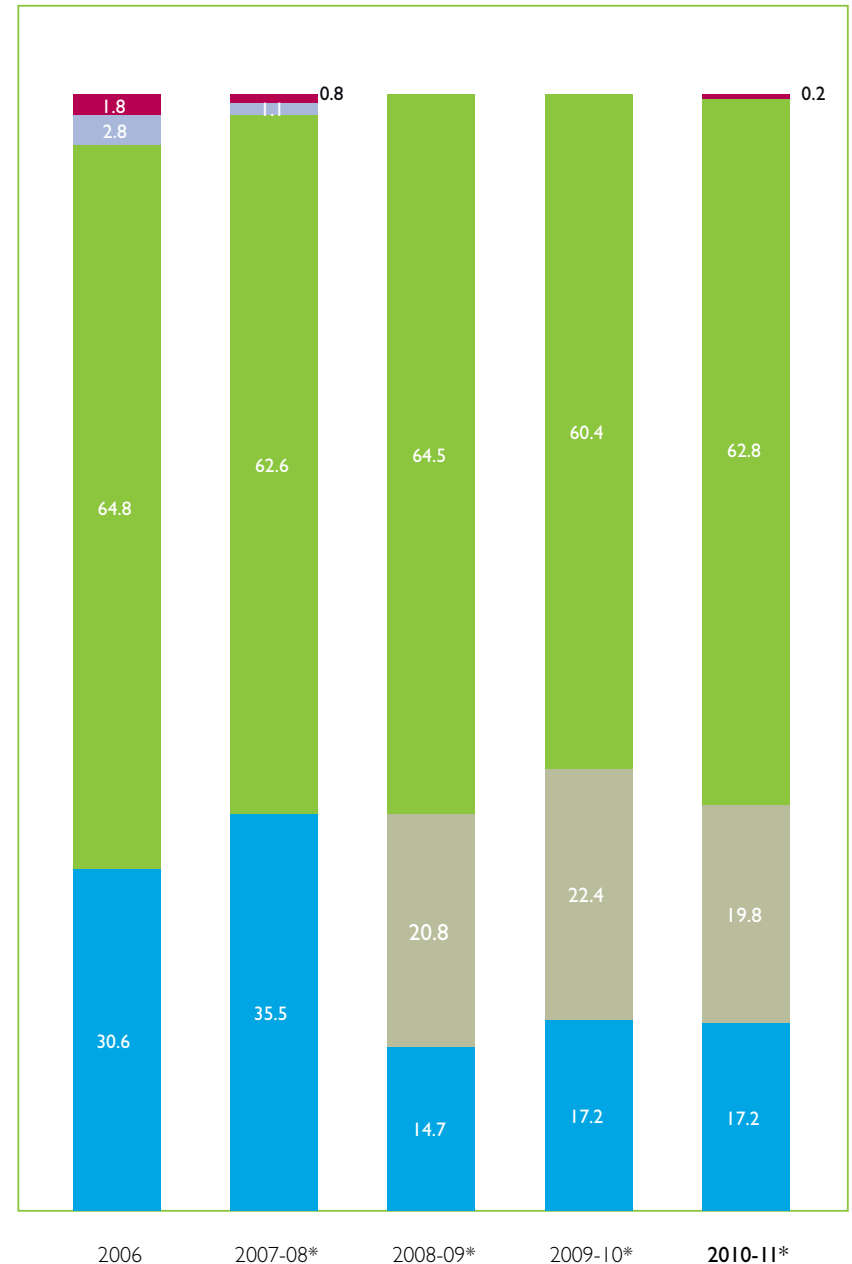
*Data is now being reported by financial year in line with other reporting methods

Sludge treatment types

Sludge is a valuable by-product of the sewage treatment process. We treat it to a high standard through digestion or liming processes so that it is suitable for recycling to land. These treatment processes help to stabilise the sludge, reduce odours and remove pathogens.

As well as containing nutrients, sludge also has a calorific value which means that it can be used in energy generation. Currently around half of our sludge is limed, however an increasing proportion of sludge is being digested. Advanced digestion techniques use bacteria to convert organic matter in sludge into methane, which can be used as a fuel in combined heat and power plants to generate renewable electricity. Although we have used this approach since the 1960s, in recent years we have invested more heavily in this technology to maximise our energy production.

- Dried sludge (%)
- Composted sludge (%)
- Limed sludge (%)
- Advanced digested sludge
- Conventionally digested sludge (%)



*Data is now being reported by financial year in line with other reporting methods



Energy and fuel consumption

The water industry is an energy intensive business. One cubic metre of water weighs one metric tonne, so simply moving water and sewage and treating it to high standards takes a lot of energy.

In the past, more energy was used to supply a megalitre of water than to treat the same amount of sewage. Today, much more energy is used for sewage treatment. This increase is predominantly due to the more advanced treatment that is required to meet tighter regulatory standards. Despite this, energy efficiency measures are helping to offset some of this rise. By continuously reviewing our systems and promoting staff suggestions we are able to spot potential energy savings that we can trial and, if successful, roll out across the business.

Our vehicle fleet varies in size from company cars and small vans to sludge tankers, with the vast majority diesel-powered. Previous unreported bunkered fuel has been captured for 2010-11 and applied to previous years to aid comparability.

As well as electricity we use natural gas for heating. Use of natural gas varies year on year depending on the amount of sludge drying carried out.

- Electricity consumption (GWh)
- Electricity consumption – sewage (KWh/MI treated)
- Electricity consumption – drinking water (KWh/MI treated)
- Fleet fuel consumption (million litres)



*Data is now being reported by financial year in line with other reporting methods

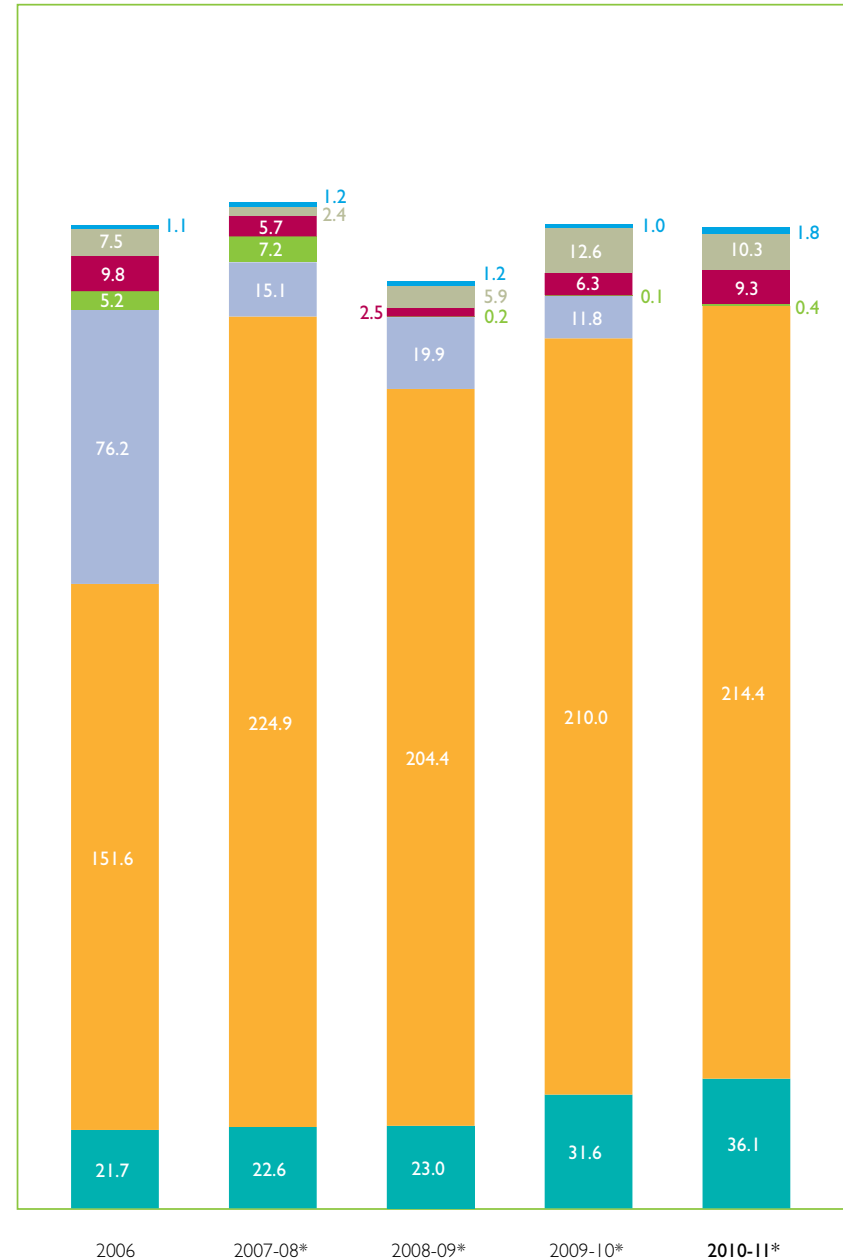
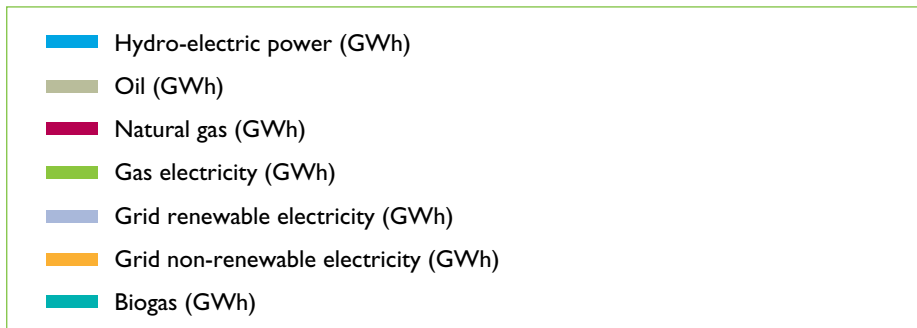
Energy types

Most of the energy that we consume is in the form of electricity, the majority of which is supplied from the national grid.

We have been using anaerobic digestion (AD) as part of our treatment processes since the 1960s. AD converts organic matter found in sludge to create biogas that can then be used as fuel to generate renewable electricity. Over the years we have made significant improvements to our processes to generate more gas and as a result of this, more power.

Our Bristol sewage treatment works (STW) operation uses the most advanced anaerobic digestion technology in the UK and digests around 500,000m³ of sludge per annum. As a site it produces 18 million cubic metres of biogas each year which equates to 30 GWh of renewable electricity being generated from this site alone.

Other sources of energy include natural gas, which can be used for heating, and diesel oil which is used to power standby electricity generators.



*Data is now being reported by financial year in line with other reporting methods

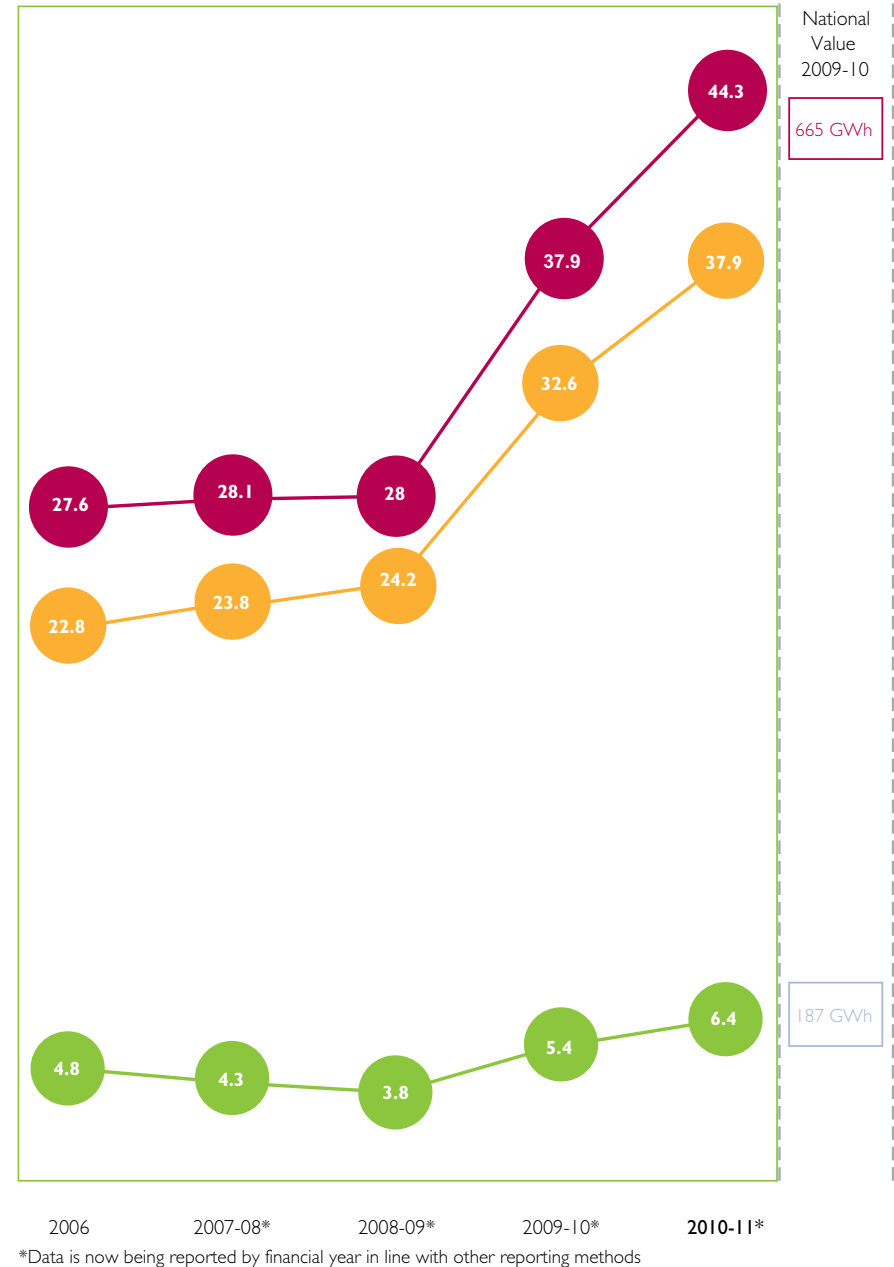


Renewable energy generation

This year we have seen the amount of self generated energy increase by 6GWh. This is a result of the increased biogas production and capture achieved through advanced digestion at our largest sewage treatment works in Bristol. This site now produces enough energy to meet its total energy needs. Across the business we now generate 17% of our total energy demand which is up from 15% last year.

We continue to focus on increasing our own generation of renewable power which is essential for reducing our contribution to climate change. To support this drive we have set an ambitious target of carbon neutrality by 2020 and aim to take 50% of our energy from renewable sources by this time. Eventually we would like to see this figure increase to 100%.

- Total renewable energy generated (GWh)
- Renewable energy generated and used (GWh)
- Renewable energy generated and exported (GWh)





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Greenhouse gases

The principal greenhouse gases that we emit are carbon dioxide (from energy and transport), plus nitrous oxide and methane (from sewage treatment and sludge reuse).

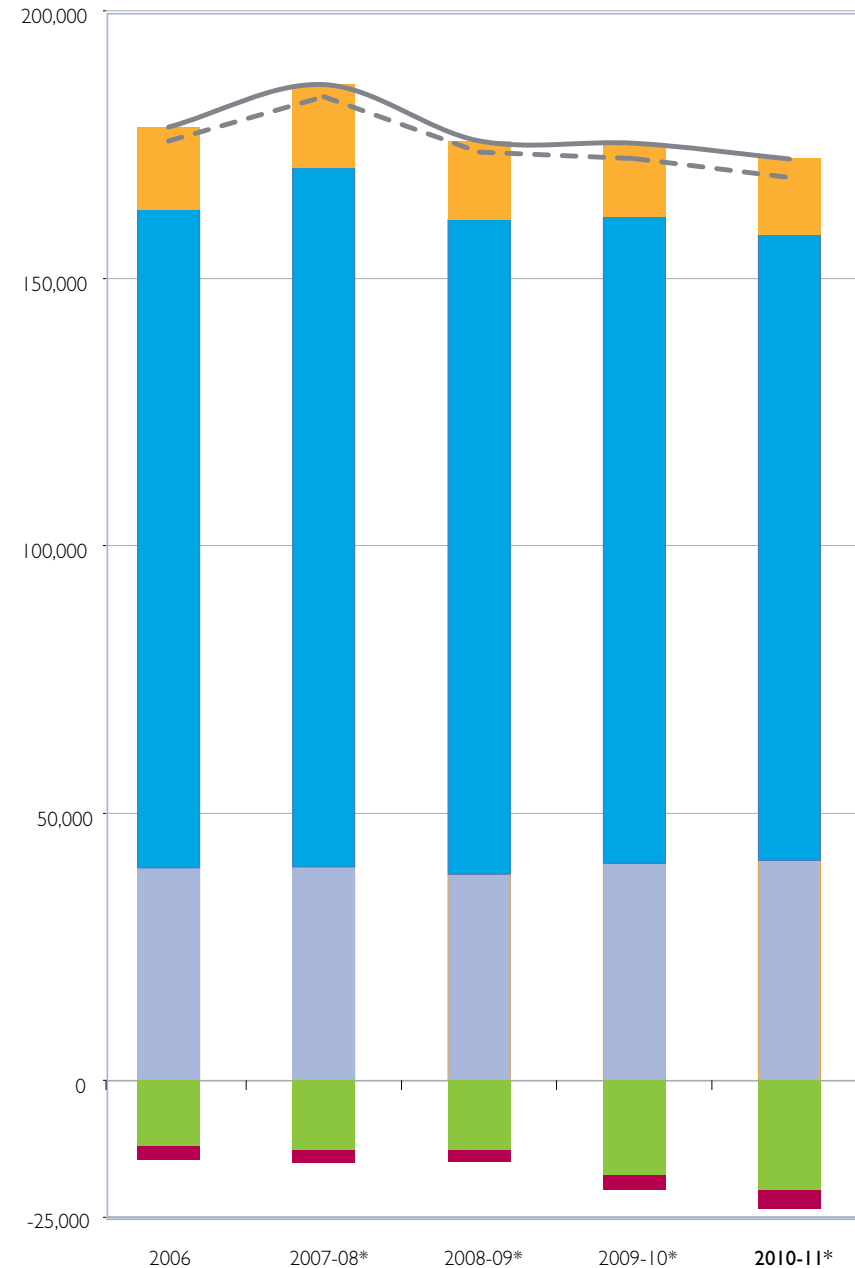
We have an ambitious long-term goal of carbon neutrality. However, increasing treatment standards requiring more energy intensive methods continue to be a major challenge as they typically push energy consumption upwards. To help address this, we have an annually reviewed carbon management strategy in place. This looks at energy avoidance, efficiency projects and how we can increase our own generation of renewable energy.

Our emissions for 2010-11 have been calculated in accordance with Defra's guidance. Emissions are categorised into three 'scopes':

- scope 1 emissions are those produced directly from activities owned or controlled by us, including on site fuel use and transport by our vehicles, and methane and nitrous oxide from sewage and sludge treatment
- scope 2 covers emissions related to electricity purchased from sources not within our control such as grid suppliers
- scope 3 covers other indirect emissions that we have quantified including the use of personal vehicles for business travel.

In line with Defra's definitions our gross emissions do not include the self generated renewable electricity that we produce and use. The net emissions subtract the electricity that we produce and export from the gross value.

Emissions associated with the renewable electricity we produce for use and exportation are included below the graph for information.



*Data is now being reported by financial year in line with other reporting methods



Sustainability indicators 2011

SSSI condition

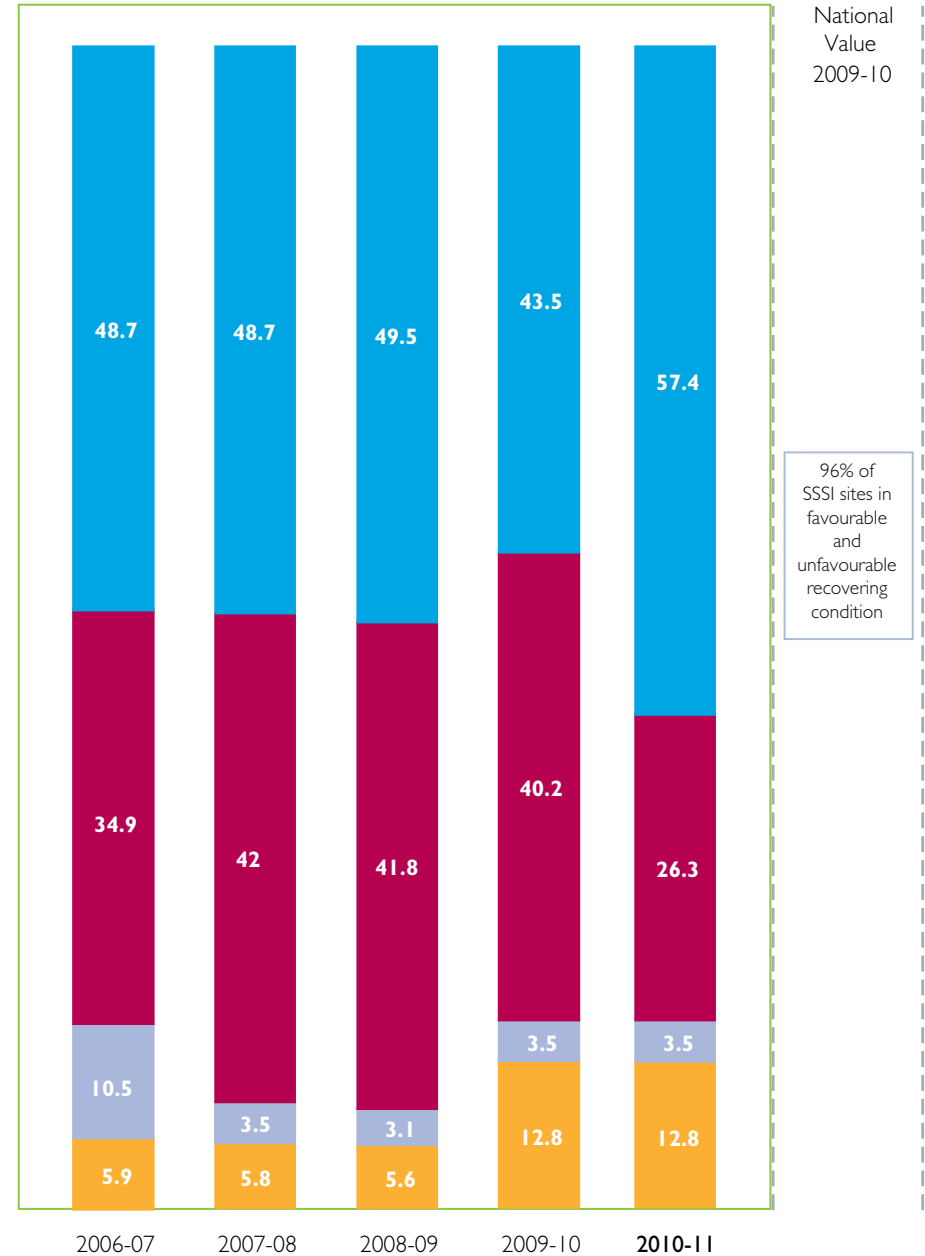
Some of the land we own is located in a number of environmentally sensitive areas, such as Sites of Special Scientific Interest (SSSI). SSSIs are those designated as the best areas in England for wildlife and/or geology. Their condition is classified by Natural England (who continuously assess this data) as favourable, unfavourable (stable, recovering or declining), or destroyed.

SSSI land in favourable condition is defined by Natural England as land which is being adequately conserved and is meeting its conservation objectives. Unfavourable recovering sites are defined as not yet fully conserved but have all the necessary management measures in place.

We have had another challenging year to meet the national target for the condition of SSSIs, with 84% of our SSSI landholdings achieving favourable or recovering condition. We were disappointed not to reach 95% in favourable or recovering condition following extensive work with our tenants and Natural England on the final two significant areas of land which remained in unfavourable condition.

Both our ecology team and tenants had worked hard to develop new management agreements to bring in the specialist resources, such as improved fencing and grazing, to improve conditions on these two SSSIs. Unfortunately, due to a temporary halt implemented by Defra on approvals for new higher level stewardship applications until April 2011, the management agreements were unable to start and the land remained in unfavourable condition. The status of these two units has subsequently improved from May 2011.

- SSSIs in favourable condition (%)
- Unfavourable recovering (%)
- Unfavourable stable (%)
- Unfavourable declining (%)





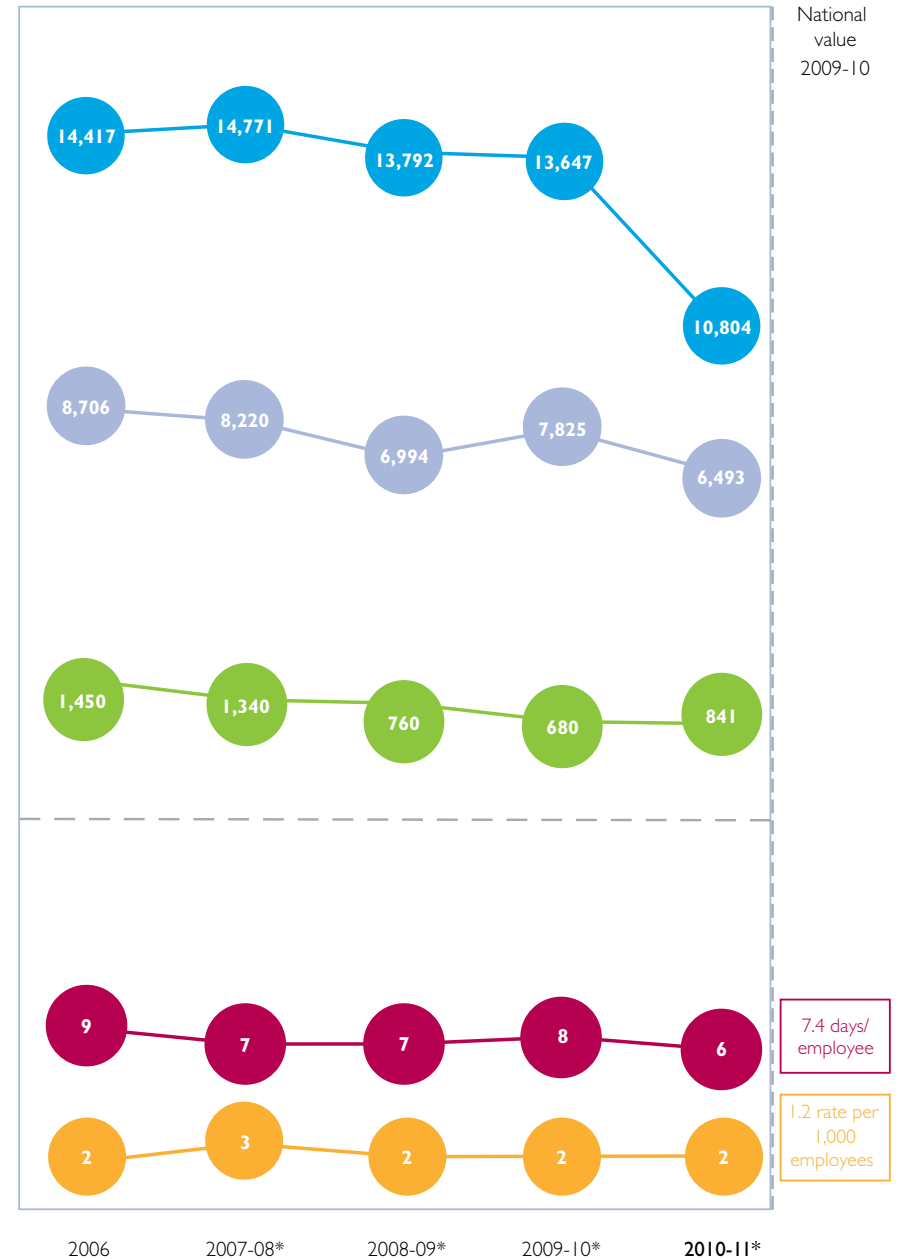
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Staff and health and safety

There are many potentially dangerous working environments in the water industry and we remain committed to achieving the highest possible health and safety standards. Provisions include a team of health and safety professionals, comprehensive training, equipment and information for employees. We also continue to review our health and safety policy, arrangements and safety documentation to ensure they follow best practice.

Over the year approximately 200 staff carried out plant and equipment training or reassessment, 400 employees undertook a programme of best practice training, 113 staff completed NVQs and more than 1,600 people were given tool box talks by their managers across the company covering approximately 80 different subjects.

- Total days lost due to sickness, accident and occupational ill health
- Total days lost (rate per 1,000 employees)
- Reporting of injuries, diseases and dangerous occurrences regulations (RIDDOR) incidents (rate per 100,000 employees)
- Sickness/absence (days/employee)
- Major/fatal accidents (rate per 1,000 employees)



*Data is now being reported by financial year in line with other reporting methods

Intermittent discharges

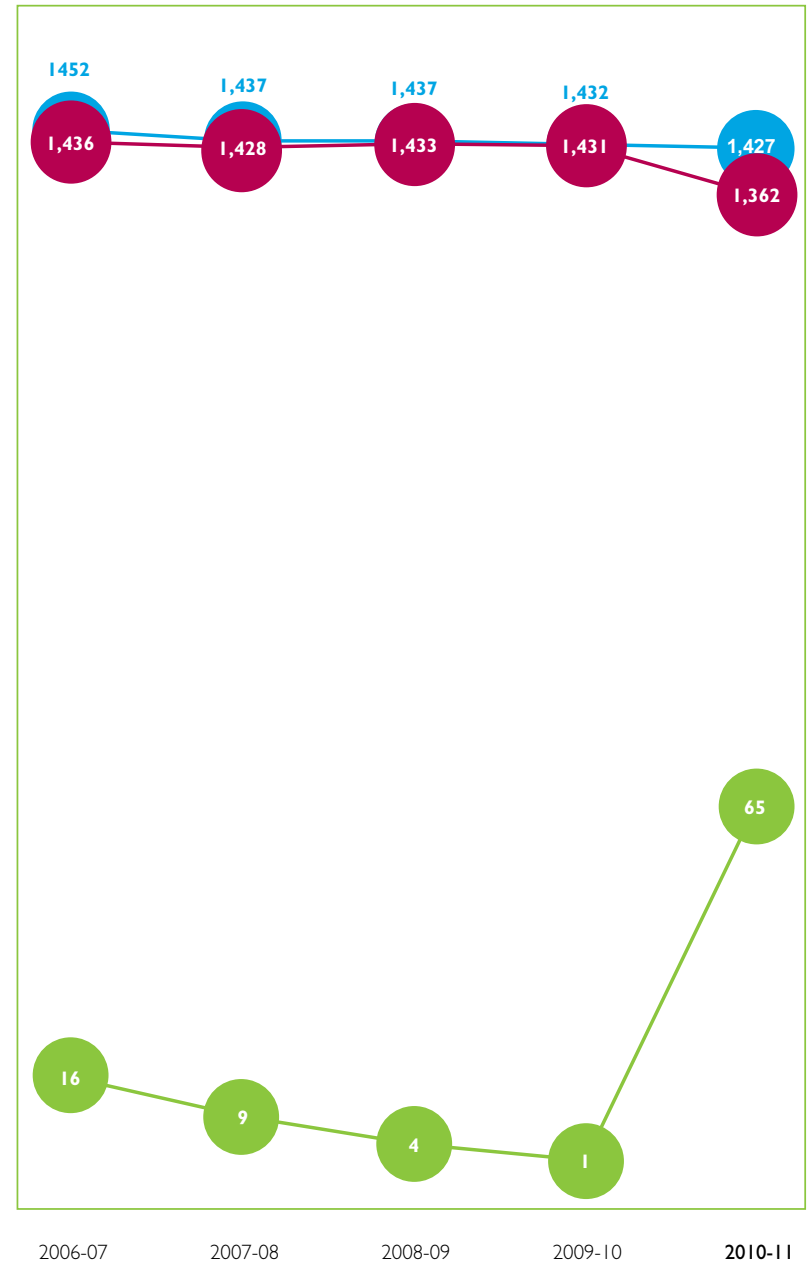
Intermittent discharges are points in the sewerage network where sewage can occasionally enter a watercourse. An example is a storm overflow from a combined sewer – when a combination of stormwater and sewage (diluted by the rain) overwhelms the capacity of the sewer, the excess flow is allowed to spill to the nearest watercourse.

The performance of these discharges can be improved through a number of means, eg, installing screens to stop debris entering the river, raising the height of the overflow within the pipe, upgrading pumping stations and sewers and adding storage tanks to reduce the volume and frequency of spills.

For the last five years the total number of intermittent discharges has been maintained at a consistent level, while the number of unsatisfactory intermittent discharges has steadily declined until this year where we have seen a large increase.

This increase follows an urban pollution study that we conducted across Bristol between 2006 and 2008 to establish the performance of the city's combined sewer overflows (CSOs). After discussing the survey results with the Environment Agency, 65 CSOs were agreed as needing improvements, the majority of which will be in the form of fine screen solutions. The work is programmed to take place between 2010 and 2015.

- Total intermittent discharges
- Intermittent discharges – satisfactory condition
- Intermittent discharges – unsatisfactory condition





Leakage, mains bursts and sewer collapses

Despite the prolonged sub-zero conditions and snow cover during December 2010 we have cut leakage from 74ML/d and met our new target of 71ML/d.

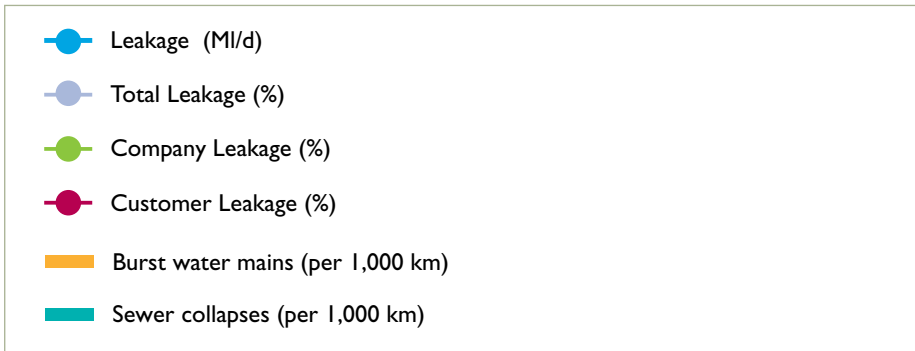
This was particularly challenging given the severe cold weather experienced in December and the subsequent thaw on Boxing Day which caused an unprecedented overnight increase in leakage with the instantaneous minimum night flow rising by 90ML/d – a doubling of leakage overnight.

Following the thaw, we stepped up leakage detection significantly, doubling night work and weekends. Our staff and contractors worked for a prolonged period in demanding conditions with the result that bursts and leaks were identified and repaired as quickly as possible.

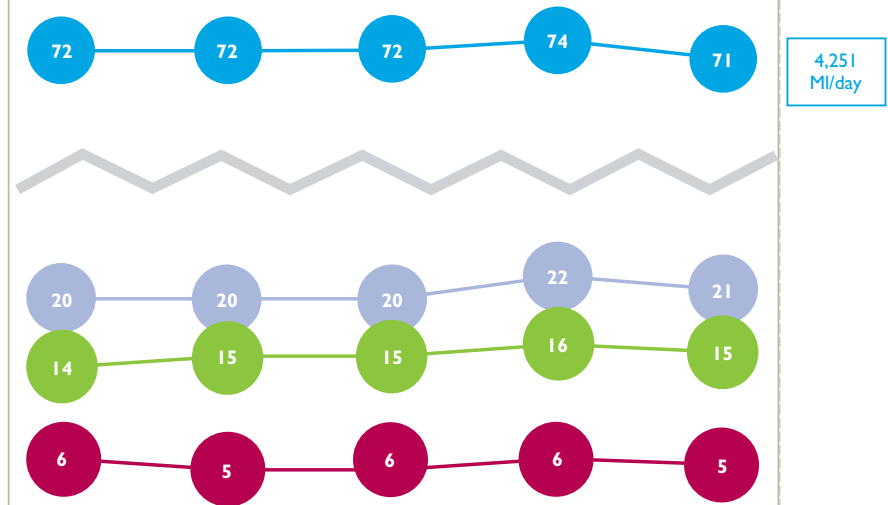
By the end of February minimum night flows had returned to November levels.

We recognise that with an extensive and ageing water supply and sewer network problems will occur. Water main bursts are caused when pipes fracture as a result of factors such as water pressure (particularly if the pipe has aged) and ground movements. The large majority of sewer collapses are in non-critical sewers and rising mains.

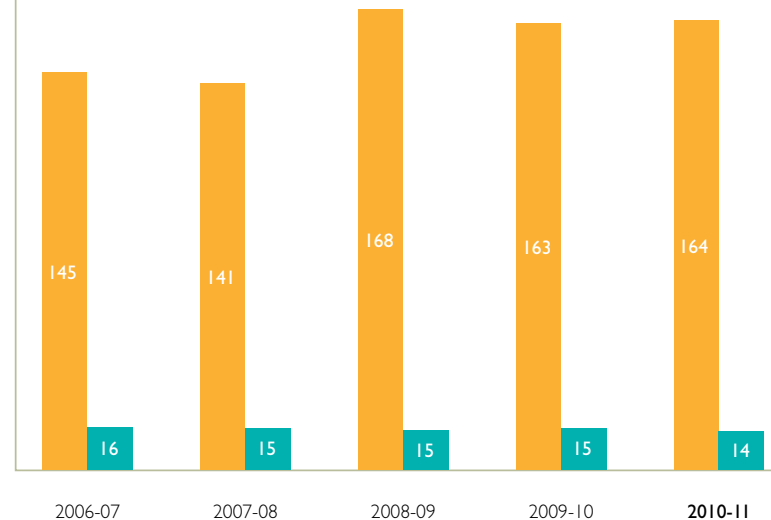
Unfortunately it is rarely possible to predict where mains bursts or sewer collapses will happen. To minimise the impact of these events investment to improve the network infrastructure is helping to keep the level of bursts and collapses at a stable level.



Leakage volumes and types



Mains bursts and sewer collapses





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Key financial indicators

Turnover increased by £6.7m or 1.5% to £444.9m due primarily to the April 2010-11 price increase, but this was offset to some extent by customers switching to meters and reductions in volumes.

Profit attributable to shareholders increased by £3m to £113m and the return on Regulatory Capital Value (RCV) was 6.5% (post tax paid).

We continue to face rising operating costs due to market conditions for power, chemicals and wage inflation. We have sought to mitigate those increases by controlling the items we can influence.

- Regulatory asset base – average (£m)
- Turnover – regulated and non-regulated (£m)
- Investment towards sustainability (£m)
- Profit attributable to shareholders (£m)
- Return on capital (%)





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Debt and interest

Interest charges represent our single largest expenditure due to the need to finance our large investment programme, which continues to increase net debt.

There has been a reduction in interest charges from £63.8m last year to £62.2m. This is due to a tight control on cash for the second year running which saw a positive cash flow before bond accruals of £3.5m, similar to the £1.3m positive last year.

The regulatory capital value increased by £134m from £2,262m to £2,396m this year, and net debt by £9.4m from £1,530.1m to £1,539.5m, resulting in a fall in the debt to RCV ratio from 68% to 64%.

- Net debt (£m)
- Interest payable (£m)
- Debt to regulatory asset base (ratio)
- Funds from operations (ratio)
- Cash interest cover (ratio)

