



Financial performance and expenditure of the water companies in England and Wales

2001-2002 **report**

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2001-02 report

August 2002



Contents

List of tables and figures

Foreword	3
Summary	6
1. Introduction	11
• Scope of the report	11
• Indexation	12
• Sources of information	12
2. Financial performance	13
• Aggregate industry performance	13
• Turnover and operating profits	16
• Cash flow	21
• Balance sheet	24
• Debt and gearing	25
• Return on capital	27
• Dividends	32
3. Operating expenditure	35
• Performance in 2001-02	35
• Where savings are being achieved	37
4. Capital investment	39
• Investment in 2001-02	39
• Investment by output purpose category	43
• Measuring investment by outputs	46
• Investment by service area	54
• Levels of activity	56
• Serviceability to customers	60
• Infrastructure renewals and accounting charges	67
5. Transfer pricing	70
• Compliance with RAG 5 in 2000-01	70
6. Property development and land disposal	73
Appendix 1 Inflation indices used in this report	74
Appendix 2 Reconciliation of current cost and historic cost operating profits	75
Appendix 3 Ofwat's framework for assessing water company capital maintenance needs	76
Appendix 4 Glossary of terms and definitions	81
Appendix 5 WaterVoice Committees	88

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

List of tables

Table 1	Current cost profit and loss account	14
Table 1a	Effect of provisions on reported profits and costs	14
Table 2	Financial indicators	15
Table 3	Current cost turnover and operating profit by service	17
Table 4	Current cost turnover and operating profit by service by company	20
Table 5	Cash flow statement	22
Table 6	Cash flows by company	23
Table 7	Current cost balance sheet at 31 March	24
Table 8	Net debt and gearing by company at 31 March	26
Table 9	Return on capital measured by regulatory capital value by company	28
Table 10	Dividends reported plus interest payable as a percentage of regulatory capital value	30
Table 11	Return on capital by service measured by average MEA – industry	31
Table 12	Return on capital measured by average MEA – by company	31
Table 13	Dividends reported and dividend covers by company	33
Table 13a	Analysis of special dividends	34
Table 14	Total operating expenditure by service	35
Table 15	Total operating expenditure by service by company	36
Table 16	Industry total operating expenditure by service by function	38
Table 17	Gross capital investment by service	39
Table 18a	Gross capital investment by service – water and sewerage companies	41
Table 18b	Gross capital investment by service – water only companies	42
Table 19	Gross capital investment by purpose category	44
Table 20a	Gross capital investment by purpose category 2001-02 – water and sewerage companies	45
Table 20b	Gross capital investment by purpose category 2001-02 – water only companies	46
Table 21	Gross capital investment by service area – industry	55
Table 22	Gross capital investment by service area 2001-02 by company	55
Table 23a	Activity in 2001-02 – water and sewerage companies	57
Table 23b	Activity in 2001-02 – water only companies	58
Table 24	Activity on underground assets – industry	58
Table 25	Activity on underground assets by company – 1990-91 to 2001-02	59
Table 26	Water and sewerage serviceability assessments for 2001-02	65
Table 27	Infrastructure renewals	69
Table 28	Trade with other companies within the group	72
Table 29	Number of, and gross proceeds from, disposals of land – by WaterVoice area	73
Table 30	Retail price indices used in this report	74

List of figures

Figure 1	Programme for intermittent discharges	52
Figure 2	Programme for the Bathing Water Directive	52
Figure 3	Programme for the completion of the Urban Waste Water Treatment Directive (UWWTD)	53
Figure 4	Programme for the Shellfish Water Directive	53
Figure 5	Serviceability – water mains networks	63
Figure 6	Serviceability – sewer networks	63
Figure 7	Serviceability – water treatment works and service reservoirs	64
Figure 8	Serviceability – sewage treatment works	64

Foreword

This is the second year of the five covered by the price limits for water companies set out in 'Final determinations: Future water and sewerage charges 2000-05' (November 1999). This report compares financial performance and investment with the expectations which underlay those price limits.

Total operating expenditure in 2001-02 was £2.6 billion, excluding exceptional items. This is broadly the same as in 2000-01. However, operating expenditure was £0.1 billion, 4%, lower in real terms than assumed when price limits were set.

Capital expenditure in 2001-02 was nearly £3.0 billion. This is £0.2 billion (7%) higher than in 2000-01 but is around 19% below the £3.7 billion projected in price limits. For the first two years of the current price review cumulative gross capital investment was £5.8 billion compared to the £7.2 billion projected in price limits. Companies said that some of the difference was due to capital efficiency, but the greater part was due to the need for extra time to establish the quality programmes. I am concerned about the pattern of capital expenditure over time, which has consistently fallen away immediately before and after periodic reviews. This is inefficient and disrupts the relationship between water and sewerage companies as clients and the construction industry as their contractors.

I am concerned about whether this slippage might mean that companies are not going to deliver the quality programme set at the last price review. The Environment Agency (EA) and Ofwat need assurances that the National Environment Programme will be delivered on time. I will ask companies to report on progress with key schemes and seek assurances that they will be completed on time. This will enable us to identify any potential problems for the completion of priority environmental projects. I would like to be able to establish capital programmes for 2005-06 early in the preparations for the next review in 2004 and am discussing this issue with the Government and the quality regulators before wider consultation.

Capital maintenance investment in 2001-02 was broadly in line with that projected in price limits.

However, I am concerned that companies are not all demonstrating that they fully understand the state of their infrastructure assets. This year we asked Reporters to review and comment on the adequacy of companies' updated zonal studies and drainage area plans. The degree of activity in this area is an indicator of companies' commitment to sound asset management practices. We have noted significant variations in companies' interpretation of what constitutes an adequate zonal study or drainage area plan.

We shall be discussing with each company its approach to long term capital maintenance needs over the next few months in preparation for draft business plans in August 2003.

The Drinking Water Inspectorate (DWI) reports that water companies have improved the quality of drinking water in 2001-02. Companies have generally made good progress on improving treatment works and service reservoirs and in renovating water distribution mains. The DWI believes that progress towards fulfilling these obligations is generally satisfactory.

The EA reports that companies have continued to deliver improvements. These include a significant increase in the number of compliant bathing waters. Most improvements to meet new standards for sewage treatment works discharges in 1995-2000 have been completed. We are monitoring outstanding schemes with the EA. The EA assesses companies' performance in meeting discharge consents for sewage treatment works. Compliance has fallen from 97% last year to 96% this year. Disappointingly, the number of major and significant sewage related pollution incidents has increased in 2001 from the previous year. The EA is keen to ensure that companies are not becoming complacent and will be discussing with them the reasons behind the figures at the review meetings.

Over the last few years borrowing by companies has increased to accommodate the large capital programmes. The companies report a further increase in gearing this year, but half of this is due to a change in the accounting policy for deferred tax which has no impact on cash flows. There have also been changes in the capital structures of some companies. This resulted in higher levels of gearing, and for some companies, deteriorating trends in financial indicators. We have consulted on the impact of highly geared companies and set out our concerns about their flexibility. We continue to monitor the level of financial indicators to help ensure that companies' capital structures are sustainable in the long term.

Because operating and capital expenditure was lower than was anticipated in price limits, the cashflow position of companies is better than expected.

Companies appear to be building up accruals or prepayments relating to infrastructure renewals expenditure in their balance sheets, possibly indicating that the level of infrastructure renewals charge in the profit and loss account is not reflective of their long-term view of infrastructure renewals expenditure. We intend to issue a RD letter in the next few weeks to reinforce the principles of infrastructure renewals accounting.

In March 2002 we published, for the first time, future regulatory capital values up to 31 March 2005 on a company specific basis. This was to increase the transparency of regulatory decisions and their consistency and predictability. The regulatory capital value is widely used by the investment community as a proxy for the market value of the regulated business and has, in some instances, become enshrined in bond covenants. This initiative was welcomed by the investment community. Companies will, from 2002-03, also include an analysis of the regulatory capital value, as published by us, in their regulatory accounts.

I am currently consulting on a proposed licence modification to extend the notice period for termination of companies' operating licences from at least 10 years to at least 25 years. This would be consistent with the licences of electricity distribution companies. This modification should reduce any uncertainty in capital markets about lending to water companies for periods that, although matching the underlying asset lives, might possibly extend beyond their licence period. The Secretary of State and the Welsh Assembly Government both support my proposal.



Philip Fletcher
Director General of Water Services

Summary

This report summarises the financial position, the operating expenditure and capital investment made by the companies, in the year ended 31 March 2002 and previous years. This is the second year of the price limits we set in 1999.

This report:

- Shows where customers' money has been spent and how the significant capital investment programme is financed. This is linked to the cash position and the industry's ability to finance its functions, a key concern for the companies and an important feature of the Director's duties.
- Sets out the companies' progress in achieving the outputs required by the Drinking Water Inspectorate (DWI) and the Environment Agency (EA).
- Includes our assessment on the serviceability to customers of the network assets. Serviceability measures whether companies' assets (e.g. water mains and sewers) can maintain services to customers now and in the future.
- Compares the performance of the industry with our expectations when we set price limits in 1999. The regulatory regime incentivises companies to become more efficient and minimise their costs within those limits. At periodic reviews, we reset price limits and take account of companies' achievements.

The information in this report is in 2001-02 prices. Information for earlier years has been adjusted to 2001-02 prices by reference to the Retail Price Index (RPI). An explanation of the indexation used in this report is included in the introduction and in appendix 1.

Financial performance

In 2001-02, aggregate turnover rose by 1.4% compared with 2000-01 (after adjusting for inflation). This is above the industry average price limit, or K factor, of minus 0.3%. The charges for a particular year are linked to the level of RPI at the previous November. For November 2000 this was relatively high (3.2%) compared with the average level of RPI for 2001-02 of 1.5%. This largely explains the relative rise in turnover in 2001-02 compared to the K factor.

Turnover from the water service has risen by 1.1%, and the sewerage service by 1.8%.

The total operating expenditure (including exceptional items) of £2.6 billion in 2001-02 is 0.7% higher than in 2000-01. This is 4% lower than the £2.7 billion we projected when we set price limits in 1999.

Current cost depreciation is 1.3% higher than in 2000-01 at £1,506 million. The level of current cost depreciation is a reflection of the large capital programme undertaken over the last decade. The current cost depreciation charge in 2001-02 is more than 20% higher than we projected. This difference arises mainly because companies have not made any adjustment to their depreciation charge for the difference between the long term view of the current cost depreciation charge and the corresponding non-infrastructure maintenance expenditure to replace the asset base. This does not impact on the companies' cash position, although it does reduce reported current cost profits (and the return on capital).

The depreciation charge in 2001-02 on a historic cost basis (the basis on which profits are reported to the City and investors) is similar to our assumptions in the financial projections underlying price limits.

The infrastructure renewals charge (IRC) for 2001-02 is 6% higher than in 2000-01 and 14% higher than in 1999-2000. Infrastructure renewals expenditure is 11% higher than IRC.

Companies' operating profitability declined markedly in 2000-01 largely as a consequence of the new price limits but has risen slightly in 2001-02. Current cost operating profit for the year is £1,995 million. This is an increase of £23 million (1%) compared with 2000-01. The period 1997-98 to 1999-2000 was broadly flat after a rising trend in the early years following privatisation.

The industry has had to borrow to fund its capital expenditure programmes since privatisation. Net debt at 31 March 2002 amounted to nearly £15.7 billion. This is more than 73% higher than net debt at 31 March 1998. Average gearing has rapidly increased over the five year period and is almost 56% in 2001-02. These increases reflect the high levels of capital expenditure, special dividends declared and capital restructuring. It also reflects the change in 2001-02 in the accounting policy for deferred tax.

Investment on the capital programme meant that the industry spent £1,082 million more than it earned in 2001-02, before financing. The net cash outflow before financing has reduced from 2000-01. The cash flow position is better than was anticipated in price limits.

The water companies' dividends fell by 20% compared to 2000-01. This was a decrease from £1,095 million to £876 million, despite a less significant fall in profitability after tax. The abolition of Advanced Corporation Tax (ACT) from 1999-2000 gave the companies a cash flow benefit because they do not now pay ACT when they pay dividends. It has not obviously affected the levels of dividend in 2000-01 or 2001-02.

Special dividend payments have been a feature for many years, amounting to just over £2,600 million over the five year period, although none were paid in 2001-02. Special dividends are those made in addition to normal dividend payments. The high level of dividends in 1997-98 and 1998-99 included special dividends of £1,246 million and £1,133 million respectively. These special dividends largely related to the windfall tax and companies trying to achieve more efficient balance sheets through higher levels of gearing.

The pre-tax return on capital in 2001-02 for the industry, based on the current cost operating profit and the regulatory capital value, was 6.6%. This is the same as in 2000-01, but substantially lower than the 9.3% achieved in 1999-2000. Returns calculated on this basis declined slowly over the period from 1997-98 before falling sharply in 2000-01 following the 1999 price review. For 2001-02, the projected return was 6.7%, compared with the actual return of 6.6%. Higher current cost depreciation, slightly offset by better than expected operating expenditure, means the rate of return is lower than expected. The depreciation charge will depress the reported return on capital but it has no impact on the companies' cash position because it is not a cash item.

The returns after tax are adversely affected by a new accounting standard for deferred taxation which is effective for 2001-02.

Returns actually received by the providers of finance, through dividends and interest, have varied between 2.7% and 25.7% over the five-year period for different companies. For 2001-02, the return received by providers of finance is 5.9% for the industry as a whole but varied between 2.7% to 12.6% for individual companies. This is a more volatile distribution than that shown by the pre-tax return on capital. Returns measured in relation to assets employed (essentially the cost of replacing the assets) are far lower, around 1.0%, for the five-year period.

Capital investment and outputs

Capital investment in 2001-02 totalled almost £3.0 billion, divided equally between water and sewerage. This is an increase of 7% in real terms compared with 2000-01, but is below the annual average of just over £3.5 billion for the twelve years since privatisation and lower than projected at price limits by around 19%. It is, however, far higher than the levels in the 1980s when annual investment averaged £1.9 billion. The water industry investment programme in 2001-02 amounts to around 46% of its turnover, a far greater proportion than in many industries.

The level of quality enhancement investment in 2001-02 is 38% lower, in real terms, than anticipated in price limits. The main reasons are cheaper solutions, rescheduling of projects, delays in getting planning permission and acquiring land, and the regulation driven requirement by DWI for water companies to optimise plumbosolvency control measures as part of determining the requirements for lead pipe replacement. Restrictions in the first part of the year due to the foot and mouth epidemic also delayed some companies' activities. Some companies have also made efficiency savings.

Overall capital maintenance investment in 2001-02 is broadly in line with the level anticipated in price limits.

At this stage in the previous price setting period, companies' cumulative level of total investment was close to the levels assumed in price limits. In the current price setting period, this has not yet occurred for the reasons above.

Companies have further improved the quality of drinking water in England and Wales in 2001, with 99.86% of sample tests meeting standards; this is a 92% reduction in the number of tests failing the standards compared with 1992. The DWI's annual report 'Drinking Water 2001' (published on 10 July 2002) sets out each company's performance in detail. It shows that improvement programmes to treatment works and water mains in the five years 2000-2005 are on target to be delivered with minor exceptions. The DWI believes that progress towards fulfilling these obligations is generally satisfactory.

The EA reports that water companies have continued to deliver improvements. These include a significant increase in the number of compliant bathing waters.

Most improvements to meet new standards for sewage treatment works discharges in 1995-2000 have been completed. Those schemes outstanding are being monitored jointly by us and the EA. There has been an increase in the number of major and significant pollution incidents this year. The number of successful prosecutions brought by the EA against companies has remained at the increased levels reported last year. This year, however, has seen a slight deterioration in the performance of sewage treatment works in some companies. We and the EA expect full compliance and the EA will enforce the standards. Companies made a slower than expected start to the National Environment Programme in some areas, and reported lower than expected expenditure. We will continue to report quality programme completions and also seek assurance that key schemes are progressing satisfactorily for completion by the required dates.

We have assessed the serviceability to customers of companies' assets. At an industry level, water and sewerage non-infrastructure assets (above ground assets) are assessed as stable. However, at an industry level infrastructure assets (the underground network) are assessed as uncertain for sewerage but stable for water.

In previous years, companies have tended to carry out more mains renewal than relining, but since 1998-99, the proportion of mains relined has steadily increased. The overall level of mains activity has increased during 2001-02 and is above the average annual level of activity carried out since privatisation. The length of critical sewers either renovated or replaced in 2001-02 decreased and is significantly below historical levels.

The rise in the level of water mains activity in 2001-02 has led to a 21% increase in infrastructure renewals expenditure on the water service, compared with 2000-01. This is because companies have been working to meet their obligations on distribution systems as part of the quality enhancement programme, as well as carrying out more planned capital maintenance work including reducing leakage levels. On the sewerage service, infrastructure renewals expenditure has increased by 9% compared to 2000-01, reflecting an increase in the lengths of non-critical sewers being renovated or replaced. It is still, however, below historical levels and is of concern when taken together with the current uncertain serviceability assessment.

Transfer pricing

In 2001-02 the value of trade with other companies in the same group has fallen by 7% (in real terms). Capital and operating expenditure amounts to £573 million, compared with £617 million in 2000-01. In percentage terms, the value of trade in 2001-02 is about 9% of turnover.

Overall, only two companies need to make significant improvements to ensure full compliance with our transfer pricing guidelines. Four companies provided examples of best practice of compliance.

1. Introduction

Scope of the report

This report analyses the financial performance together with other aspects of the activities of the appointed water and sewerage businesses for the year ended 31 March 2002 and the four previous years.

On a current cost basis, analysis of operating expenditure, operating profits, cash flows, balance sheets and capital investment of the regulated water and sewerage companies are included in this report. It does not include the performance of other associated companies within the group. Analysis of the volume of trade undertaken by the regulated business with associated companies is included. As companies have a wide spectrum of operations, it is important to distinguish the performance of the regulated business from the non-regulated activities of the group.

Companies prepare their regulatory accounts, from which the majority of the information in this report is drawn, on a current cost basis. Assets in the water industry are characterised by their very long lives and reporting on a historic cost basis would not reflect this.

This report covers on an industry wide basis:

- The extent of companies' capital investment programmes.
- Progress on outputs.
- Trends in operating expenditure.
- Levels of current cost operating profits.
- The cash position of the companies.
- Return on capital.
- Balance sheet information.
- Financial indicators.
- Trading activities with other group companies.
- Land disposals.

Key information on an individual company basis is also published in the main body of the report. We will publish full summaries of individual company's financial performance in an accompanying volume entitled 'Report on company performance in 2001-02'.

This will be available from our library and on our website at www.ofwat.gov.uk from October 2002.

Indexation

The information in this report is set out in 2001-02 prices. Unless otherwise stated, figures for earlier years are indexed by reference to RPI. This is consistent with the indexation base in the pricing formula (ie RPI+K) and the fundamental principle underlying the regulatory accounts, where profits are calculated after the maintenance of real financial capital.

Sources of information

The data is drawn from the June returns¹ and regulatory accounts submitted to the Director by the 10 water and sewerage companies and the 12 water only companies². The June returns provide breakdowns and commentaries on actual operating expenditure, capital investment and activity in the years up to and including 2001-02.

¹ Each of the companies sends an annual return to Ofwat in June. It includes a report on the company's actual capital investment expenditure.

² The reported results for Northumbrian Water Ltd include those of North East Water plc (merged in 1996) and Essex and Suffolk Water plc (merged in 2000). The results for Chester Waterworks Company and Wrexham Water plc are combined as Dee Valley Water plc following their merger in 1998; and, the results of Mid Southern Water plc and South East Water Ltd are combined as South East Water plc following their merger in 1999. Following mergers or takeovers in 2000, Anglian Water Services Ltd includes the results of Hartlepool Water plc; Three Valleys Water plc includes North Surrey Water plc; and Yorkshire Water Services Ltd includes York Waterworks plc. United Utilities Water Ltd formerly traded as North West Water Ltd. The performance of Cholderton & District Water Company Ltd, which is an exceptionally small company, has not been included in this report but does not have a material effect on any of the summary tables.

2. Financial performance

Aggregate industry performance

We regulate the water industry by limits on price charged to customers, rather than on profits or rates of return. This provides incentives to companies to pursue their objectives, including meeting their statutory obligations, as efficiently as possible. Customers benefit from these efficiency savings when price limits are reset, as they were in 1994 and 1999. In order for companies to finance their functions, profits need to be sufficient to remunerate investors and lenders and to attract additional funds with which to finance capital programmes. Funds may be difficult to raise if returns to investors are inadequate compared with returns available elsewhere in the capital markets.

Under price cap regulation, and in the absence of direct competitive pressures, companies must expect to justify any increases in prices (in real terms) and, consequently, the level of profits and dividends achieved. In essence, this justification should answer the question - where does customers' money go?

Table 1 shows the industry aggregate current cost profit and loss account for 2001-02 and for the four previous years. Turnover (ie income from customers) is largely determined by the price limits we set. It is used to pay for the ongoing operating expenditure, to cover capital maintenance charges and taxation and to provide returns to investors and lenders. Capital maintenance charges consist of the infrastructure renewals charge and current cost depreciation.

Turnover in 2001-02 increased by 1.4% in real terms compared with 2000-01. The industry average K was minus 0.3% for 2001-02. The charges for a particular year are linked to the level of RPI at the previous November. For November 2000 this was relatively high (3.2)% compared with the average level of RPI for 2001-02 of 1.5%. This, in the large part, explains the relative rise in turnover compared to the K factor.

In 2001-02, operating expenditure and capital maintenance charges account for 40% and 30% respectively of turnover (ie 70% in total).

Current cost profits before tax in 2001-02 amount to £1,284 million, a decrease of £102 million or 7% compared with 2000-01.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 1 Current cost profit and loss account

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	2000-01 2001-02 change £m
Turnover	7,078	7,174	7,331	6,453	6,545	92
Operating expenditure	(2,797)	(2,773)	(2,893)	(2,594)	(2,613)	19
Capital maintenance charges:						
– Current cost depreciation	(1,381)	(1,426)	(1,420)	(1,486)	(1,506)	20
– Infrastructure renewals charge	(401)	(406)	(389)	(418)	(442)	24
Working capital adjustment ¹	31	20	16	17	11	(6)
Current cost operating profit	2,530	2,589	2,645	1,972	1,995	23
Other income	16	15	15	12	11	(1)
Net interest	(535)	(681)	(764)	(916)	(925)	9
Financing adjustment ¹	249	209	304	318	203	(115)
Current cost profit before tax	2,260	2,132	2,200	1,386	1,284	(102)
Taxation	(511)	(543)	(262)	(289)	(188)	(101)
Dividends reported ²	(2,325)	(2,242)	(1,248)	(1,095)	(876)	(219)
Current cost profit retained	(576)	(653)	690	2	220	218

¹ The working capital adjustment accounts for the impact of general inflation on the real value of working capital to the business. The financing adjustment accounts for the impact of general inflation on the real value of net finance for the business.

² Dividends reported exclude capital restructuring dividends. These total £1,083 million in 1997-98, £798 million in 2000-01 and £6.5 million in 2001-02 (all in 2001-02 prices). No such dividends were paid in 1998-99 and 1999-2000.

Table 1a Effect of provisions on reported profits and costs

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Operating expenditure including charges for provisions	2,797	2,773	2,893	2,594	2,613
Restructuring provisions	(42)	(23)	(162)	(32)	(17)
Year 2000 compliance		(45)	(25)		
Other			(21)	(4)	(35)
Operating expenditure excluding charges for provisions	2,755	2,705	2,685	2,558	2,561
Current cost profit before tax excluding charges for provisions	2,302	2,200	2,408	1,422	1,336

Trends in operating expenditure and profitability can be distorted by provisions for restructuring or other items. Table 1a sets out the effects on operating expenditure of these provisions and the adjusted current cost profit before tax. The adjusted profits before tax show a decrease of around 42% since 1997-98 and 6% since last year.

The trends in operating expenditure are set out in more detail in the section on total operating expenditure later in the report.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Returns to providers of finance, ie interest payments and dividends, account for 14% and 13% of turnover respectively in 2001-02. Special dividends in the last five years total £2,609 million or 7.5% of turnover. Interest payable rose sharply in the early years after privatisation and has increased from 8% of turnover in 1997-98 to 14% in 2001-02.

Table 2 shows some key financial indicators for the water industry as a whole over the five year period.

Financial indicators provide a snapshot of the financial health of the companies. Dividend cover relates the level of dividend payable to profitability. Interest cover is a similar measure relating interest payable to profitability. Gearing (calculated as net debt divided by the sum of net debt and equity³) shows the effect of borrowing on the balance sheet.

The assessment of the financial health of the companies, made by the credit rating agencies and lenders, places great emphasis on the trend in cash based financial indicators as well as the accounting based ones described above. The most common ones used are cash interest cover, debt payback periods and the ratio of cashflow to capital expenditure. These are also shown in table 2.

Dividend cover (excluding all special dividends), calculated on a current cost basis in 2001-02, is 1.2 for the industry as a whole. This is an increase compared to the marked decline of the previous year. Current cost dividend cover provides a measure of the long-term sustainability of dividend payments and the ability of the companies to raise additional equity capital.

Table 2 Financial indicators

	1997-98	1998-99	1999-00	2000-01	2001-02
Historic cost dividend cover	1.9	1.7	1.9	1.2	1.6
Current cost dividend cover	1.5	1.4	1.7	1.0	1.2
Interest cover	5.9	4.7	4.1	2.7	2.7
Gearing (%)	36.3	42.7	44.2	49.7	55.5
Cash interest cover	8.3	6.9	6.4	4.7	4.8
Debt payback period (years)	2.2	2.6	2.9	3.7	4.2
Cash flow to capital expenditure (%)	34.2	43.0	69.1	68.3	68.5

Dividend covers will not reconcile to those reported in table 13. Dividend covers in the table above exclude all special dividends, thereby eliminating distortions to the industry trend.

³ Equity is defined as the aggregate of share capital (both preference and ordinary) and the reserves on a historic cost basis.

Dividend cover (excluding all special dividends), calculated on a historic cost basis exhibits a similar trend. Historic cost dividend covers are higher than current cost dividend covers, principally due to the difference between current and historic cost depreciation and, consequently, higher operating profits calculated on a historic cost basis.

Interest cover on an accounting basis at an industry level remains constant in 2001-02 compared to that in 2000-01. The cash based financial indicators for 2001-02 are also similar to those in 2000-01 and are at stronger levels than the minimum expected by us in setting prices in 1999. The debt payback period however continues to rise as gearing increases.

The levels of interest cover and cash indicators have decreased from 1997-98 onwards, as companies have increased borrowings to fund their capital expenditure programmes. The water only companies have had lower interest covers principally because they have funded capital expenditure programmes from borrowings.

Gearing and interest cover are related financial performance measures and hence show similar but inverse trends. Gearing in 2001-02 has increased sharply to almost 56% from 50% in 2000-01. Half of this increase is due to a technical accounting policy change for deferred taxation.

Turnover and operating profits

Table 3 shows an analysis of current cost turnover and operating profit by service for 2001-02 and for the four previous years.

The proportion of water revenue collected from metered customers (including large users) has risen over the five-year period from around 33% in 1997-98 to 38% in 2001-02. This reflects the increase in the numbers of households receiving measured water, but this has been partly offset by the decline in measured industrial demand over this period. For sewerage, the proportion of measured revenue is lower than for water but has increased from 25% to 34% over the period from 1997-98.

Current cost operating profit for the year ended 31 March 2002 amounted to £1,995 million, an increase of £23 million or 1% in real terms compared with 2000-01.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 3 Current cost turnover and operating profit by service

2001-02 prices						2000-01 2001-02 change £m
Water service:	1997-98	1998-99	1999-00	2000-01	2001-02	
	£m	£m	£m	£m	£m	£m
Turnover:						
Measured water revenue	1,140	1,207	1,270	1,017	1,054	37
Unmeasured water revenue	2,141	2,106	2,100	1,878	1,869	(9)
Large users ¹	N/A	N/A	N/A	172	171	(1)
Other	151	144	126	119	126	7
Total turnover – water	3,432	3,457	3,496	3,186	3,220	34
Operating expenditure	(1,684)	(1,631)	(1,675)	(1,501)	(1,489)	(12)
Capital maintenance charges:						
Current cost depreciation	(621)	(634)	(621)	(634)	(634)	0
Infrastructure renewals charge	(247)	(250)	(244)	(270)	(290)	20
Working capital adjustment	12	7	6	7	5	(2)
Current cost operating profit	892	949	962	788	812	24
Sewerage service:						
Turnover:						
Measured sewerage revenue	920	1,012	1,095	998	1,033	35
Unmeasured sewerage revenue	2,454	2,436	2,472	2,033	2,033	0
Large users ²	N/A	N/A	N/A	N/A	93	N/A
Trade effluent revenue	207	204	207	175	114	(61)
Other	65	65	61	61	52	(9)
Total turnover - sewerage	3,646	3,717	3,835	3,267	3,325	58
Operating expenditure	(1,113)	(1,142)	(1,218)	(1,093)	(1,124)	31
Capital maintenance charges:						
Current cost depreciation	(760)	(792)	(799)	(852)	(872)	20
Infrastructure renewals charge	(154)	(156)	(145)	(148)	(152)	4
Working capital adjustment	19	13	10	10	6	(4)
Current cost operating profit	1,638	1,640	1,683	1,184	1,183	(1)

¹ Large users are identified for measured water revenue for the first time in 2000-01.

² Large users are identified for measured sewerage revenue for the first time in 2001-02.

Current cost operating profits are higher for sewerage services than for water, even after adjusting for provisions. The sewerage service has contributed 59% of operating profits in 2001-02. In past years, the sewerage contribution was even higher. These higher profits need to be assessed in relation to the capital employed, which is discussed in the section on returns on capital later in this report.

The infrastructure renewals charge (IRC) for 2001-02 of £442 million is 6% higher compared to that in 2000-01 and is on a rising trend. A fairly constant charge is expected under infrastructure renewals accounting if the networks are stable. This is discussed in more detail in the section on infrastructure renewals later in this report but if, as suggested by some companies, the network requires higher levels of expenditure on a long-term basis, then we would expect this to be reflected in even higher levels of IRCs than occurred in 2001-02. We intend to reinforce with companies our view that their IRCs should equal their long term views of their infrastructure renewals expenditure (IRE). There should not be a build up of an accrual or prepayment over-time, unless they have evidence that this will reverse in the future.

Current cost depreciation (CCD), which is the most significant component of capital maintenance charges, has steadily increased in real terms over the five year period, reflecting the capital programme during this time. The 2001-02 charge is 1% higher than in 2000-01 and 9% higher than in 1997-98. It is more than 20% higher than we allowed in price limits. Most companies state that they have not taken into account any depreciation adjustment for the difference between the long-term assessment of expenditure on maintaining serviceability to customers and their CCD charges. This and some accelerated depreciation on the reassessment by some companies of useful asset lives, accounts for most of the difference. This contributed to the reduction in operating profits reported by companies in 2000-01.

However, the charges made by companies have no impact on their cash position. It is the current cost depreciation allowed by us in price limits that companies receive in cash (ie through customers bills).

As set out above, although current cost accounting is the preferred basis of reporting in the water industry, companies also prepare historic cost accounts for statutory purposes. Appendix 2 reconciles historic cost operating profit with the current cost operating profit for 2001-02 and 2000-01. Historic cost operating profits are greater than current cost operating profits in each year. This reflects higher depreciation charges on a current cost basis of accounting.

We note that the depreciation charge on a historic cost basis in 2001-02 (which is the basis on which profits are reported to the City and investors) is similar to that assumed by us in the financial projections underlying price limits.

Table 4 shows current cost turnover and operating profit by service for each company for the five years to 2001-02. The water and sewerage companies in 2001-02 account for 91% of industry turnover and 92% of operating profit. This share has remained largely unchanged since privatisation.

Operating costs and capital maintenance charges are reported in the regulatory accounts by detailed function. An industry aggregate analysis for 2001-02 is discussed in more detail in Section 3 operating expenditure and shown in table 16 which includes the distribution of costs within each service. Water supply distribution accounts for 12% more costs than water resources and treatment. In the sewerage service, sewage treatment is by far the most costly operation.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 4 Current cost turnover and operating profit by service by company

2001-02 prices	Turnover					Current cost operating profit				
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Water service:										
Anglian	327.8	320.3	309.7	277.6	282.4	116.4	87.6	86.9	69.5	70.0
Dŵr Cymru	252.4	251.0	237.7	225.8	225.3	41.5	45.3	19.5	29.8	39.4
Northumbrian	283.3	284.4	272.5	235.7	241.9	85.8	99.6	89.3	56.5	66.5
Severn Trent	436.3	439.0	465.6	447.9	444.0	109.2	129.0	119.0	161.2	147.0
South West	117.4	115.7	111.5	99.5	101.6	32.6	34.1	34.4	20.7	23.5
Southern	137.6	138.3	145.9	120.5	116.5	41.4	45.6	56.4	34.1	21.3
Thames	439.1	463.1	471.9	439.0	456.7	101.2	132.2	129.3	86.2	85.3
United Utilities	422.9	424.7	433.4	436.5	431.3	69.6	69.8	81.7	92.5	107.6
Wessex	91.4	92.2	94.4	81.7	83.4	34.5	35.5	37.2	24.5	26.5
Yorkshire	301.7	308.4	323.7	272.0	275.6	75.7	83.9	107.0	71.7	73.4
Total water service	2,809.9	2,837.1	2,866.3	2,636.2	2,658.7	707.9	762.6	760.7	646.7	660.5
Sewerage service:										
Anglian	459.6	463.4	454.1	420.2	435.5	215.6	193.8	172.1	142.2	150.9
Dŵr Cymru	230.3	233.1	256.3	218.3	228.3	72.8	76.2	104.0	72.0	83.4
Northumbrian	190.5	202.6	225.8	175.5	180.4	88.6	105.4	113.3	65.9	61.8
Severn Trent	585.2	572.4	560.8	449.9	449.2	285.4	253.8	228.1	125.2	140.5
South West	154.0	166.4	175.6	147.6	151.4	82.1	96.3	102.6	74.5	72.8
Southern	312.2	322.2	340.2	301.9	307.4	116.6	122.9	144.6	119.4	105.5
Thames	673.7	674.0	680.5	578.4	597.9	290.5	293.5	280.3	223.8	212.7
United Utilities	548.4	575.2	617.6	523.1	513.9	256.4	262.2	285.2	188.2	183.7
Wessex	185.1	189.2	194.9	173.6	175.9	99.8	101.9	105.1	79.1	76.7
Yorkshire	307.2	318.2	329.0	278.8	284.8	129.9	134.3	147.7	93.8	94.7
Total sewerage service	3,646.2	3,716.7	3,834.8	3,267.3	3,324.7	1,637.7	1,640.3	1,683.0	1,184.1	1,182.7
Water and sewerage service:										
Anglian	787.4	783.7	763.8	697.8	717.9	332.0	281.4	259.0	211.7	220.9
Dŵr Cymru	482.7	484.1	494.0	444.1	453.6	114.3	121.5	123.5	101.8	122.8
Northumbrian	473.8	487.0	498.3	411.2	422.3	174.4	205.0	202.6	122.4	128.3
Severn Trent	1,021.5	1,011.4	1,026.4	897.8	893.2	394.6	382.8	347.1	286.4	287.5
South West	271.4	282.1	287.1	247.1	253.0	114.7	130.4	137.0	95.2	96.3
Southern	449.8	460.5	486.1	422.4	423.9	158.0	168.5	201.0	153.5	126.8
Thames	1,112.8	1,137.1	1,152.4	1,017.4	1,054.6	391.7	425.7	409.6	310.0	298.0
United Utilities	971.3	999.9	1,051.0	959.6	945.2	326.0	332.0	366.9	280.7	291.3
Wessex	276.5	281.4	289.3	255.3	259.3	134.3	137.4	142.3	103.6	103.2
Yorkshire	608.9	626.6	652.7	550.8	560.4	205.6	218.2	254.7	165.5	168.1
Total WaSCs	6,456.1	6,553.8	6,701.1	5,903.5	5,983.4	2,345.6	2,402.9	2,443.7	1,830.8	1,843.2
Water service:										
Bournemouth & W Hants	27.7	27.4	28.1	26.9	26.8	7.4	7.7	7.1	6.2	6.4
Bristol	67.9	68.8	70.5	64.2	66.0	14.2	15.5	15.6	12.9	12.7
Cambridge	16.9	16.2	15.8	13.8	14.1	6.1	5.1	3.9	3.3	3.6
Dee Valley	19.8	18.9	18.8	16.6	16.3	7.0	7.4	7.6	5.1	4.7
Folkestone & Dover	12.1	11.9	12.3	12.3	12.6	2.4	3.2	4.3	4.0	4.5
Mid Kent	41.4	41.3	42.4	34.3	35.9	17.8	16.8	17.4	8.1	10.7
Portsmouth	30.8	29.8	30.1	28.8	29.7	9.2	9.5	9.6	9.1	9.8
South East	106.2	104.8	104.2	86.3	88.6	37.2	35.9	40.8	30.2	30.3
South Staffordshire	61.8	61.7	62.1	59.2	59.1	9.4	11.6	13.3	11.8	10.8
Sutton & East Surrey	45.6	44.8	42.9	35.9	37.2	13.1	14.2	10.7	8.0	11.5
Tendring Hundred	12.7	12.4	12.4	11.0	11.7	5.1	4.9	5.1	4.0	4.8
Three Valleys	178.7	182.2	189.9	159.8	163.7	55.1	54.5	65.8	38.1	41.6
Total WoCs	621.6	620.2	629.5	549.1	561.7	184.0	186.3	201.2	140.8	151.4

Cash flow

The cash flow statement in table 5 shows the aggregate cash position of the companies in each year.

The net cash flow before financing for 2001-02, that is the cash expenditure on interest, dividends and capital assets compared with that generated from operating activities, shows an outflow of £1,082 million, a fall in cash outflow of £127 million compared with 2000-01. There have been significant net cash outflows in each of the last five years. In the five year period from 1997-98, aggregate net cash outflow before financing is £9,094 million.

Over the five year period this cash outflow has been largely financed by borrowings. Shareholders have financed the remainder through retained profits (in the form of retained cash, cash equivalents and liquid resources).

The profile of the capital expenditure programme dictates the pattern of cash outflows. Where this is combined with a high level of special dividend payments, such as in 1997-98 and 1998-99, the net cash outflow is at its greatest.

Dividend payments (both equity and non-equity) represent the largest cash flow after capital expenditure, amounting to £7,963 million over the five year period (excluding capital restructuring dividends). Dividends are discussed in more detail later in this report. In 2001-02, there were no proceeds from share issues.

Interest payments have increased significantly since 1997-98 as a result of the heavy investment in the capital programme and financial restructuring by some companies to increase their levels of debt and gearing. They now represent about a fifth of net cash flow from operations. However, in 2001-02 interest payments have fallen slightly by £28 million from those in 2000-01.

Tax payments have also increased over the period, particularly compared with the years following privatisation, as the companies become liable for mainstream corporation tax. However, the amount of tax paid in 2001-02 has fallen substantially as companies utilised surplus advance corporation tax paid in prior years.

Table 6 shows key cash flow totals for each company. The majority of companies have net cash outflows before financing in every year. Three water only companies (seven in 2000-01) and Thames Water are self financing, ie have net cash inflows before financing.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 5 Cash flow statement

2001-02 prices	1997-98	1998-99	1999-00	2000-01	2001-02	2000-01 2001-02 change
	£m	£m	£m	£m	£m	£m
Net cash flow from operating activities¹	4,108	4,379	4,414	3,831	3,764	(67)
Returns on investment and servicing of finance:						
Net interest	(492)	(632)	(690)	(810)	(782)	28
Dividends paid on non-equity shares ²	(6)	(28)	(19)	(18)	(20)	(2)
	(498)	(660)	(709)	(828)	(802)	26
Taxation paid	(215)	(468)	(469)	(380)	(150)	230
Investing activities:						
Purchase of fixed assets and subsidiaries ³	(3,374)	(3,136)	(3,175)	(2,282)	(2,225)	57
Infrastructure renewals expenditure	(477)	(519)	(455)	(422)	(493)	(71)
Disposal of fixed assets ⁴	63	56	53	92	(245)	(337)
	(3,788)	(3,599)	(3,577)	(2,612)	(2,963)	(351)
Dividends paid on equity shares ²	(2,315)	(2,172)	(1,234)	(1,220)	(931)	289
Net cash flow before financing	(2,708)	(2,520)	(1,575)	(1,209)	(1,082)	127
Financing:						
Net loans	2,493	2,233	1,491	1,757	1,289	(468)
Finance lease capital payments	47	61	(46)	(56)	59	115
Proceeds of share issues ^{2 & 5}	18	148	108	(413)	0	413
	2,558	2,442	1,553	1,288	1,348	60
Management of liquid resources	52	81	168	(331)	(219)	112
Increase/(decrease) in cash and cash equivalents	(98)	3	146	(252)	47	299

¹ Net cash flow from operating activities is calculated by adjusting the current cost operating profit shown in table 1 for items which are not direct cash flows, ie depreciation and the change in the components of working capital, i.e. stocks, debtors, short-term creditors and unutilised provisions. It is also adjusted for infrastructure renewals expenditure which is shown as an investing activity.

² The dividends paid exclude capital restructuring dividends of £1,083 million in 1997-98, £798 million in 2000-01 and £6.5 million in 2001-02 (all at 2001-02 prices). Corresponding adjustments have been made to financing. No such payments were made in 1998-99 and 1999-2000.

³ The timing of cash payments for capital expenditure compared with the recording of investment in the Regulatory Accounts and the receipt of grants mean that the amounts shown in the cash flow for purchase of fixed assets cannot be directly reconciled to the gross capital expenditure discussed later in the report.

⁴ For 2001-02, this includes a loan of £309.5 million from Anglian Water to awg plc.

⁵ For 2000-01, the proceeds of share issues had a negative value because Dŵr Cymru purchased back shares at a cost of £435.2 million (at 2001-02 prices).

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 6 Cash flows by company

2001-02 prices	Net cash flow from operating activities					Net cash flow before financing					Net increase/(decrease) in cash equivalents				
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Anglian ²	384.8	578.6	478.8	395.1	378.2	(289.0)	(71.6)	(291.2)	(110.3)	(397.6)	(34.2)	133.4	(24.1)	(7.8)	(188.4)
Dŵr Cymru ¹	241.5	264.3	265.5	260.8	247.9	(378.1)	(147.9)	(96.7)	(50.7)	(41.6)	(7.0)	7.4	5.5	23.6	(17.9)
Northumbrian	286.3	294.0	313.8	226.2	224.0	(167.9)	(41.8)	(103.7)	(149.9)	(96.6)	15.7	1.1	2.5	6.8	0.1
Severn Trent	653.3	596.9	593.4	517.1	530.4	(552.8)	(319.1)	(245.2)	(165.8)	(20.2)	(193.0)	(146.9)	135.6	(224.7)	294.0
South West	178.7	164.0	195.5	164.6	157.1	(143.9)	(136.6)	(35.8)	(54.6)	(122.1)	1.5	(3.2)	7.4	(10.2)	(25.1)
Southern	137.8	419.9	327.7	340.2	199.5	(246.0)	(79.9)	(181.5)	(112.0)	(176.1)	129.1	(23.3)	(9.0)	3.2	(7.7)
Thames ¹	611.6	643.4	674.9	562.9	618.9	(370.4)	(912.2)	(86.3)	(223.7)	100.2	0.8	1.7	(2.8)	(7.8)	2.8
United Utilities	724.3	536.6	628.9	615.9	628.0	(405.4)	(466.0)	(303.0)	(103.7)	(108.9)	(19.4)	(7.8)	27.7	(34.4)	19.1
Wessex	203.7	199.8	203.8	165.7	163.9	(40.1)	(173.7)	(26.3)	(36.6)	(80.7)	2.5	41.4	3.8	(6.4)	(8.2)
Yorkshire ¹	358.7	376.7	402.2	342.2	348.0	(100.4)	(146.8)	(216.0)	(129.0)	(81.3)	5.6	(1.2)	3.4	4.0	(5.4)
Bournemouth & W Hants	13.3	12.5	13.3	12.6	11.4	(4.4)	(4.2)	1.2	0.4	(2.9)	0.2	(0.4)	(0.2)	1.4	0.6
Bristol	32.3	31.6	29.5	32.3	28.5	(6.3)	(12.1)	(0.1)	4.1	(7.0)	5.6	(2.9)	(0.9)	(0.9)	0.0
Cambridge	8.2	8.0	8.3	6.4	7.2	(0.2)	(0.6)	0.2	2.4	(2.7)	(1.4)	0.3	(0.9)	2.4	(3.6)
Dee Valley	13.1	7.6	11.9	1.6	6.8	1.4	(0.7)	2.3	(6.1)	(1.7)	0.0	(2.8)	1.4	(2.4)	(0.4)
Folkestone & Dover	7.1	4.7	6.0	7.1	5.6	0.0	(0.3)	2.3	1.1	(5.3)	(0.1)	0.2	0.2	0.1	(0.3)
Mid Kent ¹	23.8	26.6	25.6	18.0	17.8	2.5	3.5	1.8	(3.9)	(17.3)	(0.8)	3.5	1.8	(3.9)	(3.7)
Portsmouth	16.3	14.4	14.6	14.5	14.4	2.7	0.2	2.0	2.8	3.8	(0.5)	0.2	0.4	0.0	(1.5)
South East	59.8	46.9	56.9	50.9	44.2	6.5	(5.7)	6.9	12.2	(6.7)	3.3	(5.1)	0.8	(2.8)	(1.6)
South Staffordshire	30.8	19.2	28.0	28.7	23.6	(2.5)	(3.4)	3.6	2.7	(6.5)	(2.9)	(7.9)	3.2	0.8	(7.2)
Sutton & East Surrey	26.1	25.1	23.2	(22.4)	19.7	5.9	(1.4)	(8.8)	(42.4)	0.5	(0.8)	4.3	(6.5)	5.2	1.3
Tendring Hundred	7.3	7.7	8.2	6.6	7.8	(1.6)	0.2	(0.6)	(3.2)	1.3	(0.5)	0.2	0.4	(0.1)	(0.2)
Three Valleys	88.9	100.2	104.3	83.9	81.0	(18.4)	0.4	(0.4)	(43.2)	(12.2)	(1.7)	10.7	(3.6)	1.8	(0.1)
Industry	4,107.7	4,378.7	4,414.3	3,830.9	3,763.9	(2,708.4)	(2,519.7)	(1,575.3)	(1,209.4)	(1,081.6)	(98.0)	2.9	146.1	(252.1)	46.6

¹The net cashflow before financing for these companies has been adjusted to exclude capital restructuring dividends of £219 million for Dŵr Cymru, £295 million for Thames Water Utilities Ltd, £547 million for Yorkshire Water Services Ltd, £22m for Mid Kent Water plc in 1997-98, £798 million for Anglian Water Services Ltd in 2000-01 and £6.5 million in for Dee Valley Water plc in 2001-02 (all in 2001-02 prices). No such dividends were paid in 1998-99 and 1999-2000.

²Anglian's net cash flow before financing includes a £309.5 million loan to awg plc.

Balance sheet

Table 7 sets out the aggregate current cost balance sheet for the industry at 31 March for each of the last five years.

Net assets employed at 31 March 2002 totalled £175 billion. By comparison, the net asset value on a historic cost basis at 31 March 2002 is £13 billion.

The balance sheet is dominated by the tangible assets included at modern equivalent asset (MEA) valuation. An MEA value is the cost of replacing an old asset with a technically up-to-date asset, with the same service capability, but allowing for the remaining service potential of the old asset compared with a new one.

Tangible assets totalled £198 billion at 31 March 2002, an increase of £918 million compared to 31 March 2001. This reflects capital expenditure net of depreciation during the year.

Table 7 Current cost balance sheet at 31 March

2001-02 prices	1997-98	1998-99	1999-00	2000-01	2001-02	2000-01 2001-02 change
	£m	£m	£m	£m	£m	£m
Fixed assets						
Tangible assets	204,790	206,784	195,880	196,688	197,606	918
Third party contributions since 1989-90	(2,447)	(2,647)	(2,824)	(2,976)	(3,229)	(253)
	202,343	204,137	193,056	193,712	194,377	665
Total working capital	(985)	(600)	(737)	(808)	103	911
Net operating assets	201,358	203,537	192,319	192,904	194,480	1,576
Cash and investments	796	530	276	581	930	349
Borrowings	(9,836)	(11,956)	(12,913)	(14,638)	(16,571)	(1,933)
Non-trade debtors less creditors	(1,305)	(1,762)	(1,320)	(2,273)	(1,985)	288
Provisions for liabilities and charges	(49)	(40)	(89)	(57)	(2,000)	(1,943)
Net assets employed	190,964	190,309	178,273	176,517	174,854	(1,663)
Capital and reserves						
Called up share capital	5,782	5,798	5,757	5,449	5,377	(72)
Share premium	899	881	858	863	852	(11)
Profit and loss account	2,854	2,072	2,697	933	(710)	(1,643)
Current cost reserve	181,209	181,331	168,753	168,914	168,985	71
Other reserves	220	227	208	358	350	(8)
Total capital and reserves	190,964	190,309	178,273	176,517	174,854	(1,663)

Tangible assets reflect not only new capital investment (net of depreciation) but also revaluations following a reassessment by companies of their MEA values for the purposes of periodic reviews. These are incorporated into the regulatory accounts of companies. Most companies carried out a reassessment of MEA values for the 1999 periodic review. This revaluation was largely responsible for the reduction of nearly £11 billion in the MEA value at 1999-2000, compared with 1998-99.

The movement in profit and loss reserves between 2001-02 and 2000-01 of £1,643 million is not consistent with the level of retained profits for 2001-02. This is because all companies, except Southern Water (who adopted the change last year), have reflected prior year adjustments of £2.0 billion through the profit and loss account reserves. These adjustments reflect accounting changes for deferred tax. This change is reflected in the increase in provisions for liabilities and charges from £57 million to £2,000 million.

Debt and gearing

The reported net debt position at 31 March 2002 is £15,641 million, an increase of £1,584 million compared with the 31 March 2001 figure of £14,057 million. This is 73% higher than the net debt at 31 March 1998. It reflects the considerable cash outflow from both capital investment and financial restructuring of the companies over the five year period.

The proportion of total industry net debt held by the water and sewerage companies is 97% and by the water only companies is 3%. This reflects the relative levels of capital expenditure and, to some extent, the special dividend payments made principally by water and sewerage companies.

Net debt for each company for the five years is set out in table 8. The level of net debt within the water and sewerage companies has increased by 11%, from £13,571 million at 31 March 2001 to £15,101 million at 31 March 2002. The level of net debt in the water only companies has similarly increased by 11% from £485 million to £540 million.

Table 8 also shows the gearing for each company. In the early years after privatisation, industry levels of gearing were very low. This was principally due to the debt write-off and the cash injection into the water and sewerage companies at privatisation (the green dowry⁴). Average gearing in the industry has rapidly increased over the five year period and is almost 56% in 2001-02. This reflects the high levels of capital expenditure and special dividends declared. It also reflects the change in 2001-02 in the accounting policy for deferred tax. This accounts for nearly half of the increase in gearing compared to 2001-02.

⁴ The green dowry is the term used for the £1.5 billion cash injection into the water and sewerage companies and the £4.9 billion write-off debts (in 1989 prices) prior to privatisation.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 8 Net debt and gearing by company at 31 March

2001-02 prices	1997-98	1998-99	Net debt			1997-98	1998-99	Gearing		
	£m	£m	1999-00 £m	2000-01 £m	2001-02 £m	%	%	1999-00 %	2000-01 %	2001-02 %
Anglian	1,214.4	1,261.7	1,521.1	1,604.8	1,984.5	38.6	42.0	47.0	64.8	67.2
Dŵr Cymru	709.9	843.7	887.1	1,380.7	1,867.2	39.5	43.1	43.4	65.4	74.6
Northumbrian	645.6	680.0	767.7	945.1	1,209.9	39.3	38.9	40.6	45.8	58.7
Severn Trent	1,401.3	1,709.2	1,924.9	2,062.7	2,058.6	38.5	42.8	46.6	48.1	52.2
South West	461.5	594.9	547.4	595.5	746.0	32.3	38.4	34.3	36.6	44.3
Southern	610.3	786.0	949.4	1,040.2	1,202.6	43.3	46.5	48.8	58.8	59.8
Thames	1,100.1	1,993.7	2,028.3	2,202.7	2,076.7	29.7	50.6	49.1	52.0	59.0
United Utilities	1,589.0	1,889.7	2,139.6	2,177.7	2,252.3	40.8	44.9	47.0	47.7	50.7
Wessex	386.0	552.2	564.2	588.4	661.3	40.5	47.7	48.1	48.7	53.6
Yorkshire	529.9	665.8	864.0	973.5	1,042.0	24.8	28.3	33.0	37.0	40.1
Bournemouth & West Hants	13.8	17.7	16.1	14.8	18.0	17.3	20.7	18.9	17.6	21.4
Bristol	53.4	70.7	69.0	63.4	71.3	41.9	48.4	46.3	43.5	49.2
Cambridge	15.3	15.5	14.9	12.0	14.7	36.7	35.7	34.0	28.8	39.1
Dee Valley	(2.7)	(2.9)	(5.4)	(4.6)	(3.6)	N/A	N/A	N/A	N/A	N/A
Folkestone & Dover	8.9	11.7	9.1	7.8	12.9	39.4	50.1	41.1	35.7	49.9
Mid Kent	42.1	37.6	34.9	38.0	54.8	45.9	39.5	35.4	36.8	49.4
Portsmouth	16.2	15.7	13.2	10.2	6.2	31.5	29.0	24.0	18.2	13.8
South East Water	91.5	133.1	138.5	125.0	129.8	33.9	48.6	46.3	41.7	44.7
South Staffordshire	17.7	16.0	13.2	16.4	23.0	21.7	19.1	15.5	18.1	23.9
Sutton & East Surrey	(6.4)	(4.9)	4.0	46.2	47.0	N/A	N/A	6.3	44.4	46.8
Tendring Hundred	8.6	8.2	8.6	11.6	10.1	31.9	30.1	32.3	39.3	38.5
Three Valleys	133.6	130.4	127.4	144.5	155.4	45.4	44.3	40.4	46.2	52.2
Industry	9,040.0	11,425.7	12,637.2	14,056.6	15,640.7	36.3	42.7	44.2	49.7	55.5

Levels of gearing for individual companies, particularly water only companies, cover a wide range. Dee Valley Water has net cash (ie zero gearing) reflecting repayment of existing debt in advance of its restructuring proposal (to be carried out in 2002-03). Three Valleys Water's gearing is 52%. Since the 1999 price review the average level of gearing for water and sewerage companies has risen from 45% in 1999-2000 to 56% in 2001-02. This is around the average level of gearing consistent with maintaining a solid investment grade rating and an efficient capital structure at the last price review. The main reasons for the increase in gearing since 2000-01 are the change of reporting for deferred tax in 2001-02 and the effects of financial restructuring, particularly for Anglian Water and Dŵr Cymru.

Return on capital

Although the current cost regulatory accounts provide a useful framework for monitoring performance, they do not provide a meaningful measure of the capital base to be remunerated. We established a more appropriate measure of the capital base during the 1994 periodic review. The regulatory capital value uses the market valuation (including debt) of the companies around the time of the initial price setting. We then adjusted this to take account of the net new capital expenditure (ie after allowing for current cost depreciation) assumed at the time of initial price setting and at subsequent periodic reviews. The measured returns based on the regulatory capital value for each company are set out in table 9 for the five year period.

The approach to regulatory capital values for the period 2000-05 used in the 1999 periodic review follows that from the 1994 review but was refined in MD145, 'The framework for setting prices' (March 1999). We adjusted the regulatory capital values for 2000 onwards to reflect past capital efficiencies and, in this way, the benefits of these efficiencies are passed back to customers. In order to preserve incentives for companies to achieve further efficiencies, they retain the benefit of past capital efficiencies for five years. This is then captured in the regulatory capital value through a rolling adjustment.

The regulatory capital values for the three years to 1999-2000 in table 9 are those underlying the 1994 periodic review. Consequently, they will not reflect the actual performance of the companies in that period. The regulatory capital values for 2000-01 onwards reflect the approach refined in the 1999 periodic review and capture capital efficiencies achieved in years prior to 1995.

We published, for the first time, future regulatory capital values up to 31 March 2005 on a company specific basis in March 2002. This was to increase transparency of regulatory decisions and their consistency and predictability.

The overall return achieved, before tax, on the regulatory capital value in 2001-02 was 6.6%, the same as in 2000-01, but substantially lower than the 9.3% achieved in 1999-2000. This reflects the impact of the large price reductions for 2000-01 and broadly stable prices in 2001-02. The returns in each of the three previous years declined slowly, from a high of 10.1% in 1997-98.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 9 Return on capital measured by regulatory capital value by company

	Current cost operating profit					Average regulatory capital value					Return on capital employed				
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 %	1998-99 %	1999-00 %	2000-01 %	2001-02 %
2001-02 prices															
Anglian	332.0	281.4	259.0	211.7	220.9	2,977.0	3,165.2	3,295.7	3,620.3	3,750.1	11.1	8.9	7.9	5.9	5.9
Dŵr Cymru ¹	114.3	121.5	123.5	101.8	122.8	1,525.3	1,628.0	1,769.4	1,979.7	2,090.4	7.5	7.5	7.0	5.1	5.9
Northumbrian	174.4	205.0	202.6	122.4	128.3	1,386.3	1,517.2	1,642.8	1,979.7	2,043.0	12.6	13.5	12.3	6.2	6.3
Severn Trent	394.6	382.8	347.1	286.4	287.5	3,493.0	3,806.2	4,052.2	4,098.8	4,125.4	11.3	10.1	8.6	7.0	7.0
South West ²	114.7	130.4	137.0	95.2	96.3	1,356.5	1,410.7	1,468.7	1,429.9	1,437.7	8.5	9.2	9.3	6.7	6.7
Southern	158.0	168.5	201.0	153.5	126.8	1,600.4	1,812.0	2,054.4	2,078.3	2,086.3	9.9	9.3	9.8	7.4	6.1
Thames	391.7	425.7	409.6	310.0	298.0	3,669.2	3,993.2	4,294.4	4,461.3	4,510.1	10.7	10.7	9.5	6.9	6.6
United Utilities	326.0	332.0	366.9	280.7	291.3	4,432.9	4,673.3	4,734.0	4,651.3	4,626.3	7.4	7.1	7.8	6.0	6.3
Wessex	134.3	137.4	142.3	103.6	103.2	956.5	1,044.6	1,121.3	1,237.3	1,308.1	14.0	13.1	12.7	8.4	7.9
Yorkshire	205.6	218.2	254.7	165.5	168.1	1,992.5	2,193.1	2,377.1	2,592.9	2,667.3	10.3	10.0	10.7	6.4	6.3
Bournemouth & W Hants ²	7.4	7.7	7.1	6.2	6.4	83.1	85.9	88.7	90.1	93.7	9.0	8.9	8.0	6.9	6.8
Bristol	14.2	15.5	15.6	12.9	12.7	128.4	133.2	137.2	161.0	164.8	11.1	11.6	11.4	8.0	7.7
Cambridge	6.1	5.1	3.9	3.3	3.6	39.8	40.6	40.9	40.6	40.3	15.4	12.6	9.5	8.1	8.9
Dee Valley ²	7.0	7.4	7.6	5.1	4.7	41.2	42.9	44.5	41.9	41.8	16.9	17.3	17.2	12.2	11.3
Folkestone & Dover	2.4	3.2	4.3	4.0	4.5	33.6	34.6	35.4	35.0	38.3	7.3	9.2	12.2	11.4	11.7
Mid Kent	17.8	16.8	17.4	8.1	10.7	115.7	122.0	127.3	137.5	148.2	15.4	13.7	13.7	5.9	7.3
Portsmouth	9.2	9.5	9.6	9.1	9.8	64.0	69.2	71.8	80.5	86.3	14.3	13.8	13.4	11.3	11.4
South East	37.2	35.9	40.8	30.2	30.3	314.9	339.1	362.7	385.9	403.7	11.8	10.6	11.2	7.8	7.5
South Staffordshire	9.4	11.6	13.3	11.8	10.8	114.2	117.5	121.2	122.9	126.9	8.2	9.8	11.0	9.6	8.5
Sutton & East Surrey	13.1	14.2	10.7	8.0	11.5	94.8	93.5	92.6	96.7	98.1	13.8	15.2	11.5	8.3	11.7
Tendring Hundred ¹	5.1	4.9	5.1	4.0	4.8	43.4	45.1	46.8	48.4	49.5	11.7	11.0	10.8	8.2	9.6
Three Valleys	55.1	54.5	65.8	38.1	41.6	483.3	492.8	497.5	503.2	511.8	11.4	11.1	13.2	7.6	8.1
Industry	2,529.6	2,589.2	2,644.9	1,971.6	1,994.6	24,946.0	26,859.9	28,476.6	29,873.2	30,448.1	10.1	9.6	9.3	6.6	6.6

¹The values for Dŵr Cymru and Tendring Hundred reflect their interim determinations in 2000 and affect price limits from 2001-02 to 2004-05.

²The values for South West, Bournemouth and West Hampshire and Dee Valley reflect their interim determinations in 2001 and affect price limits from 2002-03 to 2004-05.

The return on regulatory capital value before interest and tax for 2001-02 underlying the price limits was 6.7%. This is marginally higher than the actual returns achieved. This reflects the benefits of better than expected operating expenditure but these have been offset by higher levels of depreciation charged by companies.

The returns achieved by individual companies in 2001-02 ranged from 5.9% for Anglian Water and Dŵr Cymru to 11.7% for Sutton and East Surrey Water and Folkestone and Dover Water. The average return for water and sewerage companies is 6.5% (2000-01: 6.5%) and is 9.2% (2000-01: 8.1%) for water only companies.

Table 10 shows the returns actually received by investors and lenders, ie dividends and interest as a percentage of the regulatory capital value. This measure is similar to the dividend yield measure used by equity investors and stock market analysts. The majority of companies fall within a range of 6% to 8% in 2001-02. Anglian Water and Southern Water have exceptionally low returns because they did not declare any dividends in 2001-02. A number of water and sewerage companies show exceptionally high returns in previous years (over 20% in some instances), reflecting the payment of special dividends.

Returns on capital employed based on the average net MEA values during the five years are shown in table 11. This shows a sharp drop in the return for 2000-01 after progressively higher levels of return have been achieved over the previous three years. The return in 2001-02 remained at a similar level to 2000-01. In the earlier years, greater returns have been made on the water assets.

Returns measured on this basis are very low at 1.0% compared with returns earned on the regulatory capital values of 6.6%. This is due to the large difference between the current cost net asset values of the companies and the market value of the companies at privatisation, which is the basis of the regulatory capital value.

Table 12 shows the average MEA for each company and the return achieved. There is a much wider spread of returns compared with those measured by regulatory capital values. The range in 2001-02 runs from 0.8% for Thames Water to 2.5% for Tendring Hundred Water.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 10 Dividends reported plus interest payable as a percentage of regulatory capital value

	Dividends reported				Interest payable				Dividends plus interest payable as a percentage of capital value						
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 %	1998-99 %	1999-00 %	2000-01 %	2001-02 %
2001-02 prices															
Anglian ¹	216.8	356.7	155.6	126.2	0.0	85.1	97.4	101.3	121.9	102.7	10.1	14.3	7.8	6.9	2.7
Dŵr Cymru ^{1,2}	263.9	61.6	30.3	14.2	47.5	41.8	57.5	59.0	93.4	115.5	20.0	7.3	5.0	5.4	7.8
Northumbrian	49.4	67.3	72.7	66.0	72.8	38.3	45.8	46.7	65.4	67.4	6.3	7.5	7.3	6.6	6.9
Severn Trent	481.4	146.5	282.2	137.6	139.1	52.5	77.4	88.3	119.5	119.4	15.3	5.9	9.1	6.3	6.3
South West ³	180.2	63.5	66.9	61.3	66.7	14.8	34.5	40.5	40.9	40.1	14.4	6.9	7.3	7.1	7.4
Southern	46.0	46.4	47.8	48.5	0.0	43.9	54.6	60.0	67.2	71.9	5.6	5.6	5.3	5.6	3.4
Thames ¹	408.4	945.1	120.5	120.4	124.2	55.5	82.4	128.9	142.5	126.2	12.6	25.7	5.8	5.9	5.6
United Utilities	323.2	334.3	201.7	200.8	203.2	113.9	125.6	131.2	141.1	148.1	9.9	9.8	7.0	7.4	7.6
Wessex	176.4	52.0	89.4	48.4	43.2	25.7	30.6	30.0	31.3	32.8	21.1	7.9	10.6	6.4	5.8
Yorkshire ¹	105.2	92.0	97.0	196.4	98.3	30.5	38.2	44.4	57.8	64.1	6.8	5.9	5.9	9.8	6.1
Bournemouth & W Hants³	3.2	3.3	3.3	3.2	3.4	0.5	1.0	0.9	1.0	0.9	4.4	5.0	4.8	4.7	4.6
Bristol	5.6	5.5	5.7	6.2	6.6	4.0	4.8	5.1	4.6	4.6	7.5	7.7	7.9	6.7	6.8
Cambridge	1.7	1.7	0.8	0.5	4.2	1.1	1.1	1.0	1.1	0.9	7.1	6.9	4.4	4.0	12.6
Dee Valley ^{1,3}	2.2	2.4	2.7	2.8	2.7	(0.1)	(0.2)	(0.5)	(0.3)	(0.1)	5.2	5.0	5.1	5.9	6.1
Folkestone & Dover	1.7	1.8	1.7	2.3	2.3	0.7	1.0	0.8	0.7	0.7	7.1	7.9	6.9	8.7	8.0
Mid Kent ¹	5.8	4.6	4.7	3.9	3.8	1.4	3.4	3.5	3.3	4.1	6.3	6.6	6.4	5.2	5.3
Portsmouth	2.6	2.8	3.0	2.9	5.0	1.7	1.5	1.3	1.1	1.8	6.7	6.2	6.1	5.0	7.8
South East	7.7	8.5	10.9	13.6	11.8	11.3	11.3	10.4	9.4	8.2	6.0	5.8	5.9	5.9	4.9
South Staffordshire	5.3	5.5	6.3	6.2	6.1	1.1	1.3	1.0	1.1	1.1	5.6	5.7	6.1	5.9	5.7
Sutton & East Surrey	8.8	9.0	8.9	6.0	5.3	(0.5)	(0.8)	(0.2)	0.6	3.0	8.8	8.7	9.4	6.9	8.4
Tendring Hundred ²	2.8	2.9	4.8	2.9	3.3	0.5	0.6	0.5	0.7	0.6	7.6	7.8	11.3	7.4	7.8
Three Valleys	27.3	29.1	30.9	24.8	26.7	11.0	12.3	10.0	11.9	11.0	7.9	8.4	8.2	7.3	7.4
Industry	2,325.6	2,242.5	1,247.8	1,095.1	876.2	534.7	681.3	764.1	916.2	925.0	11.5	10.9	7.1	6.7	5.9

¹The dividends reported and dividend covers in the above table exclude capital restructuring dividends. These are £219 million for Dŵr Cymru, £295 million for Thames Water Utilities Ltd, £547 million for Yorkshire Water Services Ltd, £22 million for Mid Kent Water plc in 1997-98, £798 million for Anglian Water Services Ltd in 2000-01 and £6.5 million for Dee Valley Water plc in 2001-02 (all in 2001-02 prices). No such dividends were paid in 1998-99 and 1999-2000. Dividends reported are those declared in the profit and loss account for the year. These will not correspond with dividends paid during the year (as shown in the cash flow statement in Table 5) because of timing between declaring a dividend and payment. Interim dividends are normally declared and paid in the same financial year, but final dividends are normally paid in the financial year following the declaration.

²The values for Dŵr Cymru and Tendring Hundred reflect their interim determinations in 2000 and affect price limits from 2001-02 to 2004-05.

³The values for South West Water, Bournemouth and West Hampshire and Dee Valley reflect their interim determinations in 2001 and affect price limits from 2002-03 to 2004-05.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 11 Return on capital by service measured by average MEA – industry

2001-02 prices		1997-98	1998-99	1999-00	2000-01	2001-02
Water service:						
Current cost operating profit	£m	892	949	962	788	812
Average net MEA value	£m	70,895	71,597	71,107	70,375	70,820
Return on capital employed	%	1.26	1.32	1.35	1.12	1.15
Sewerage service:						
Current cost operating profit	£m	1,638	1,640	1,683	1,184	1,183
Average net MEA value	£m	132,950	134,260	130,264	125,911	126,327
Return on capital employed	%	1.23	1.22	1.29	0.94	0.94
Total:						
Current cost operating profit	£m	2,530	2,589	2,645	1,972	1,995
Average net MEA value	£m	203,845	205,857	201,371	196,286	197,147
Return on capital employed	%	1.24	1.26	1.31	1.00	1.01

Table 12 Return on capital measured by average MEA – by company

2001-02 prices	Average MEA					1997-98 %	1998-99 %	Return 1999-00 %	2000-01 %	2001-02 %
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m					
Anglian	16,539.8	16,700.4	17,387.9	18,030.4	18,074.3	2.00	1.68	1.49	1.18	1.22
Dŵr Cymru	14,364.6	14,529.4	13,936.0	13,312.8	13,394.8	0.79	0.84	0.88	0.76	0.92
Northumbrian	10,672.6	10,732.0	10,853.0	11,008.4	11,238.1	1.63	1.91	1.86	1.11	1.14
Severn Trent	28,220.0	28,575.0	26,201.0	23,673.4	23,757.3	1.40	1.34	1.32	1.21	1.21
South West	6,259.2	6,340.5	6,235.0	6,150.3	6,243.6	1.83	2.05	2.19	1.55	1.54
Southern	13,689.1	13,870.5	13,106.4	12,315.9	12,431.8	1.15	1.21	1.53	1.24	1.02
Thames	40,189.4	40,510.6	39,618.4	38,619.7	38,692.2	0.97	1.05	1.03	0.80	0.77
United Utilities	36,663.8	36,968.6	35,951.2	34,846.0	34,914.8	0.89	0.90	1.02	0.81	0.83
Wessex	9,476.5	9,562.8	9,518.3	9,383.4	9,291.7	1.41	1.43	1.49	1.10	1.11
Yorkshire	17,286.4	17,471.6	18,011.7	18,488.8	18,591.4	1.19	1.25	1.41	0.89	0.90
Bournemouth & West Hants	425.2	430.5	471.7	512.1	515.3	1.75	1.78	1.50	1.21	1.24
Bristol	1,478.3	1,487.9	1,463.0	1,435.2	1,441.7	0.96	1.04	1.07	0.90	0.88
Cambridge	237.7	267.3	296.9	297.9	298.6	2.58	1.90	1.30	1.10	1.20
Dee Valley	298.8	300.1	283.0	265.4	266.5	2.33	2.47	2.69	1.94	1.78
Folkestone & Dover	189.6	191.5	184.9	177.6	181.2	1.29	1.65	2.33	2.24	2.46
Mid Kent	627.8	637.7	629.1	618.3	632.7	2.83	2.63	2.77	1.30	1.70
Portsmouth	473.2	476.8	526.2	575.1	576.8	1.94	2.00	1.83	1.57	1.70
South East	1,944.7	1,958.4	1,969.0	1,972.0	1,975.4	1.91	1.83	2.07	1.53	1.54
South Staffordshire	1,132.2	1,140.6	1,160.3	1,180.0	1,186.9	0.83	1.01	1.14	1.00	0.91
Sutton & East Surrey	623.0	621.9	600.2	578.0	583.1	2.10	2.28	1.77	1.38	1.97
Tendring Hundred	206.0	207.5	198.5	189.7	190.4	2.46	2.38	2.54	2.09	2.50
Three Valleys	2,846.6	2,875.5	2,768.9	2,655.7	2,668.1	1.93	1.89	2.37	1.43	1.56
Industry	203,844.5	205,857.1	201,370.6	196,286.1	197,146.7	1.24	1.26	1.31	1.00	1.01

Dividends

Table 13 sets out dividends reported for each company (adjusted for capital reconstruction dividends) for the last five years and also the related dividend covers on both a current cost and historic cost basis.

This shows that total dividends declared in the year ended 31 March 2002 are 20% lower than those in the year ended 31 March 2001; £876 million and £1,095 million respectively.

Although the dividends declared by the regulated companies are paid to parent companies (and not to the ultimate shareholders), the regulated companies are expected to adopt appropriate and sustainable dividend policies.

We have suggested that such a dividend policy should comply with two principles. These are firstly, that the company's ability to finance its regulated business should not be impaired and secondly, that, under a system of incentive regulation, dividends would be expected to reward efficiency and the management of economic risk.

The abolition of ACT by the Government from 1999-2000 gave the companies a cash flow benefit, which did not seem to affect the levels of dividend paid in 2000-01 (despite a fall in current cost profits after tax of 43%). This was reflected in the deterioration in the levels of dividend cover (on both a current cost and historic cost basis) in 2000-01. The situation has improved in 2001-02 with dividends falling faster than current cost profits after tax and, consequently, dividend cover has increased. We recognise that investor confidence must be maintained but the level of dividends needs also to be sustainable over the long-term. Dividends from the regulated business should reflect the cost of capital and distribution to shareholders of a proper portion of the benefits of greater efficiency.

In real terms, dividends have decreased by 62% since 1997-98 (excluding the capital reconstruction dividends), but when special dividends are excluded, the decrease is only 19%.

No special dividends (excluding capital restructuring) were declared in 2001-02. Special dividends have been a feature of the past five years and have totalled £2,609 million. An analysis of them is set out in table 13a.

The dividends in table 13 and table 13a exclude capital reconstruction dividends where a special dividend is paid but the parent company subscribes for additional new shares in the company for the same amount. Such transactions do not change the net debt position of the company and for this reason are excluded. Dee Valley Water declared a capital restructuring dividend for 2001-02 of £6.5 million and a number of companies have paid dividends for this purpose in prior years. These are set out in the footnote to table 13.

Table 13 Dividends reported and dividend covers by company

2001-02 prices	Dividends reported					Dividend cover (current cost basis)					Dividend cover (historic cost basis)				
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98	1998-99	1999-00	2000-01	2001-02	1997-98	1998-99	1999-00	2000-01	2001-02
Anglian ^{1,2}	216.8	356.7	155.6	126.2	0.0	1.2	0.5	1.0	0.8	N/A	1.4	0.6	1.1	1.0	N/A
Dŵr Cymru ¹	263.9	61.6	30.3	14.2	47.5	0.3	1.3	2.7	2.9	0.6	0.4	1.8	3.4	3.3	0.9
Northumbrian	49.4	67.3	72.7	66.0	72.8	2.5	2.1	1.9	1.1	1.0	3.1	2.3	2.2	1.3	1.1
Severn Trent	481.4	146.5	282.2	137.6	139.1	0.5	1.5	1.0	1.6	1.1	0.6	1.6	0.9	1.5	1.2
South West	180.2	63.5	66.9	61.3	66.7	0.6	1.0	1.5	1.1	0.9	0.6	1.1	1.5	1.1	0.9
Southern ²	46.0	46.4	47.8	48.5	0.0	0.3	2.0	2.5	1.9	N/A	1.7	3.6	3.4	2.8	N/A
Thames ¹	408.4	945.1	120.5	120.4	124.2	0.7	0.3	2.4	0.5	1.1	0.8	0.4	2.7	0.8	1.4
United Utilities	323.2	334.3	201.7	200.8	203.2	0.6	0.4	1.4	0.9	0.8	0.9	0.7	1.7	1.1	1.1
Wessex	176.4	52.0	89.4	48.4	43.2	0.5	1.8	1.2	1.4	1.5	0.6	1.9	1.2	1.5	1.6
Yorkshire ¹	105.2	92.0	97.0	196.4	98.3	1.8	2.0	2.3	0.6	1.1	1.9	2.2	2.3	0.7	1.5
Bournemouth & W Hants	3.2	3.3	3.3	3.2	3.4	1.6	1.4	1.4	1.1	1.2	2.1	2.1	1.8	1.5	1.7
Bristol	5.6	5.5	5.7	6.2	6.6	1.8	2.0	1.7	1.2	0.9	2.3	2.6	2.2	1.7	1.5
Cambridge	1.7	1.7	0.8	0.5	4.2	2.4	2.0	2.6	3.0	0.6	2.5	2.6	3.1	3.8	0.7
Dee Valley¹	2.2	2.4	2.7	2.8	2.7	2.3	2.1	2.0	1.2	1.2	3.2	2.8	2.7	1.8	1.8
Folkestone & Dover	1.7	1.8	1.7	2.3	2.3	0.9	1.1	1.8	1.2	1.0	1.8	1.5	2.0	1.5	1.4
Mid Kent¹	5.8	4.6	4.7	3.9	3.8	2.4	2.8	2.5	1.5	1.7	2.5	3.0	2.6	1.7	2.1
Portsmouth	2.6	2.8	3.0	2.9	5.0	2.4	2.3	2.2	2.5	1.2	2.4	2.4	2.5	2.7	1.3
South East	7.7	8.5	10.9	13.6	11.8	3.7	2.8	3.0	1.5	1.5	4.5	3.7	3.4	2.3	2.1
South Staffordshire	5.3	5.5	6.3	6.2	6.1	1.1	1.4	1.5	1.3	1.1	2.0	2.0	2.0	1.7	1.8
Sutton & East Surrey	8.8	9.0	8.9	6.0	5.3	1.1	1.1	0.9	1.0	1.4	1.7	1.3	1.0	1.1	1.6
Tendring Hundred	2.8	2.9	4.8	2.9	3.3	1.5	1.2	0.9	1.0	1.0	1.6	1.4	0.9	1.1	1.2
Three Valleys	27.3	29.1	30.9	24.8	26.7	1.4	1.2	1.8	1.0	1.0	1.5	1.4	1.9	1.2	1.3
Industry	2,325.6	2,242.5	1,247.8	1,095.1	876.2	0.8	0.7	1.6	1.0	1.2	0.9	0.9	1.7	1.2	1.6

¹ The dividends reported and dividend covers in the above table exclude capital restructuring dividends. These are £219 million for Dŵr Cymru, £295 million for Thames Water Utilities Ltd, £547 million for Yorkshire Water Services Ltd, £22 million for Mid Kent Water plc in 1997-98, £798 million for Anglian Water Services Ltd in 2000-01 and £6.5 million for Dee Valley Water plc in 2001-02 (all in 2001-02 prices). No such dividends were paid in 1998-99 and 1999-2000. Dividends reported are those declared in the profit and loss account for the year. These will not correspond with dividends paid during the year (as shown in the cash flow statement in table 5) because of timing between declaring a dividend and payment of interim dividends are normally declared and paid in the same financial year, but final dividends are normally paid in the financial year following the declaration.

² N/A signifies that no dividend was declared in that year.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 13a Analysis of special dividends

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	Total £m
Efficiency savings				99		99
Increased gearing		925	131			1,056
Windfall tax	1,246	208				1,454
Total	1,246	1,133	131	99	0	2,609

Breakdown by company:

1997-98 £72 million Anglian, £218 Dŵr Cymru, £142 million United Utilities, £339 Severn Trent, £253 million Thames, £113 million South West, and £109 million Wessex for windfall tax.

1998-99 £796 million Thames and £129 million Anglian for gearing, £70 million Anglian and £138 million United Utilities for windfall tax.

1999-00 £131 million Severn Trent for gearing.

2000-01 £99 million Yorkshire for efficiency savings.

3. Operating expenditure

Performance in 2001-02

Total water and sewerage industry operating expenditure in 2001-02 is £2.6 billion, excluding exceptional items (see footnote to table 14). This is £10 million less than in 2000-01, 0.4% less in real terms. It is £108 million, 4% less, than that assumed in price limits for 2001-02 and £364 million, 12%, less than companies projected in their 1999 business plans.

Table 14 shows the trend at the industry level, by service. Total operating expenditure in 2001-02 is £134 million lower than in 1998-99, 5% in real terms. 2001-02 operating expenditure includes the annual cost of operating new treatment plants to meet European Union directives on drinking water quality.

We used companies' operating expenditure for 1998-99 at the 1999 periodic review to establish the base level of costs to which we applied our assumptions on the scope for efficiency from 2000-01 onwards. Therefore we have used 1998-99 for our operating expenditure comparisons in this report.

Table 15 shows the performance of individual companies. Comparisons of cost savings across companies should be treated with caution, in particular because they may be affected by one-off costs.

Operating costs shown in tables 14, 15 and 16 exclude reported exceptional items. However, other significant one-off costs, such as restructuring, have not been declared as exceptional by companies and are included. They affect comparisons for some companies.

Table 14 Total operating expenditure by service

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	2000-01 2001-02 change £m
Water service	1,676	1,616	1,587	1,501	1,480	(21)
Sewerage service	1,105	1,114	1,129	1,105	1,116	11
Total	2,781	2,730	2,716	2,606	2,596	(10)

The numbers above do not reconcile to table 1a, due to:

Exceptional items, excluded from the above, are as reported in June returns, and do not correspond to those stated in table 1a which are reported under the Accounting Standards.

Table 1a operating costs are net of operating income.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 15 Total operating expenditure by service by company

2001-02 prices	1997-98	1998-99	1999-00	2000-01	2001-02	% change since 1998-99
	£m	£m	£m	£m	£m	
Water and sewerage companies						
Water service:						
Anglian	134.7	135.4	130.6	125.3	120.5	(11)
Dŵr Cymru	131.0	135.7	126.3	122.6	116.4	(14)
Northumbrian	137.8	130.4	131.9	121.6	119.2	(9)
Severn Trent	209.4	190.4	195.3	180.8	188.7	(1)
South West	54.8	52.2	50.9	48.2	46.9	(10)
Southern	61.8	60.1	58.7	49.5	54.0	(10)
Thames	251.0	240.4	234.7	232.4	229.1	(5)
United Utilities	212.0	199.4	199.1	182.2	175.2	(12)
Wessex	35.0	33.2	32.4	31.5	31.6	(5)
Yorkshire	140.1	135.6	127.4	122.9	116.8	(14)
Sub total	1,367.6	1,312.8	1,287.3	1,217.6	1,198.4	(9)
Sewerage service:						
Anglian	136.2	142.8	146.1	153.4	144.6	1
Dŵr Cymru	83.3	87.8	84.8	86.0	90.3	3
Northumbrian	50.9	50.2	55.0	60.2	66.8	33
Severn Trent	174.2	175.8	182.2	185.3	175.1	0
South West	40.4	40.6	40.0	42.9	46.1	14
Southern	94.0	90.4	91.7	77.7	88.1	(3)
Thames	235.3	229.7	225.2	207.3	209.1	(9)
United Utilities	142.3	147.5	165.7	148.3	152.4	3
Wessex	44.8	45.8	44.4	45.2	47.1	3
Yorkshire	103.5	103.0	94.0	98.7	96.7	(6)
Sub total	1,104.9	1,113.6	1,129.1	1,105.0	1,116.3	0
Water and sewerage companies total						
Anglian	270.9	278.2	276.7	278.7	265.1	(5)
Dŵr Cymru	214.3	223.5	211.1	208.6	206.7	(8)
Northumbrian	188.7	180.6	186.9	181.8	186.0	3
Severn Trent	383.6	366.2	377.5	366.1	363.8	(1)
South West	95.2	92.8	90.9	91.1	93.0	0
Southern	155.8	150.5	150.4	127.2	142.1	(6)
Thames	486.3	470.1	459.9	439.7	438.2	(7)
United Utilities	354.3	346.9	364.8	330.5	327.6	(6)
Wessex	79.8	79.0	76.8	76.7	78.7	0
Yorkshire	243.6	238.6	221.4	221.6	213.5	(11)
Total WaSCs	2,472.5	2,426.4	2,416.4	2,322.0	2,314.7	(4)
Water service:						
Bournemouth & W Hants	14.4	14.5	15.2	14.3	14.0	(3)
Bristol	36.8	36.0	36.4	34.4	35.3	(2)
Cambridge	8.0	8.0	7.9	7.9	8.0	(1)
Dee Valley	8.2	7.0	7.3	7.8	7.7	11
Folkestone & Dover	6.3	6.4	6.4	6.1	6.0	(7)
Mid Kent	17.8	17.3	17.8	18.3	16.9	(2)
Portsmouth	15.6	15.2	15.2	14.9	14.6	(3)
South East	48.3	47.9	44.9	39.9	40.5	(15)
South Staffordshire	38.1	37.7	36.2	34.7	34.4	(9)
Sutton & East Surrey	21.3	20.5	21.1	18.6	19.1	(7)
Tendring Hundred	5.3	5.2	5.3	4.8	4.7	(10)
Three Valleys	88.4	87.9	85.9	82.5	80.2	(9)
Total WoCs	308.5	303.6	299.6	284.1	281.4	(7)
Industry:	2,781.0	2,730.0	2,716.0	2,606.1	2,596.1	(5)

Notes:

Excludes exceptional items but includes third party expenditure.

The water and sewerage services do not necessarily each provide 50% of the total WaSC expenditure. Therefore the percentage change in total operating expenditure for the WaSCs cannot be calculated by averaging the percentage changes for the water and sewerage services.

Where savings are being achieved

Table 16 shows operating expenditure by functional area within each service and by type of expenditure within each function for 1998-99 and 2001-02.

When comparing 1998-99 with 2001-02, the largest savings are being made in general and support expenditure, that is in the support costs for direct activities. These mainly comprise administrative staff costs, the operating costs of vehicles, and the maintenance of buildings, land and equipment. Costs in these categories have fallen by around £100 million in real terms, 16%, compared with 1998-99.

Companies also make considerable savings in direct activities with a large element arising from the £38 million reduction (11%) in labour costs since 1998-99. Some of this reduction is offset by the increase in hired and contracted services costs of £15 million (5%) as companies have contracted out functions which were previously carried out by their own employees.

The cost of materials and consumables has reduced by £16 million in real terms, some 13%.

Companies have not achieved savings equally across the various direct activities. The greatest savings, of around 15%, are for water distribution, water resources and treatment, and the provision of sewerage. Sewage treatment costs have increased by more than 2% and sludge disposal costs have increased by more than 16% since 1998-99. Sludge disposal costs have increased due to changes in legislation since 1998-99. Changed requirements for higher levels of treatment produces greater volumes of sludge, and companies are no longer allowed to dispose of sludge out to sea. There have also been some higher costs in 2001-02 due to foot and mouth epidemic, this restricted companies' access to some of their usual sludge disposal sites.

In contrast with direct costs, indirect costs remain broadly stable in real terms. Indirect costs include customer services, scientific services, regulation, local authority rates and doubtful debts. Costs of services to third parties have fallen by £5 million, 6%.

Table 16 Industry total operating expenditure by service by function

2001-02 prices	1998-99						2001-02								
	Water service			Sewerage service			Water service			Sewerage service					
	Water resources & treatment £m	Water distribution £m	Water service total £m	Sewage treatment & disposal £m	Sludge treatment & disposal £m	Sewerage service total £m	Water resources & treatment £m	Water distribution £m	Water service total £m	Sewage treatment & disposal £m	Sludge treatment & disposal £m	Sewerage service total £m	Industry total £m		
Employment costs	79	130	209	27	71	129	338	67	100	167	30	68	35	133	300
Power	53	75	128	19	59	94	223	49	69	118	20	65	22	107	225
Hired and contracted services	36	114	150	83	43	184	334	35	111	146	65	59	79	203	349
Materials and consumables	49	30	79	6	22	43	122	40	15	55	5	22	24	51	106
Environment agency charges	81	0	81	10	27	37	117	85	0	85	11	29	0	40	125
Other direct costs	27	17	44	5	4	20	64	25	16	41	3	5	12	20	61
Total direct costs	325	366	691	150	226	507	1,198	301	311	612	134	248	172	554	1,166
General and support expenditure	156	183	339	64	130	261	600	119	159	278	48	117	59	224	502
Functional expenditure	481	549	1,030	214	356	768	1,798	420	470	890	182	365	231	778	1,668
Customer services			166			139	305			167				135	302
Scientific services			63			29	92			69				29	98
Other business services			21			13	34			17				12	29
Total business activities			250			181	431			253				176	429
Local authority rates			204			92	296			204				84	288
Doubtful debts			54			62	116			59				68	127
Total opex less third party services			1,538			1,103	2,641			1,406				1,106	2,512
Third party services operating expenditure			78			11	89			74				10	84
Total operating expenditure			1,616			1,114	2,730			1,480				1,116	2,596

Notes:
Excludes exceptional items.

4. Capital investment

Investment in 2001-02

The aggregate investment in 2001-02 was nearly £3.0 billion compared to £2.8 billion in 2000-01. It comprised £2.5 billion of additions to current cost fixed assets and £0.5 billion of expenditure on infrastructure renewals. Table 17 shows capital investment since 1997-98.

Since privatisation in 1989 the industry has continued to invest at high levels. In total this has amounted to over £42 billion, equating to an average annual capital investment in the water industry of just over £3.5 billion for the last twelve years. This compares with an equivalent investment figure of around £1.9 billion per year in the 1980s.

Water industry investment in 2001-02, excluding infrastructure renewals expenditure, accounts for 1.4% of the gross domestic fixed capital formation (GDFCF) in England and Wales. Since privatisation, annual investment by water companies has accounted for between 2% and 3% of GDFCF but has reduced in the last two years.

In recent years the water industry has invested, on average, over 50% of its turnover in new assets. In 2001-02, the proportion is 46%, (2000-01: 43%), but this still remains at a high level when compared with other industries.

Table 17 Gross capital investment by service

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	5 year total £m
Water service:						
Total new fixed asset formation	1,617	1,379	1,343	949	1,132	6,420
Infrastructure renewals expenditure	273	305	285	274	331	1,468
	1,890	1,684	1,628	1,223	1,463	7,888
Sewerage service:						
Total new fixed asset formation	1,918	1,998	2,009	1,415	1,358	8,698
Infrastructure renewals expenditure	204	214	170	148	162	898
	2,122	2,212	2,179	1,563	1,520	9,596
Total	4,012	3,896	3,807	2,786	2,983	17,484

Infrastructure renewals expenditure is stated net of capital contributions from customers.

The average annual level of gross investment assumed in price limits for the five year period from 2000-01 to 2004-05 is £3.5 billion.

The expectation for 2001-02 was £3.7 billion, compared to actual investment of £3.0 billion (19% below expectation). Companies state that some of the difference is due to improved capital efficiency, but more to the need for extra time to establish quality programmes. Consequently, a number of companies rescheduled elements of their capital investment programmes with the result that the profiling of investment differs from our assumptions when we set price limits. This is a similar picture to 2000-01 where investment was also £0.7 billion below expectation.

There appears to be a pattern of declining capital expenditure immediately before and after periodic reviews relative to that assumed in price limits. For the first two years of the current price review cumulative gross capital investment was £5.8 billion compared to the £7.2 billion projected in price limits. This is inefficient and disrupts the relationship between water and sewerage companies as clients and the construction industry as their contractors. To avoid a recurrence of this dip we would like to be able to establish capital programmes for 2005-06 early in the preparations for the next review in 2004. We are discussing this issue with Government and the quality regulators before wider consultation.

The extent of savings made varies by company and across services. At an industry level, efficiency savings of around 7% have been reported for the first two years of the five year period, 2000-01 to 2004-05.

Individual company investment is given in table 18a for the water and sewerage companies and table 18b for the water only companies.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 18a Gross capital investment by service – water and sewerage companies

2001-02 prices	Total new fixed asset formation					Infrastructure renewals expenditure					Total capital investment				
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Water service:															
Anglian	166.5	138.1	133.0	77.9	76.8	22.0	25.6	24.5	23.9	22.8	188.5	163.7	157.5	101.8	99.6
Dŵr Cymru	82.2	53.7	44.8	60.2	67.4	24.0	26.4	22.2	21.0	26.1	106.2	80.1	67.0	81.2	93.5
Northumbrian	109.3	70.8	65.6	61.5	97.1	22.4	18.8	18.1	19.6	25.3	131.7	89.6	83.7	81.1	122.4
Severn Trent	243.6	255.6	260.9	106.7	122.6	30.3	29.4	27.0	32.8	33.9	273.9	285.0	287.9	139.5	156.5
South West	76.5	39.0	55.2	51.7	57.8	7.6	6.7	6.4	11.2	11.1	84.1	45.7	61.6	62.9	68.9
Southern	50.5	45.8	32.6	36.2	39.4	10.5	12.4	12.0	13.1	14.4	61.0	58.2	44.6	49.3	53.8
Thames	289.7	278.7	265.3	176.5	183.1	20.7	21.4	23.4	32.5	50.9	310.4	300.1	288.7	209.0	234.0
United Utilities	209.7	157.6	146.9	122.8	147.9	23.7	53.3	49.4	51.8	56.6	233.4	210.9	196.3	174.6	204.5
Wessex	45.1	42.2	37.2	29.6	36.9	8.0	6.2	4.7	5.8	10.5	53.1	48.4	41.9	35.4	47.4
Yorkshire	155.9	126.5	149.8	93.3	120.9	47.7	51.8	51.3	23.4	32.4	203.6	178.3	201.1	116.7	153.3
Water service total	1,429.0	1,208.0	1,191.3	816.4	949.9	216.9	252.0	239.0	235.1	284.0	1,645.9	1,460.0	1,430.3	1,051.5	1,233.9
Sewerage service:															
Anglian	198.6	187.1	180.9	151.2	146.1	21.5	19.1	18.3	14.2	18.7	220.1	206.2	199.2	165.4	164.8
Dŵr Cymru	185.2	202.3	181.1	120.3	94.1	12.3	14.4	14.0	9.1	16.3	197.5	216.7	195.1	129.4	110.4
Northumbrian	187.3	138.6	199.0	126.8	60.8	7.7	9.0	9.6	10.7	9.4	195.0	147.6	208.6	137.5	70.2
Severn Trent	296.5	313.8	281.9	168.2	193.6	41.1	53.5	29.2	27.2	36.9	337.6	367.3	311.1	195.4	230.5
South West	95.2	62.6	75.4	90.0	92.8	3.3	3.4	2.6	3.8	5.9	98.5	66.0	78.0	93.8	98.7
Southern	232.1	282.9	289.5	235.6	176.5	18.9	19.4	14.2	9.3	12.0	251.0	302.3	303.7	244.9	188.5
Thames	226.6	212.8	186.6	140.5	180.6	19.2	26.0	21.7	10.9	14.5	245.8	238.8	208.3	151.4	195.1
United Utilities	254.1	284.9	269.9	160.2	180.7	58.5	54.2	35.8	40.4	24.2	312.6	339.1	305.7	200.6	204.9
Wessex	79.5	95.0	94.1	84.9	83.8	7.7	8.7	8.6	9.6	8.8	87.2	103.7	102.7	94.5	92.6
Yorkshire	162.6	218.0	250.5	137.0	149.3	14.1	6.3	15.8	12.6	14.7	176.7	224.3	266.3	149.6	164.0
Sewerage service total	1,917.7	1,998.0	2,008.9	1,414.7	1,358.3	204.3	214.0	169.8	147.8	161.4	2,122.0	2,212.0	2,178.7	1,562.5	1,519.7

Infrastructure renewals expenditure is stated net of capital contributions from customers.

Table 18b Gross capital investment by service – water only companies

2001-02 prices	Total new fixed asset formation					Infrastructure renewals expenditure					Total capital investment				
	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Water service:															
Bournemouth & W. Hants	11.2	8.4	4.6	6.3	9.9	1.8	1.8	1.1	1.1	1.0	13.0	10.2	5.7	7.4	10.9
Bristol	19.8	22.0	13.1	15.2	21.4	11.3	11.5	8.1	5.5	4.5	31.1	33.5	21.2	20.7	25.9
Cambridge	3.8	5.3	3.9	2.0	3.2	1.6	1.4	1.2	1.0	1.1	5.4	6.7	5.1	3.0	4.3
Dee Valley	3.9	4.0	3.1	2.8	3.8	2.3	2.0	2.9	0.8	1.6	6.2	6.0	6.0	3.6	5.4
Folkestone & Dover	4.2	2.2	1.2	3.0	8.1	0.3	0.6	0.5	0.5	0.4	4.5	2.8	1.7	3.5	8.5
Mid Kent	10.4	20.8	19.9	17.9	24.8	2.1	3.1	4.3	2.9	2.8	12.5	23.9	24.2	20.8	27.6
Portsmouth	6.2	5.2	4.7	4.6	3.7	3.8	3.7	3.0	2.6	2.8	10.0	8.9	7.7	7.2	6.5
South East	32.6	28.2	25.4	19.1	25.5	7.8	6.4	6.2	5.7	6.7	40.4	34.6	31.6	24.8	32.2
South Staffordshire	21.8	13.3	20.0	13.6	19.2	6.0	5.5	1.5	6.3	7.2	27.8	18.8	21.5	19.9	26.4
Sutton & East Surrey	6.2	12.6	17.5	11.7	11.1	3.1	1.8	1.6	0.7	3.3	9.3	14.4	19.1	12.4	14.4
Tendring Hundred	3.6	2.9	3.3	3.1	1.5	1.1	0.9	0.7	0.5	1.2	4.7	3.8	4.0	3.6	2.7
Three Valleys	64.0	46.1	35.1	33.0	50.3	14.8	14.3	14.9	11.3	14.7	78.8	60.4	50.0	44.3	65.0
Water only companies total	187.7	171.0	151.8	132.3	182.5	56.0	53.0	46.0	38.9	47.3	243.7	224.0	197.8	171.2	229.8

Infrastructure renewals expenditure is stated net of capital contributions from customers.

Investment by output purpose category

We categorise capital expenditure by water companies according to the following four purposes:

- The continuing provision of the base service.
- Maintaining the balance between supply and demand.
- Legally required outputs to improve water and environmental quality.
- Improvements to the levels of service to customers.

We first used this breakdown of capital investment by output purpose category in companies' 1994 strategic business plans and it has remained the basis for the annual reporting of capital investment for the current price limit period.

Table 19 shows the expenditure breakdown by purpose for the industry.

Base service

Total capital maintenance expenditure in 2001-02 increased when compared with 2000-01, but remains below previous years' expenditure. Both infrastructure renewals expenditure and expenditure on the maintenance of surface assets increased compared to 2000-01. Most companies are beginning to step up activity associated with their planned capital maintenance programmes following the problems associated with the severe weather experienced in 2000-01 and the more recent foot and mouth epidemic.

Maintaining the supply/demand balance

Despite having shown a steady increase from 1994-95 to 1997-98, capital investment on the supply/demand balance fell in the last two years of the previous price limit period and again in 2000-01. Capital investment, across the industry, in 2001-02 has increased from the low point in 2000-01, but the cumulative level is still lower than the amount allowed in price limits.

Quality enhancements

Quality enhancement expenditure has remained at a similar level to that reported in 2000-01. This in turn was significantly lower than the high expenditure levels reported in recent years when companies accelerated investment in the run-up to statutory deadlines in December 2000. Activity early in a period, such as feasibility and design work, contribute to proportionally less of the total expenditure than construction in the latter stages.

Enhanced service levels

Some companies have continued to invest in projects to alleviate water pressure problems and reduce the risk of flooding from sewers in advance of the programme assumed in price limits.

Table 19 Gross capital investment by purpose category

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Maintenance of underground assets	477	519	455	422	493
Maintenance of surface assets	1,202	1,063	1,149	870	911
Maintaining the supply/demand balance	529	461	370	293	321
Quality enhancement programmes	1,573	1,666	1,706	1,153	1,148
Enhanced service levels	175	132	92	22	58
Total	3,956	3,841	3,772	2,760	2,931

Tables 19 to 22 do not agree with table 17 because of the inclusion of adopted assets at nil cost in fixed asset additions for some companies. Assets adopted at nil cost are excluded from gross capital investment in tables 19, 20a, 20b, 21 and 22.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Some companies are investing to reduce complaints of odour from their sewage treatment works. These companies say this is as a result of a shift in customers' willingness to tolerate nuisance associated with sewage treatment odour, along with new developments now occurring closer to sewage treatment sites than has been the case in the past.

Tables 20a and 20b show capital investment by purpose category in 2001-02 by company.

Table 20a Gross capital investment by purpose category 2001-02 – water and sewerage companies

2001-02 prices	Base service: maintenance of underground assets £m	Base service: maintenance of surface assets £m	Maintaining the supply/ demand balance £m	Quality enhancement programmes £m	Enhanced service levels £m	Total investment £m
Water service:						
Anglian	22.8	25.9	24.4	26.4	0.1	99.6
Dŵr Cymru	26.1	28.7	7.6	31.0	0.1	93.5
Northumbrian	25.3	40.9	10.2	37.1	8.9	122.4
Severn Trent	33.9	41.2	34.4	46.1	0.9	156.5
South West	11.1	15.6	12.8	29.4	0.0	68.9
Southern	14.4	22.0	7.6	9.6	0.2	53.8
Thames	50.9	53.8	76.6	45.0	7.7	234.0
United Utilities	56.6	56.6	11.5	79.4	0.4	204.5
Wessex	10.5	14.4	5.8	14.7	2.0	47.4
Yorkshire	32.4	51.4	6.8	62.5	0.2	153.3
Total	284.0	350.5	197.7	381.2	20.5	1,233.9
Sewerage service:						
Anglian	18.7	53.1	5.0	85.6	2.4	164.8
Dŵr Cymru	16.3	23.9	5.8	61.8	2.6	110.4
Northumbrian	9.4	21.3	5.3	34.2	0.0	70.2
Severn Trent	36.9	81.4	18.9	41.0	0.0	178.2
South West	5.9	21.6	8.0	62.6	0.6	98.7
Southern	12.0	54.5	4.6	115.0	2.4	188.5
Thames	14.5	114.1	9.8	49.4	7.3	195.1
United Utilities	24.2	60.1	0.5	105.6	14.5	204.9
Wessex	8.8	25.7	9.1	48.1	0.9	92.6
Yorkshire	14.7	44.0	7.8	94.7	2.8	164.0
Total	161.4	499.7	74.8	698.0	33.5	1,467.4

Table 20b Gross capital investment by purpose category 2001-02 – water only companies

2001-02 prices	Base service: maintenance of underground assets £m	Base service: maintenance of surface assets £m	Maintaining the supply/ demand balance £m	Quality enhancement programmes £m	Enhanced service levels £m	Total investment £m
Water service:						
Bournemouth & W Hants	1.0	4.0	2.2	1.1	2.6	10.9
Bristol	4.5	8.9	3.2	9.3	0.0	25.9
Cambridge	1.1	1.2	1.6	0.4	0.0	4.3
Dee Valley	1.6	1.3	0.8	1.6	0.1	5.4
Folkestone & Dover	0.4	1.2	0.9	5.4	0.6	8.5
Mid Kent	2.8	5.7	8.0	11.1	0.0	27.6
Portsmouth	2.8	1.1	0.9	1.7	0.0	6.5
South East	6.7	9.1	8.6	7.8	0.0	32.2
South Staffordshire	7.2	5.6	8.1	5.5	0.0	26.4
Sutton & East Surrey	3.3	4.8	2.5	3.8	0.0	14.4
Tendring Hundred	1.2	0.7	0.7	0.1	0.0	2.7
Three Valleys	14.7	16.9	11.4	21.4	0.6	65.0
Total	47.3	60.5	48.9	69.2	3.9	229.8

Measuring investment by outputs

Our focus is on the delivery of outputs. The data supplied to us by both the companies and the quality regulators gives us a better understanding of the relationship between service to customers, company activity and expenditure.

When we set price limits in 1999, around 40% of the assumed capital programme was the investment necessary to allow companies to maintain the current service performance of their existing assets to customers and the environment. A substantial level of expenditure (around 50%) is also needed to enable companies to meet new quality standards. This expenditure is particularly significant for the sewerage service, in order to meet European and domestic statutory requirements on environmental quality and to be consistent with UK Government policy.

A summary of the outputs associated with the investment in 2001-02 and past investment is set out in the following paragraphs, including the DWI and the EA's assessments of progress made by the companies.

Base service

The output required from base service capital investment is to maintain serviceability to customers and the continued compliance with existing quality standards. Base service consists of infrastructure renewals expenditure (relating to underground assets such as mains and sewers) and the maintenance of surface assets (such as treatment works and pumping stations).

The trends in levels of service performance for pressure, internal flooding from sewers and on risk of flooding in 2001-02 continue to be broadly satisfactory. Similarly, performance against existing treatment quality standards for treatment in the water service was generally sustained in 2001-02. Companies should aim to maintain near full compliance with sewage treatment consents in future years. However the number of foul sewer water pollution incidents has increased for the second year running and the number of CSO pollution incidents has also increased this year.

Further details on the serviceability to customers are set out in the subsequent section. Assessments on industry performance from both the DWI and the EA covering base service and quality enhancements are set out below.

Quality enhancements

The outputs under quality enhancements are those necessary to implement new legislative requirements relating to drinking water quality and waste water treatment by the statutory due dates. Outputs also include the continuation of investment programmes to achieve current legislative requirements.

Water service quality enhancements

The high quality of drinking water in England and Wales was further improved in 2001, with 99.86% of tests on samples from treatment works, service reservoirs and customers taps meeting standards. This is a small improvement on 2000 when overall compliance was 99.83% and is the tenth successive year of improvement in compliance. 'Drinking Water 2001', published by the DWI on 10 July 2002, contains a record of each company's performance against drinking water quality standards, as well as an overall summary for England and Wales. The DWI reports that the number of tests that infringe a standard is now less than one twelfth of that in 1992.

Improvement programmes at more than 400 treatment works to comply with current and new quality standards and on distribution systems to rectify quality deficiencies were assumed in price limits set in 1999.

These improvement programmes during the five years beginning April 2000 are principally to meet new standards for lead, cryptosporidium, trihalomethanes (THMs) and bromate.⁵

The improvement in compliance in 2001 is mainly due to significant reductions in the number of breaches of the total coliform and faecal coliform standards at treatment works and service reservoirs. There has also been a significant improvement in compliance for iron, THMs and lead in water supply zones. The decrease in the number of zones failing the iron standard reflects the continuation of the programmes of work carried out by the water companies to renovate their distribution systems. The action taken by the companies, together with enforcement action by the DWI, has resulted in improved treatment to reduce the level of THMs formation. The improvement in compliance with the lead standard can be attributed to the installation of additional treatment at treatment works to reduce the take up of lead from pipework.

DWI has accepted undertakings on behalf of the Secretary of State for Environment, Food and Rural Affairs and the National Assembly for Wales to renovate more than 20,000km of distribution mains in the five years beginning April 2000 in order to improve the quality of water at the tap, particularly to reduce the incidence of discolouration. The undertakings require companies to deliver outputs against intermediate milestone dates. The first milestone dates fell at the end of 2001 for most companies. After allowance for some disruption caused by the foot and mouth epidemic, the DWI has assessed progress as generally satisfactory.

Substantial mains renovation programmes to improve water quality were also assumed in price limits set in 1994. These programmes were due to be completed by 31 March 2000. The DWI has now audited the work carried out under these programmes. Over 99% of the renovation programme of 24,000km was delivered. There are a small number of zones where the water quality benefit of the renovation carried out is still to be demonstrated and this is being followed up by further audits.

The programmes to renovate those water mains that give rise to quality deficiencies are a major factor in the ongoing improvements in compliance with the standard for iron. The DWI reports that the percentage of water supply zones breaching the iron standard fell

⁵ Cryptosporidium is an organism that can cause a gastrointestinal illness in humans. Trihalomethanes are formed by the combination of chlorine and organic matter naturally present in water. Bromate is formed by the action of ozone on compounds present in raw water.

for the sixth successive year. However, the main cause of the low level of non-compliance in 2001 was pick up from old iron mains. The continuing renovation programme will address this problem. It is important that, once the remedial work has been completed, sufficient maintenance is carried out to ensure that the renovated assets remain in good condition and to minimise any risk of supplying discoloured water in the future. To this end the DWI is working with water companies and ourselves in the development of operation and maintenance strategies to help inform decisions on the activity levels necessary for companies to maintain asset serviceability.

The industry has reported capital expenditure of £780 million for quality enhancement in the water service for the first two years of the current price limit period. This is approximately 32% lower than we assumed in price limits. Much of this lower than expected investment is due to cheaper solutions, rescheduling of projects, delays in getting planning permission and acquiring land, and the regulation driven requirement by the DWI for water companies to optimise plumbosolvency control measures as part of determining the requirements for lead pipe replacement.

Sewerage service quality enhancements

The full programme of quality improvements scheduled for 1995-2000 has now almost been completed. Where there have been significant delays to continuous discharge projects these are mainly attributed to problems in obtaining planning permission or other reasons not within the direct control of the water companies. Planning and land acquisition issues are still causing delay to some coastal projects in Dŵr Cymru, South West Water and Southern Water.

Companies are now well into the 2000-05 quality programme. However, as with any large new capital investment programme the tangible benefits (works construction and commissioning) are often not apparent until later on in the process. In the early stages of the programme, expenditure is directed at feasibility and design work. Ministers decided the quality improvement programme for April 2000 to December 2005 in 1999. This is detailed in the EAs publication 'Achieving the Quality' (June 2000). It lists almost 2,000 sewage treatment works and over 4,500 intermittent discharges that require improvement.

The companies have completed the majority of expected intermittent discharge schemes for 2001-02, though some have been delayed due to the foot and mouth epidemic.

We will be joining the EA to review progress on the programme with each company in the next few weeks. For three companies, Northumbrian Water, South West Water and United Utilities Water we will want to understand how they are going to recover the current shortfall in progress.

Measure of the progress with the continuous programme is based on the population equivalent served by sewage treatment works (as opposed to absolute numbers of improvements). On this basis the targets for the industry for the Urban Waste Water Treatment Directive (UWWTD), Shellfish Waters, Freshwater Fish and Habitats Directives and Sites of Special Scientific Interest (SSSI) were met or exceeded.

There were marginal shortfalls against the completion of river quality objectives (99% complete) and the Bathing Water Directive programme (96% complete).

The expected timescales for completion, together with actual progress in 2001-02 for intermittent discharges, the Bathing Water Directive, the UWWTD and the Shellfish Waters Directive are shown in figures 1 to 4 respectively.

The industry has reported capital expenditure of around £1,540 million for quality enhancements in the sewerage service for the first two years of the current price limit period. This is some 32% lower than we assumed in price limits. Companies have reported that some of this underspend is due to efficiency savings, but the majority of the gap is due to reprofiling the need for capital investment to deliver the quality programme just in time. The companies are expected to deliver their programmes of improvements on time and if there are shortfalls in this respect at the next price review we will ensure that they do not benefit from delays in completion.

Together with the EA, we will be seeking assurances from each company that the National Environment Programme will be delivered on time. As part of the June return process, we asked the companies to report on progress for some schemes. We use this to identify any potential problems with the completion of the priority environmental projects in the longer term. This information tracks progress of these schemes against milestones (e.g. feasibility, design, construction, commission and completion) and so we can identify the extent of any slippage each year. Information in companies' 2002 June returns suggests that the companies still can achieve the quality improvements on time. However, some of them appear to have utilised all the contingency built into the plans already.

Compliance performance against sanitary standards at sewerage treatment works has remained stable at 99% of works. This is the same high level established over the last five years. Only South West Water falls below this level of compliance. When compliance

is assessed by equivalent population served failing the sanitary standards, Southern Water and Wessex Water also fall below this level of compliance. Wessex Water compliance level declined because of the failure at a single sewage treatment works. The EA also assesses compliance against several other parameters specified in legal consents. When assessed against all standards (both sanitary and non-sanitary)⁶; compliance has fallen over the last year from 97% to 96%. This picture is affected by new regulations such as the UWWTD and disinfection requirements, both of which require the companies now to monitor and record their performance.

Disappointingly, the number of category 1 (major) and category 2 (significant) sewage related pollution incidents increased in 2001. Since 1995 there had been a steady decrease in sewage related incidents (all categories) with 32% fewer incidents in 2000 than five years earlier. There was a slight reversal of this trend in 2001. Approximately 82% of sewage related incidents in 2001 occurred at combined sewer overflows, foul sewers or pumping stations. The increase in category 1 and 2 incidents could be for a number of reasons, including wet weather in 2001. The EA is keen to ensure companies are not becoming complacent and will be discussing with them the reasons behind the figures.

Compliance of designated coastal bathing waters with the mandatory standards of the Bathing Water Directive has continued to improve. The highest ever level of compliance for England and Wales was achieved in 2001. Compliance now stands at 97% compared with 96% achieved in 2000. Much of this improvement is a consequence of investment by the water industry in improving or removing many point sources of pollution such as storm overflows or sewage treatment works. Additionally the pollution prevention activities of the EA have also contributed to the improvement. EA analysis of the factors affecting water quality shows that intermittent and diffuse sources are increasingly becoming the cause of microbial non-compliance of bathing waters. The EA's report 'Bathing Water Quality in England and Wales 2001 – a summary report' (April 2002) provides further information. The EA has informed the Government that there will be an increased need for pollution prevention activities and active management where diffuse sources of pollution are affecting bathing water quality.

As indicated earlier, we will be discussing environmental performance with each of the ten water and sewerage companies in order to confirm that compliance with sewage treatment consents and sewerage asset performance are given the right priority.

⁶ Sanitary standards cover BOD, COD, ammonia and suspended solids. Non-sanitary standards cover all over determinands such as nutrients and substances on the dangerous substances list (eg mercury, chromium, zinc).

Figure 1 Programme for intermittent discharges

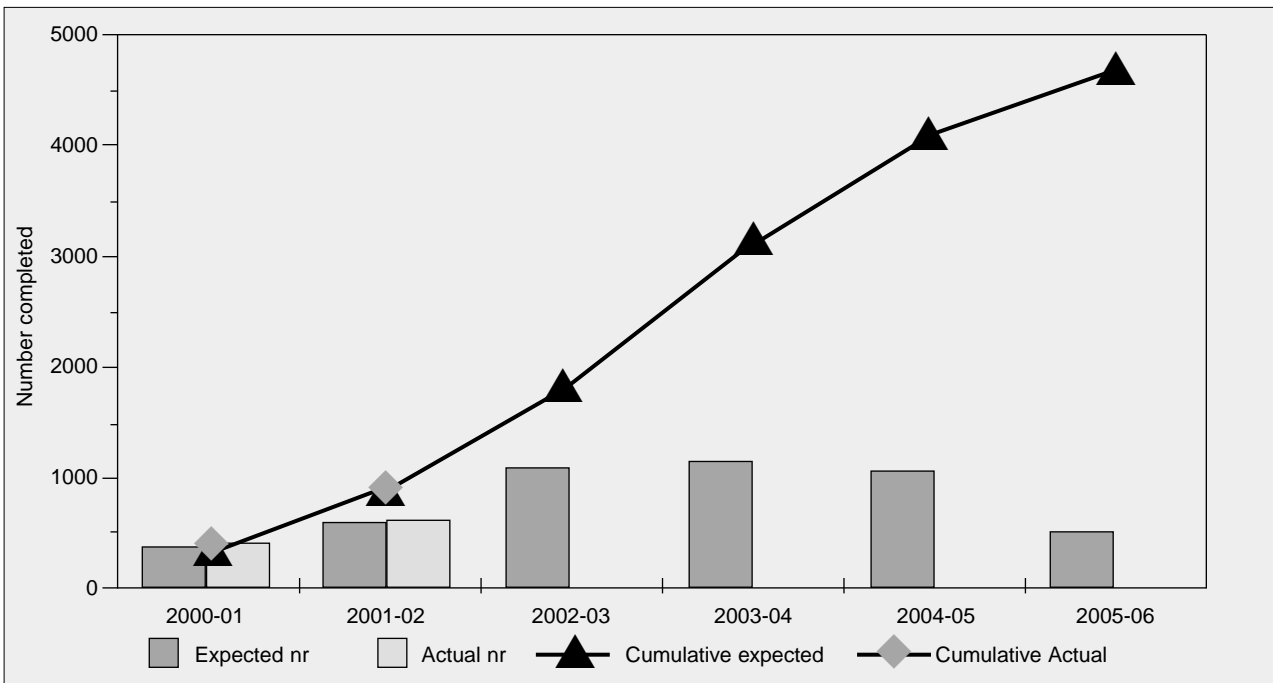


Figure 2 Programme for the Bathing Water Directive

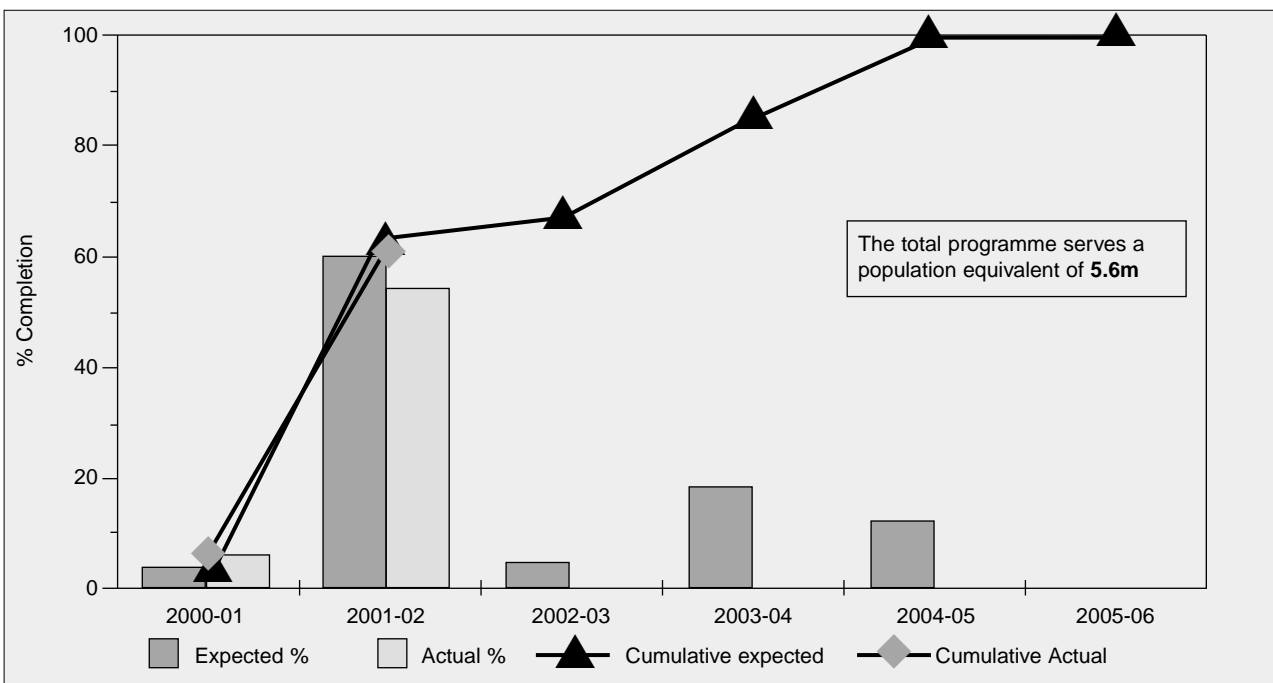


Figure 3 Programme for the completion of UWWTD

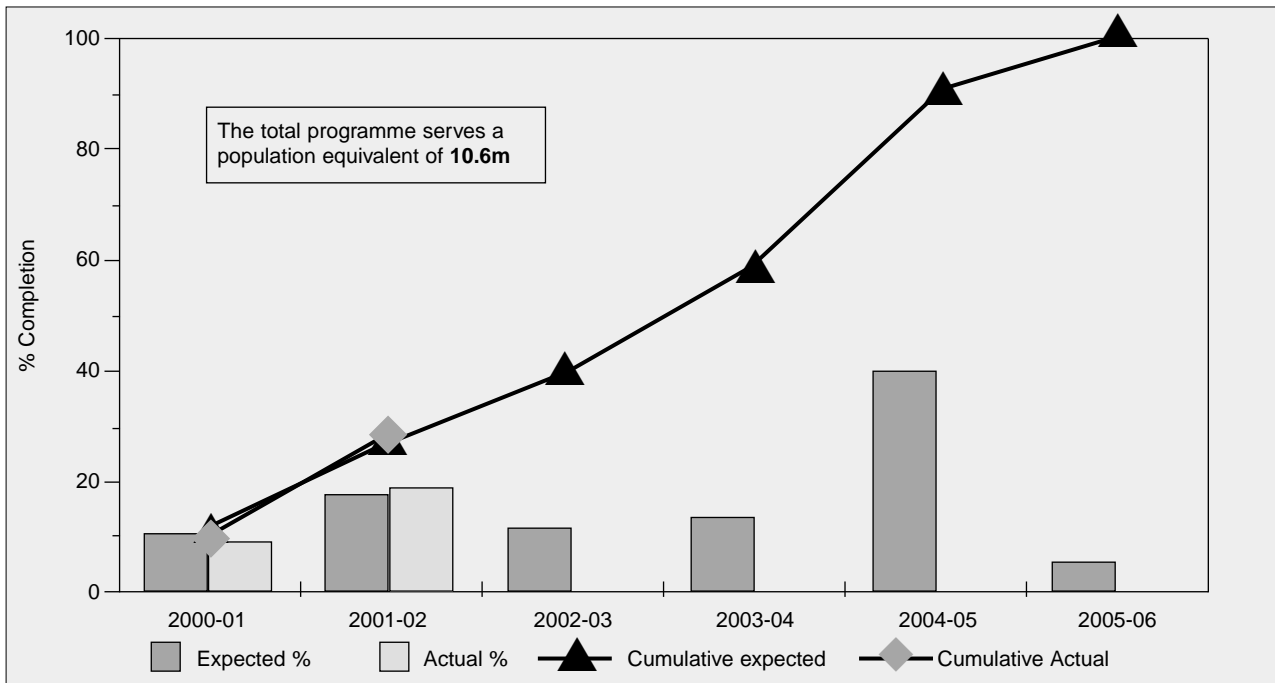
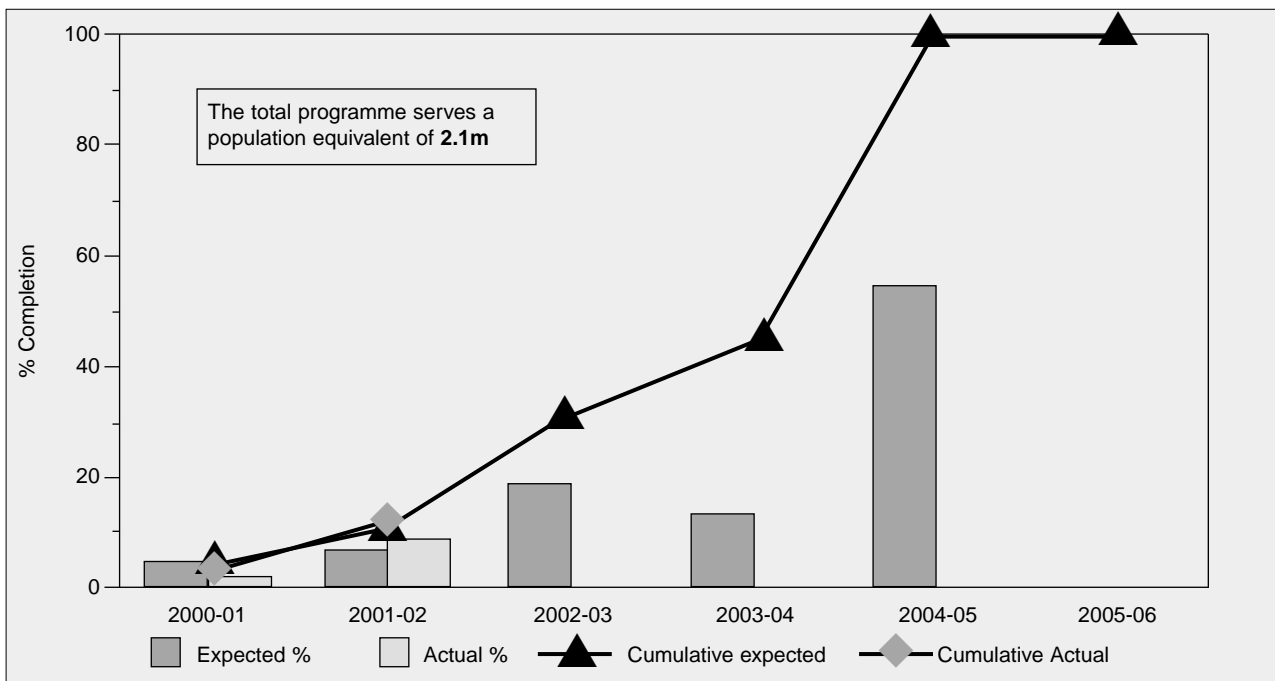


Figure 4 Programme for the Shellfish Water Directive



Enhanced service levels

Outputs in this category are those that achieve a demonstrable, permanent improvement in existing levels of service to customers, aggregated over the entire customer base. Some companies have invested in projects to alleviate water pressure problems and to reduce the risk of flooding from sewers.

The number of properties at risk of receiving low pressure has further reduced this year, continuing the improving trend established since privatisation.

The number of properties subject to internal flooding from sewers fell this year reflecting a return to more normal rainfall patterns after the above average rainfall in the winter of 2000-01. Companies have continued to reduce the number of properties at risk of internal flooding, but sewer flooding remains a major concern to customers.

Further details on company performance against these and other customer service measures are reported in 'Levels of service for the water industry in England and Wales 2001-02 report' .

Eight companies are expected to further improve the security of their supplies. In the period to 2004-05, the performance of these companies will be monitored to ensure that these improvements are delivered. All companies security of supply positions were explained in the 'Security of supply, leakage and efficient use of water 2001-02 report' in July. We have concerns about the progress being made by Thames Water (for more details refer to our report above). All other companies will be expected to maintain their security of supply at existing levels. Progress in delivering improved security of supply to customers has so far been limited.

Investment by service area

Table 21 shows the aggregate industry investment by service area. Descriptions of the types of assets under each heading are set out in the glossary of terms and definitions (appendix 5).

Investment in the water service is greater than in 2000-01 (as set out in the previous section). Investment on the distribution system primarily to comply with legal undertakings continued to make up the majority of expenditure in the water service.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 21 Gross capital investment by service area – industry

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Water service:					
– resources	115	95	71	46	88
– treatment	324	218	207	211	320
– distribution	1,164	1,150	1,128	803	889
– general	278	221	223	163	167
Water service total	1,881	1,684	1,629	1,223	1,464
Sewerage service:					
– sewerage	654	685	635	475	468
– sewage treatment	1,203	1,279	1,313	908	849
– sewerage general	218	193	195	154	150
Sewerage service total	2,075	2,157	2,143	1,537	1,467
Industry total	3,956	3,841	3,772	2,760	2,931

Tables 19 to 22 do not agree with table 17 because of the inclusion of adopted assets at nil cost in fixed asset additions for some companies. Assets adopted at nil cost are excluded from gross capital investment in tables 19, 20a, 20b, 21 and 22.

Table 22 Gross capital investment by service area 2001-02 – by company

2001-02 prices	Water resources £m	Water treatment £m	Water distribution £m	Water general £m	Water total £m	Sewerage £m	Sewage treatment £m	Sewerage general £m	Sewerage total £m
Anglian	3.7	10.8	73.9	11.2	99.6	40.3	107.8	16.7	164.8
Dŵr Cymru	1.3	17.1	67.2	7.9	93.5	61.6	45.5	3.3	110.4
Northumbrian	12.7	36.3	64.6	8.8	122.4	22.8	43.1	4.3	70.2
Severn Trent	(0.6)	41.1	86.0	30.0	156.5	61.4	80.4	36.4	178.2
South West	0.9	9.5	51.1	7.4	68.9	29.3	62.4	7.0	98.7
Southern	1.3	14.5	32.0	6.0	53.8	58.2	119.1	11.2	188.5
Thames	27.1	29.7	154.8	22.4	234.0	54.0	116.0	25.1	195.1
United Utilities	7.3	54.5	119.4	23.3	204.5	65.0	114.7	25.2	204.9
Wessex	1.0	12.3	29.1	5.0	47.4	29.6	54.9	8.1	92.6
Yorkshire	19.3	36.7	84.0	13.3	153.3	45.5	105.2	13.3	164.0
Total	74.0	262.5	762.1	135.3	1,233.9	467.7	849.1	150.6	1,467.4
Bournemouth & W Hants	3.0	2.5	3.7	1.7	10.9				
Bristol	1.0	6.7	12.4	5.8	25.9				
Cambridge	0.0	0.3	2.5	1.5	4.3				
Dee Valley	0.0	0.9	4.1	0.4	5.4				
Folkestone & Dover	0.7	5.5	1.8	0.5	8.5				
Mid Kent	0.4	8.5	17.6	1.1	27.6				
Portsmouth	0.3	1.7	3.7	0.8	6.5				
South East	4.9	3.3	19.8	4.2	32.2				
South Staffordshire	0.5	7.1	15.0	3.8	26.4				
Sutton & East Surrey	0.6	2.3	9.5	2.0	14.4				
Tendring Hundred	0.0	0.4	2.0	0.3	2.7				
Three Valleys	2.5	17.9	35.2	9.4	65.0				
Total	13.9	57.1	127.3	31.5	229.8				

Investment in the sewerage service is lower than 2000-01 and previous years. The majority of this investment continues to be associated with sewage treatment projects required to meet companies' obligations under the quality programme as set out in the previous section.

Investment in the sewer network in 2001-02 further reduced from the levels in previous years.

The 2001-02 expenditure by each company by service area is given in table 22.

Levels of activity

Tables 23a and 23b show the amount of activity carried out in 2001-02.

On infrastructure assets, the industry rehabilitated over 5,000km of water mains and 265km of sewers. Of the total capital investment reported in 2001-02, 17% has been on infrastructure renewals.

Since 2000-01 we have asked companies to report activity carried out on assets such as treatment works and pumping stations in their June returns. Only substantive activity is reported and shown in the tables. We define substantive activity as 25% or more of the Gross Modern Equivalent Asset (GMEA) value of the asset involved.

The 25% threshold ensures that only the largest capital projects are reported on and so companies do not report activity for the many smaller projects completed each year.

A number of companies feel the current method does not reflect the true level of capital maintenance activity carried out each year. We shall discuss with companies later this year if there is a more suitable and consistent threshold for reporting capital maintenance activity.

The tables show that the majority of substantive activity carried out in 2001-02 was associated with the quality enhancement programmes. The industry completed over 200 new or enhanced water treatment work schemes and 290 new or enhanced sewage treatment works schemes to meet new quality obligations allowed for in the 1999 periodic review.

Under their capital maintenance programmes, companies carried out increased work in 2001-02 compared to last year. The industry completed substantive refurbishment of 24 water treatment works, 75 sewage treatment works, 62 water pumping stations and 197 sewage pumping stations in 2001-02.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 23a Activity in 2001-02 – water and sewerage companies

	Mains renewed & relined km	Length of refurbished aqueducts km	Dams & impounding reservoirs refurbished nr	Existing water treatment works refurbished nr	New or enhanced water treatment works nr	Pumping stations refurbished nr	Service reservoirs & water towers refurbished nr
Water service:							
Anglian	458	0	0	1	42	1	1
Dŵr Cymru	525	0	0	0	10	8	6
Northumbrian	572	0	0	1	1	15	0
Severn Trent	459	0	0	14	20	18	5
South West	260	0	0	0	20	0	1
Southern	60	0	0	1	12	0	0
Thames	258	0	0	1	15	3	0
United Utilities	883	0	0	0	5	1	3
Wessex	161	0	0	0	12	4	3
Yorkshire	660	0	0	2	16	2	2
Total	4,297	0	0	20	153	52	21
	Sewers renovated & replaced km	Intermittent discharges refurbished nr	Sewage treatment works refurbished nr	New or enhanced sewage treatment works nr	Sludge treatment works refurbished nr	Pumping stations refurbished nr	Sea outfalls refurbished nr
Sewerage service:							
Anglian	15	0	2	37	0	22	0
Dŵr Cymru	6	0	0	22	0	0	0
Northumbrian	26	0	1	14	0	13	0
Severn Trent	39	0	54	61	0	35	0
South West	1	1	5	45	1	3	2
Southern	36	0	6	5	0	0	0
Thames	44	0	2	10	0	49	0
United Utilities	62	0	0	3	0	1	0
Wessex	19	0	0	9	0	21	0
Yorkshire	18	0	5	84	0	53	0
Total	265	1	75	290	1	197	2

Notes:

Activity shown represents 25% or more of the gross replacement cost of the asset involved.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 23b Activity in 2001-02 – water only companies

	Mains renewed & relined km	Length of refurbished aqueducts km	Dams & impounding reservoirs refurbished nr	Existing water treatment works refurbished nr	New or enhanced water treatment works nr	Pumping stations refurbished nr	Service reservoirs & water towers refurbished nr
Water service:							
Bournemouth & W Hants	1	0	0	0	0	2	0
Bristol	107	0	0	2	7	1	1
Cambridge	8	0	0	0	4	0	0
Dee Valley	40	0	0	0	0	0	1
Folkestone & Dover	3	0	0	0	0	0	0
Mid Kent	121	0	0	0	3	2	0
Portsmouth	26	0	0	0	7	0	0
South East	157	0	0	0	11	0	0
South Staffordshire	70	0	0	0	7	2	0
Sutton & East Surrey	73	0	0	0	1	0	0
Tendring Hundred	9	0	0	1	0	0	0
Three Valleys	152	0	0	1	12	3	0
Total	766	0	0	4	52	10	2

Notes:

Activity shown represents 25% or more of the gross replacement cost of the asset involved.

Table 24 shows that almost 45,000 km of mains have been renewed or relined since 1993-94, out of the industry's total of 332,800km. The overall level of activity on water mains in 2001-02 increased from 2000-01 but remains below the peak seen in 1999-2000 when companies increased activity to fulfil their AMP2 period obligations in respect of distribution undertakings for the period 1995 to 2000.

The continuing reduction in the number of communication pipes replaced reflects the sensible changes in the lead reduction policy confirmed by the DWI. Companies have been carrying out activity to reduce plumbosolvency through water treatment rather than replacing lead communication pipes. Focused lead communication pipe replacement programmes will follow where treatment is shown not to give sufficient assurance that companies will meet the final lead standard.

Table 24 Activity on underground assets – industry

Industry totals	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Water mains relined (km)	2,011	2,037	1,380	1,896	2,380	1,899	2,115	1,597	2,275
Water mains renewed (km)	2,187	2,330	2,739	3,329	3,499	3,893	4,082	2,489	2,788
Communication pipes replaced (number)	215,582	193,879	209,590	233,936	249,804	258,611	239,156	157,268	146,393
Critical sewers renovated (km)	59	80	104	143	178	182	104	132	94
Critical sewers replaced (km)	111	68	76	105	92	80	85	54	40

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 25 Activity on underground assets by company – 1990-91 to 2001-02

	Water mains relined km	Water mains renewed km	Comm- unication pipes replaced number	Critical sewers renovated km	Critical sewers replaced ¹ km
Anglian	299	5,094	261,235	83	70
Dŵr Cymru	821	3,524	203,133	48	113
Northumbrian	2,504	2,440	204,429	326	21
Severn Trent ²	6,867	6,137	518,278	114	349
South West	1,699	769	58,572	34	18
Southern	519	715	76,510	35	20
Thames	4,764	597	122,117	354	149
United Utilities	187	7,812	571,470	305	223
Wessex	685	847	40,941	104	26
Yorkshire	2,713	2,525	117,744	46	34
Bournemouth & W Hants	20	82	27,921		
Bristol	187	392	44,965		
Cambridge	24	180	4,799		
Dee Valley	196	129	25,623		
Folkestone & Dover	165	20	9,083		
Mid Kent	245	281	23,087		
Portsmouth	8	389	39,094		
South East	1,774	467	61,337		
South Staffordshire	2	588	34,219		
Sutton & East Surrey	113	314	11,078		
Tendring Hundred	90	111	6,340		
Three Valleys	431	647	132,736		

¹ The figures for critical sewers replaced are from 1991-92 only.

² East Worcestershire data for 1990-91, 1991-92 and 1992-93 is included in Severn Trent's totals.

The overall level of activity on critical sewers continues to fall from the high level seen in 1997-98. A few companies said that they have deferred some sewer activity to refocus and reprioritise capital maintenance investment. This fall in sewer activity is matched with the significant reduction in sewerage IRE (compared to the 1995 to 2000 period). Together with the industry assessment of 'uncertain' serviceability this raises concerns over the implications of deferring investment in this area.

In our review of companies' proposed capital maintenance methods, received recently in response to RD17/02 – 'Capital Maintenance Method Statements' (May 2002), we will look to see whether deferring such investment is consistent with companies' stated approaches. This will also feature in our assessments of companies' business plans in the 2004 periodic review.

Table 25 shows the network activity by company.

Serviceability to customers

The water and sewerage companies are required to maintain their non-infrastructure assets and networks of water mains and sewers so that they can provide services to current and future customers. At periodic reviews, we assess each company's outputs in recent years and its plans for future maintenance. Price limits are set at a level that we believe allows for sufficient maintenance of the asset systems.

We examine the overall trends in a range of indicators together with commentaries from companies and the views of the independent reporters. These indicators measure the performance of the asset systems in delivering services to the customer. The trends help us to make judgements as to whether the capital maintenance activity carried out by the companies over the period resulted in stable, improving uncertain or deteriorating serviceability to customers. Our initial assessments this year have been quality controlled by expert consultants on both the statistical and judgmental aspects. We will continue discussions with individual companies where our assessments show company performance to be less than stable, and will publish the outcome in a update of the 2001-02 position in December 2002.

In 2001 we worked with the companies to develop and extend the range of indicators. Companies have reported on these for the first time. In some cases we sought previous years' data to help us identify trends.

Our framework for assessing capital maintenance needs is described in appendix 3. This report includes our current assessment of serviceability to customers both at an industry and company level.

Serviceability of the water main networks

The key indicators that we use to decide whether a company has maintained serviceability to customers in water mains networks are:

- Extent of low pressure problems (DG2).
- Scale of interruptions of supplies to customers: unplanned interruptions to supplies greater than 12 hours (DG3).
- Quality compliance in respect of the level of iron in water.
- Number of burst water mains.

A further indicator is under development:

- Iron pick up in distribution. This would monitor the increase in the level of iron as water travels between the treatment works and the customer's tap. We did not seek data from previous years for this indicator.

Figure 5 sets out the overall trends in water mains serviceability.

Serviceability of the sewer networks

The key indicators that we use to decide whether a company has maintained serviceability to customers in sewer networks are:

- Number of pollution incidents occurring at combined sewer overflows and sewers.
- Properties flooded because of insufficient sewer capacity (DG5).
- Incidents of property flooding due to sewer collapses (DG5).
- Number of sewer collapses.

This year we have also added enhanced measures that relate sewer collapses and equipment failures to DG5 flooding incidents. We did not seek previous years' data.

Figure 6 sets out the overall trends in sewer serviceability.

Serviceability of water non-infrastructure assets

The key indicators that we use to decide whether a company has maintained serviceability to customers in this area are:

- The percentage of the total number of determinations taken at water treatment works containing coliforms.
- The number of water treatment works where enforcement action was considered because of contraventions of the coliforms standard.

We have added the following indicators this year:

- The number of service reservoirs with coliforms detected in more than 5% of samples. This is the current standard. We are using twelve years worth of published data. The DWI has published information on coliforms at service reservoirs in its annual report since 1990.
- The number of water treatment works where turbidity (water clarity) exceeds a threshold value within the permitted limit. Companies have provided data for the current year and the previous four years. Turbidity monitoring at water treatment works is currently non-statutory and this is reported directly to us.

In addition we are developing an indicator based on pumping station performance. We are not seeking previous years' data for this new indicator.

Figure 7 sets out the overall trends in these indicators.

Serviceability of sewerage non-infrastructure assets

The key indicators that we use to decide whether a company has maintained serviceability to customers in this area are:

- The percentage of sewage treatment works failing numeric consents.
- The percentage of equivalent population served by non-compliant works failing look-up table consents.

The following indicators are under development:

- The underlying performance of sewage treatment works, using six indicators⁷. Companies have provided data for the current year and the previous two years.
- Pumping station performance. We did not seek previous years' data.

Figure 8 out sets out the overall trends in these indicators.

⁷ Based on the mean, 95 percentile and maximum for each of BOD and SS determinands.

Figure 5 Serviceability – water mains networks

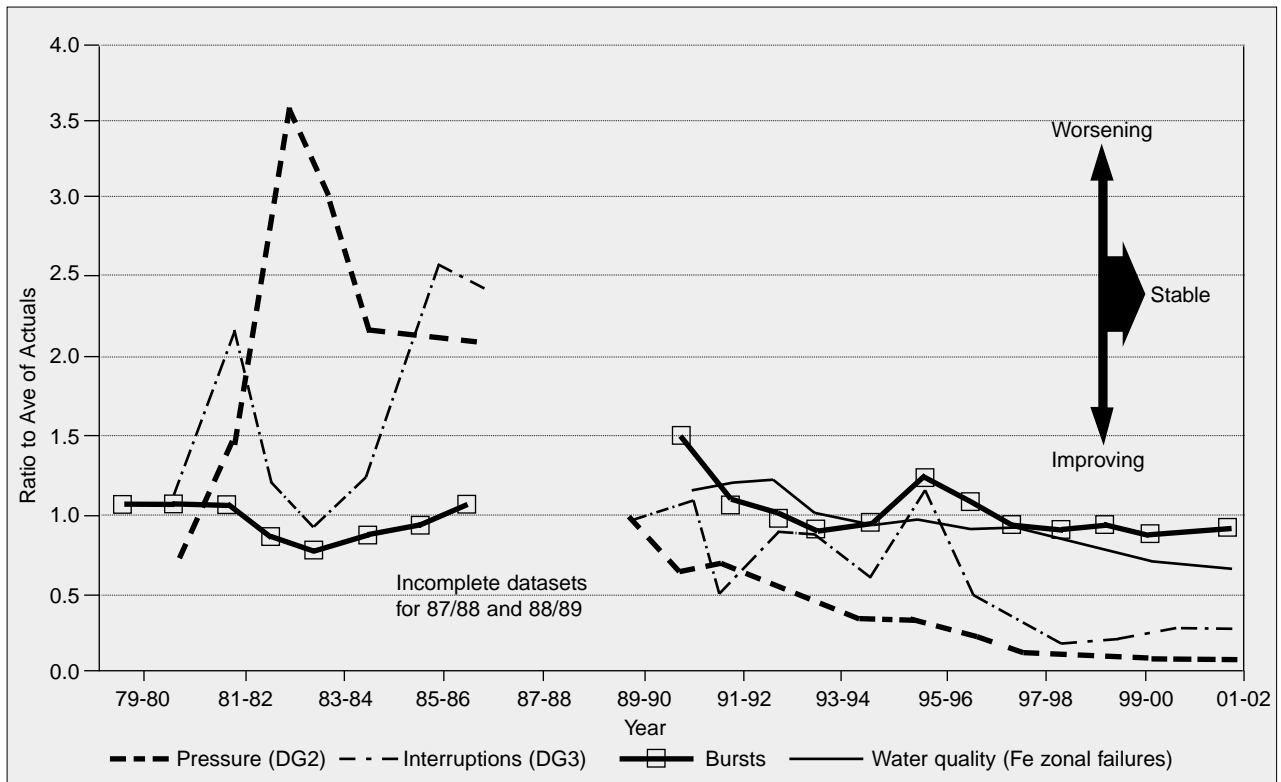


Figure 6 Serviceability – sewer networks

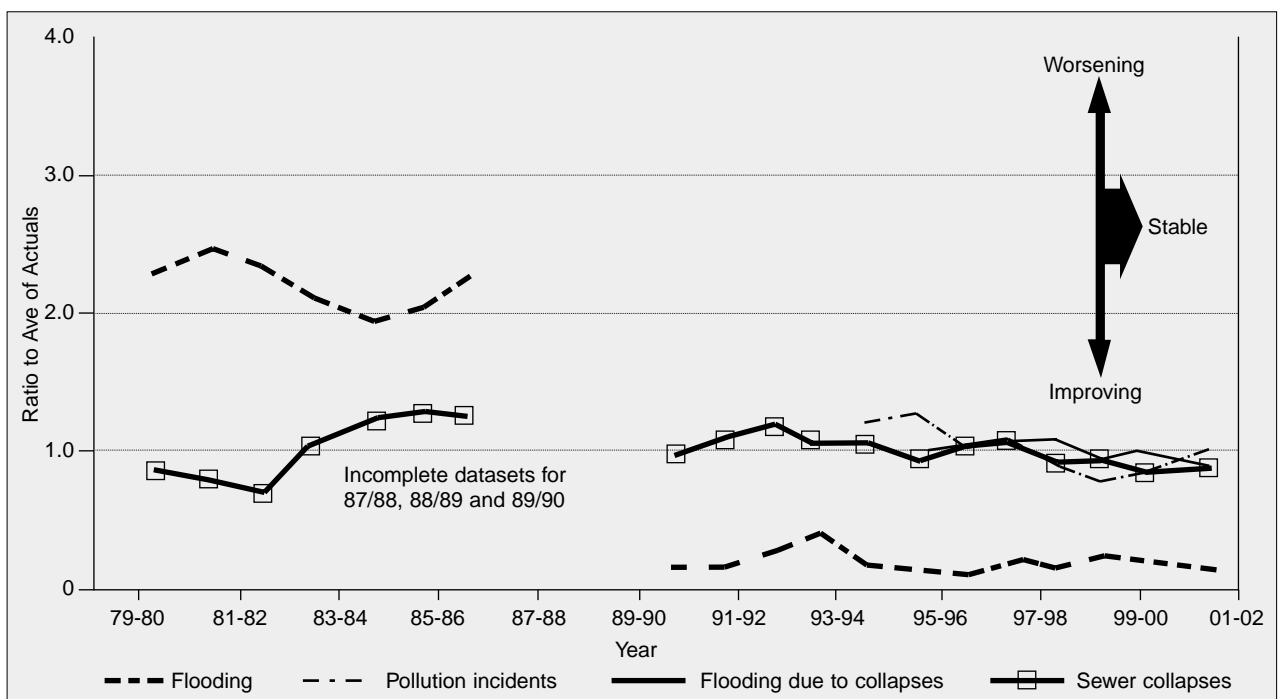


Figure 7 Serviceability – water treatment works and service reservoirs

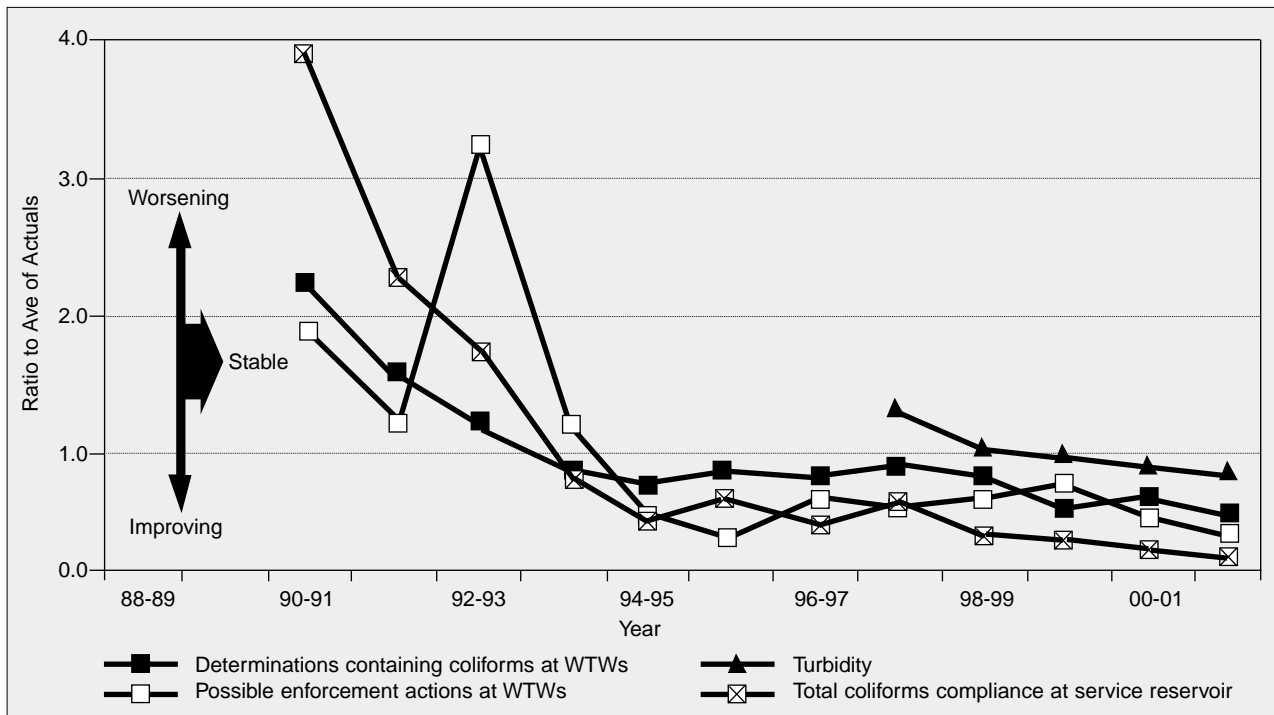
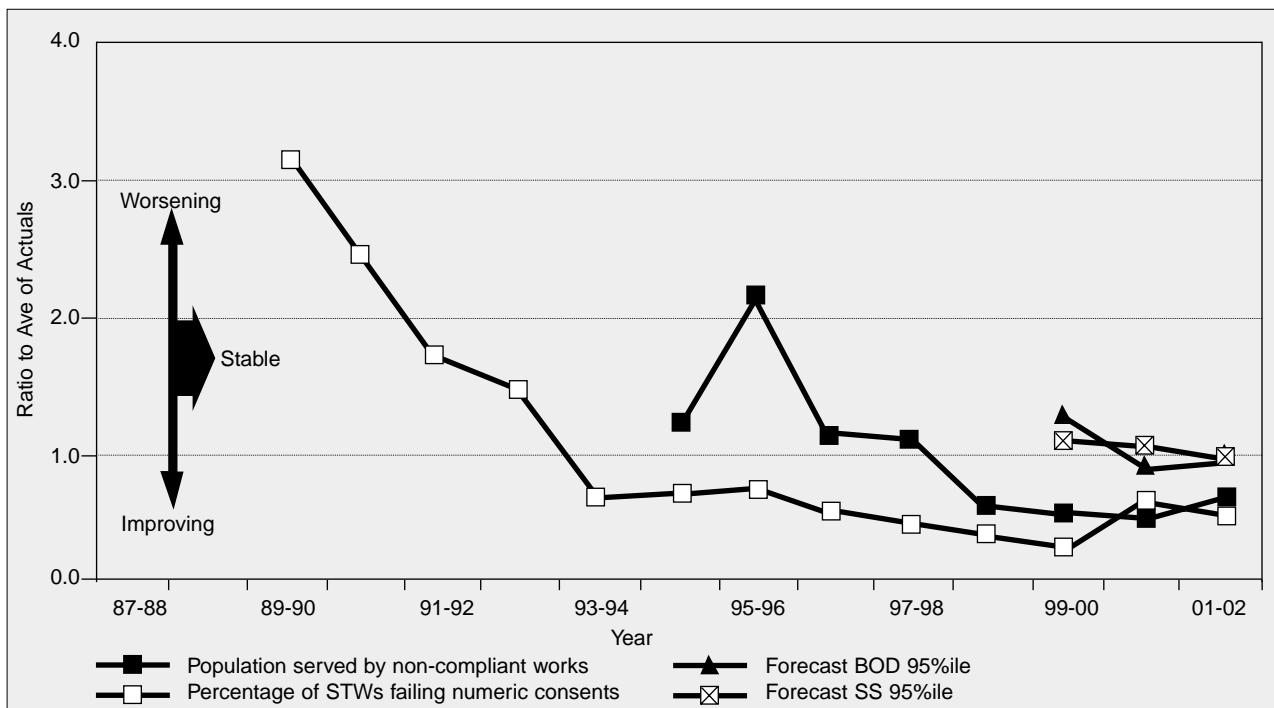


Figure 8 Serviceability – sewage treatment works



Our initial assessments of serviceability to customers

Table 26 summarises our initial assessments of serviceability to customers at a company level for the year 2001-02. We assess serviceability as improving, stable, uncertain or deteriorating. We give an 'uncertain' assessment when there are conflicting trends within the group of indicators. This may be due to data uncertainties (as companies refine their data capture systems) or early signs that the current level of service may not be sustainable without additional intervention in due course.

Companies have expressed concern that, where a company has historically managed to keep service failures at a low level (ie good service) a deterioration of that service will look disproportionately large if compared to a similar deterioration by a company which has historically had a large number of service failures (ie poor service). Consequently, companies feel that it is easier to be assessed as 'deteriorating' than 'stable' or 'improving', regardless of whether a company has a sound asset base. To help include this dimension we have shown a simple relative asset performance comparison in the column to the right of the assessment.

Table 26 Water and sewerage serviceability assessments for 2001-02

	Water infrastructure bursts		Water non-infrastructure WTW samples with coliforms		Sewerage infrastructure collapses		Sewerage non-infrastructure STWs non compliant	
Water & sewerage companies								
Anglian	Uncertain	Avg.	Stable	Low	Uncertain	Avg.	Stable	Avg.
Dŵr Cymru	Improving	Avg.	Stable	Avg.	Stable	High	Stable	Avg.
Northumbrian	Stable	Avg.	Stable	Avg.	Stable	Low	Stable	Avg.
Severn Trent	Stable	Avg.	Stable	Avg.	Uncertain	Avg.	Stable	Avg.
South West	Improving	Avg.	Stable	Avg.	Uncertain	High	Stable	High
Southern	Stable	Avg.	Stable	Low	Uncertain	Avg.	Deteriorating	High
Thames	Deteriorating	High	Stable	Avg.	Uncertain	Avg.	Stable	Low
United Utilities	Improving	Avg.	Stable	High	Stable	Avg.	Uncertain	Avg.
Wessex	Stable	Avg.	Stable	Avg.	Stable	Avg.	Stable	Avg.
Yorkshire	Stable	High	Stable/Improving	Low	Stable	Low	Uncertain	Low
WaSC assessment	Stable		Stable		Uncertain		Stable	
Water only companies								
Bournemouth & W Hants	Stable	Low	Stable	Avg.				
Bristol	Stable	Avg.	Stable	Low				
Cambridge	Stable	Low	Uncertain	Low				
Dee Valley	Stable	Avg.	Stable	Low				
Folkestone & Dover	Stable	Low	Stable	Avg.				
Mid Kent	Stable	Avg.	Stable	High				
Portsmouth	Stable	Avg.	Stable	High				
South East	Stable	Avg.	Uncertain	High				
South Staffordshire	Uncertain	High	Stable	Avg.				
Sutton & East Surrey	Stable	Low	Stable	Avg.				
Tendring Hundred	Stable	Low	Stable	Low				
Three Valleys	Stable	Avg.	Stable	Avg.				
WoC assessment	Stable		Stable					
Industry assessment	Stable		Stable		Uncertain		Stable	

Relative asset performance is shown in the column to the right of the assessment. 'High' means that asset performance is worse than the industry average, 'low' means that asset performance is better than the industry average.

Different operational management practices can also cause differences in relative service to customers and the environment. Comparative levels of service to customers and to the environment can be found in our 'Levels of service in the water industry in England and Wales' report.

Water infrastructure assets

Overall, we assess water infrastructure serviceability as stable. The number of properties receiving low pressure continue to reduce and are now at a relatively low level. But unplanned supply interruptions are rising, albeit from an all time low. Bursts show an improving trend in recent years for many companies. Companies were asked to report this year (and last year) on the proportion of bursts on their mains in worst condition (grades 4 and 5). Less than half of the companies were able to do this, and proportions of bursts were very wide ranging (1% to 91%).

Thames Water has told us that it has significantly under reported its bursts in previous years and has corrected this in its June return data for 2002. We have made a 'deteriorating' assessment based on adjusted figures for this and the four previous years. We will be asking the company to provide details of its action plan to restore stable serviceability.

Sewerage infrastructure assets

We assess sewerage infrastructure serviceability at the industry level as uncertain.

Pollution incidents associated with the sewerage system are increasing. In part, this may be because more events are being reported under the recently introduced self-reporting regime. We will be reviewing these trends with the companies to understand the causes and remedies.

The enhanced serviceability measures introduced this year enables us to assess for the first time the risk of internal flooding due to sewer collapse. These show that of the 4,000 sewer collapses reported by the industry, under 3% resulted in internal flooding of properties. This, together with other associated data, confirms our view that the great majority of sewer flooding incidents related to overload or blockage of the sewerage system rather than deterioration (such as it is) of the fabric of sewers pumping stations and other equipment.

Conflicting trends in the indicators in five companies have led to an 'uncertain' assessment for them (and consequently the industry as a whole). There are data issues at Anglian Water and at Severn Trent Water, and we expect to make a firmer judgement in subsequent years when improved data capture systems may provide a more consistent set of data.

Water non-infrastructure assets

Serviceability indicators for non-infrastructure assets reflect operational management and other factors, as well as capital maintenance needs. The commentaries provided by companies and their Reporters help us to understand the June return data.

Water non-infrastructure serviceability is assessed as stable at industry level. The new indicators of turbidity (water clarity) at water treatment works and coliform compliance at service reservoirs have informed some of our judgements this year.

Sewerage non-infrastructure assets

Sewerage non-infrastructure serviceability is assessed as stable at industry level but the overall picture hides some variation between companies' performance. We are using the new indicators to help us to identify underlying trends, whilst recognising that the scope for interpretation is limited because at present there are very few data points. Companies and the EA have advised us that the annual round of sampling by the EA was not completed for each sewage treatment works, partly due to the foot and mouth epidemic. This may affect the accuracy of some of the indicators.

Southern Water is again assessed as 'deteriorating'. The company has been investing in its works to achieve a better assessment. We shall be meeting Southern Water to discuss its progress and to provide details of its action plan to restore stable serviceability by 2003-04.

Infrastructure renewals and accounting charges

It is the accounting charges and not expenditure that drive customers' bills in the short term. Capital expenditure for above ground assets (such as treatment works) and below ground assets (such as sewers and pipes) contribute to the accounting charges in customers bills in different ways.

- The new quality improvement programme (when it consists of above-ground assets) is paid for by customers in their bills over the life of the investment through returns on the net investment and depreciation charges rather than immediately the investment is incurred.
- Above ground capital maintenance is paid for by customers over the life of the asset through returns on the net investment and depreciation charges.
- Underground network capital maintenance expenditure is averaged over a suitable time horizon. It is this average infrastructure renewals charge (IRC), which is paid through customers' bills rather than conventional depreciation.

Infrastructure renewals accounting was adopted by the water companies prior to privatisation in 1989. It reflects the way infrastructure assets are managed, operated and maintained in a better way than conventional depreciation policies.

Table 27 shows the infrastructure renewals expenditure (IRE) and charge by service in 2001-02 and in the four previous years.

The IRC has increased in the last two years following the review in 1999. For the last review period 1995-2000, it was broadly constant. The rise in IRC since 1999-2000 has been concentrated on the water service rather than the sewerage service. The IRC for the industry in 2001-02 is £442 million, which is £34 million (8%) higher than we assumed in price limits and 6% higher than in 2000-01.

IRE has increased in 2001-02 compared to 2000-01. This is partly due to a rise in the level of water mains activity by companies to meet their obligations on distribution systems as part of the quality enhancement programme, as well as carrying out more planned capital maintenance work including reducing leakage levels. We continue to monitor the amount of leakage expenditure that is being allocated to IRE rather than operating expenditure. We issued RD06/02 'Leakage expenditure' in March 2002 to seek views on a greater consistency in allocation and to remind companies how we expect them to allocate this type of expenditure. The IRE in 2001-02 of £493 million represents a 17% increase compared with 2000-01. However, over the two years, 2000-01 to 2001-02, it is cumulatively £11.2 million (1.2%) lower than we assumed in price limits.

In their business plans, companies argued that higher levels of IRE would be required in the longer term because the performance of the networks would otherwise deteriorate.

If companies expect expenditure to rise in future, the principles of infrastructure renewals accounting suggest that a new, higher level of infrastructure renewals charge should be made against profits. This has not occurred. We think it is inconsistent that expenditure has declined at the same time as companies are suggesting that more long term work is needed and intend to issue a RD letter shortly to reinforce the principles of infrastructure renewals accounting.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 27 Infrastructure renewals

2001-02 prices	1997-98 £m	1998-99 £m	1999-00 £m	2000-01 £m	2001-02 £m
Water service:					
Infrastructure renewals expenditure	273	305	285	274	331
Infrastructure renewals charge	247	250	244	270	290
Difference	26	55	41	4	41
Sewerage service:					
Infrastructure renewals expenditure	204	214	170	148	162
Infrastructure renewals charge	154	156	145	148	152
Difference	50	58	25	0	10
Total:					
Infrastructure renewals expenditure	477	519	455	422	493
Infrastructure renewals charge	401	406	389	418	442
Difference	76	113	66	4	51
Difference as % of charge	19	28	17	1	12

5. Transfer pricing

Water companies have a statutory duty to trade at arm's length with other companies in their group (associate companies) and the parent company. One of the main reasons for this is to ensure that price limits are set on the basis of the actual costs of providing water and sewerage services to customers and not costs inflated by cross subsidy. Arm's length trading will also prevent transactions taking place on preferential terms that are not warranted.

We made downward adjustments to the base operating and capital costs of a number of companies at the 1999 periodic review. The companies in question could not demonstrate arm's length trading with associates. A similar approach will be taken at future periodic reviews.

Our transfer pricing guideline, Regulatory Accounting Guideline 5.03 (RAG 5) helps companies meet their statutory duty to trade at arm's length. It sets out procedures and industry best practice for trading with associate companies. It ensures that the regulated company pays a fair price for services and products received from associates and that common costs are allocated appropriately between it and its associates.

Table 28 provides, for each company, the financial value of trade in 2001-02 with associates. This states total values for operating and capital expenditure items and the percentage of regulated turnover this represents. Overall, the level of trade with associates in the industry has decreased from £617 million (2001-02 prices) in 2000-01 to £573 million in 2001-02. In real terms, this is a decrease of 7%.

We monitor the procedures used by the companies to ensure that compliance with RAG 5 can be demonstrated. The performance of each company in meeting the requirements of RAG 5 in 2000-01 is also recorded in table 28.

Compliance with RAG 5 in 2000-01

As part of the annual monitoring process, we reviewed the information submitted by the companies and the accompanying long form reports from their respective auditors. The auditors were assisted, in some cases, by the Reporters. Following this analysis we visited a number of companies to analyse areas of concern in greater detail.

These visits were wide ranging. They focused on key aspects of the regulated companies' transactions with associates and the procedures and practices used by the companies to enable them to demonstrate that trade with associates is at arm's length.

During the year, we visited Anglian Water, Severn Trent Water, Thames Water, United Utilities Water, South East Water and South Staffordshire Water.

The range and type of issues reviewed at each company varied. At South Staffordshire Water all our concerns were dealt with satisfactorily. At South East Water the company had undertaken a significant procurement process involving an associate. We identified a number of issues that the company will need to address. This included a number of terms and conditions that should be reconsidered.

When we visited Anglian Water, Severn Trent Water, Thames Water and United Utilities Water we also addressed issues identified in previous years.

Anglian Water has made good progress on a number of issues relating to transactions with associates but there are areas which will require further input from the company to achieve resolution. At United Utilities, our work concerned the trading arrangements and derivation of transfer prices with associates. The company has taken positive steps to deal with our concerns and work is ongoing.

Thames Water has been active in providing detailed information to us to illustrate its approach to dealing with associates. This has helped to resolve a number of issues.

The work undertaken by these companies has been appropriate to address most of our concerns. We will work with the companies where issues remain to ensure that appropriate action is taken to resolve these promptly. This should lead to greater transparency and should allow these companies to demonstrate arm's length trading in future that is based on proper documentation. This will show that services from associates are received on competitive, economically advantageous terms.

We will continue to monitor companies' trading arrangements with associates. We will make follow-up visits to those companies where action is required to improve the systems and procedures to ensure transactions with group companies take place at arm's length.

We have provided feedback to the auditors on the focus and content of their audit reports on RAG 5. The reporting requirements for auditors have been revised to reflect current needs. The role of Reporters in reviewing engineering and analytical services has increased. We consider that the skills and experience that Reporters have acquired will improve the quality of reports in this area. The Reporters' skills complement those of the auditors and help deliver a balanced, focused audit that addresses our concerns.

Financial performance and expenditure of the water companies in England and Wales
2001-2002 report

Table 28 Trade with other companies within the group

2001-02 prices	Total value of trade with other group companies 2001-02	Trade as a % of Appointed business turnover		Compliance with RAG 5.03 2000-2001	Examples of Industry Best Practice 2000-2001
		£m	2001-2002		
Anglian	56.4	8	7	○	
Dŵr Cymru	0.0	0	10	●	
Northumbrian	51.2	12	15	●	*
Severn Trent	80.7	9	10	◐	
South West	9.5	4	9	◐	
Southern	15.5	4	5	◐	
Thames	127.2	12	12	◐	
United Utilities ¹	119.4	13	12	◐	
Wessex	11.5	4	1	●	*
Yorkshire	19.1	3	4	●	*
Total	490.5	8	9		
Bournemouth & W Hants	2.5	10	3	◐	*
Bristol	10.2	15	10	●	
Cambridge	1.4	10	2	●	
Dee Valley	4.2	26	18	◐	
Folkestone & Dover	5.1	40	13	●	
Mid Kent	3.5	10	8	◐	
Portsmouth	0.3	1	1	●	
South East	19.7	22	20	○	
South Staffordshire	17.3	29	18	●	
Sutton & East Surrey	0.1	<1	1	●	
Tending Hundred	1.4	12	24	●	
Three Valleys	17.1	11	11	◐	
Total	82.8	15	12		
Industry total/average	573.3	9	10		

Key:

- Satisfactory compliance with RAG 5
- ◐ Some areas to be improved
- Significant improvement required
- ¹ Multi-Utility
- * Examples of Industry Best Practice

Note: numbers may not add up due to rounding.

6. Property development and land disposal

Information about the disposal of water companies' land holdings is provided to us to ensure that water companies are complying with Condition K of their licences. The purpose of this condition is two-fold: to ensure that the land to be disposed of is surplus to the carrying out of regulated activities; and that the best price is obtained for it.

Table 29 shows the total number of land disposals and the gross proceeds from them. The information submitted by the companies is treated as confidential. Figures are therefore stated in aggregate by WaterVoice area. Appendix 5 details areas that each Watervoice committee are responsible for.

Companies are required to notify us of disposals over £500,000 to associates and of sales to external third parties of over £1 million.

In 2001-02, 11 cases totalling around £25.5 million were formally considered by us and in total 388 disposals were reported with an aggregate value of £41.4 million.

Table 29 Number of, and gross proceeds from, disposals of land – by WaterVoice area

	Value £m	Number of cases
WaterVoice Central	6.8	101
WaterVoice Eastern	3.4	41
WaterVoice Northumbrian	1.1	11
WaterVoice North West	3.1	57
WaterVoice South West	1.2	13
WaterVoice Southern	3.6	33
WaterVoice Thames	13.7	19
WaterVoice for Wales	5.5	39
WaterVoice Wessex	0.9	20
WaterVoice Yorkshire	2.1	54
TOTALS	41.4	388

Appendix 1:

Inflation indices used in this report

In this report, the following tables have been indexed using the following indices:

Table	Index
1, 1a, 3, 4, 5, 6, 9,13,14,15, 16, 17, 18a, 18b, 19, 20a, 20b, 21, 22, 27, 28 7 and 8	RPI financial year average
10,11 and 12	RPI financial year end
	Both bases used

An example of RPI indexation is set out below:

From table 1 in the 2000-01 'Report on the financial performance and capital investment of the water companies in England and Wales', the industry total turnover in 2000-01 was £6,357 million in 2000-01 prices.

This has been indexed to 2001-02 prices using financial year average RPI and appears in Table 1 of the 2001-02 report as £6,453m, calculated as follows:

$$\text{£6,357m} \times \frac{173.9}{171.3} = \text{£6,453m}$$

Table 30 Retail price indices used in this report

	1997-98	1998-99	1999-00	2000-01	2001-02
Retail price index - Financial year average (1987=100)	158.8	163.8	166.4	171.3	173.9
Retail price index - Financial year end (1987=100)	160.8	164.1	168.4	172.2	174.5
Construction output price index - Financial year average (1995=100)	106.5	111.3	116.3	121.3	125.5

APPENDIX 2:

Reconciliation of current cost and historic cost operating profits

2001-02 prices	Historical cost operating profit		Current cost adjustments				Current cost operating profit	
			Depreciation and asset disposals		Working capital			
	2000-01 £m	2001-02 £m	2000-01 £m	2001-02 £m	2000-01 £m	2001-02 £m	2000-01 £m	2001-02 £m
Anglian	270.0	278.6	(60.3)	(59.0)	2.0	1.3	211.7	220.9
Dŵr Cymru	134.7	155.4	(35.0)	(34.4)	2.1	1.8	101.8	122.8
Northumbrian	156.1	154.8	(34.2)	(27.0)	0.5	0.5	122.4	128.3
Severn Trent	329.6	327.6	(45.8)	(41.4)	2.6	1.3	286.4	287.5
South West	105.6	104.6	(10.4)	(8.5)	0.0	0.2	95.2	96.3
Southern	228.4	200.2	(77.7)	(75.4)	2.8	2.0	153.5	126.8
Thames	400.7	372.7	(94.7)	(75.8)	4.0	1.1	310.0	298.0
United Utilities	379.1	384.5	(98.1)	(93.7)	(0.3)	0.5	280.7	291.3
Wessex	120.2	114.7	(18.0)	(12.2)	1.4	0.7	103.6	103.2
Yorkshire	213.4	222.1	(48.4)	(53.9)	0.5	(0.1)	165.5	168.1
Bournemouth & W Hants	7.9	8.4	(1.7)	(2.0)	0.0	0.0	6.2	6.4
Bristol	17.6	17.9	(4.6)	(5.2)	0.0	0.1	12.9	12.7
Cambridge	4.1	4.3	(0.8)	(0.7)	0.0	0.0	3.3	3.6
Dee Valley	6.4	6.1	(1.2)	(1.3)	0.0	0.0	5.1	4.7
Folkestone & Dover	5.0	5.6	(1.0)	(1.2)	0.0	0.0	4.0	4.5
Mid Kent	9.6	12.8	(2.1)	(2.5)	0.6	0.4	8.1	10.7
Portsmouth	9.9	10.8	(1.0)	(1.0)	0.1	0.0	9.1	9.8
South East	44.7	38.7	(14.4)	(8.4)	0.0	0.0	30.2	30.3
South Staffordshire	15.0	15.2	(3.4)	(4.6)	0.2	0.1	11.8	10.8
Sutton & East Surrey	9.4	13.3	(1.6)	(1.8)	0.1	0.1	8.0	11.5
Tending Hundred	4.4	5.3	(0.5)	(0.6)	0.1	0.0	4.0	4.8
Three Valleys	46.9	52.8	(9.4)	(11.7)	0.6	0.4	38.1	41.6
Industry	2,518.7	2,506.4	(564.3)	(522.3)	17.3	10.4	1,971.6	1,994.6

Appendix 3:

Ofwat's framework for assessing water company capital maintenance needs

Over the last ten years we have developed a staged framework to assist in reaching an overall judgement of likely capital maintenance needs for the next price limit period.

Subdivision of the asset systems

The first step has been to divide the asset systems into four categories that follow broadly the different functions of the assets (treatment and transportation) and accounting practices. The four categories are summarised below.

- Water service infrastructure assets. These include; impounding reservoirs, raw and treated water trunk mains, service reservoirs, distribution mains etc.
- Water service non-infrastructure assets. These include; treatment works, pumping stations, telemetry and computer systems, meters, plant and vehicles, depots, offices etc.
- Sewerage service infrastructure assets. These include; sewers, combined sewer overflows, associated storage tanks, rising mains, outfalls etc.
- Sewerage service non-infrastructure assets. These include; sewage treatment facilities, sludge treatment, pumping stations, telemetry and computer systems, plants and vehicles, depots, offices etc.

Ofwat's analytical framework

The framework is based on a structured series of tests or questions. In each case we have used the best available data and expert/specialist consultants to inform our judgements for each of the four categories above on these questions/tests.

Stage A – maintaining serviceability to customers to date:

Understanding past performance, serviceability and company actions necessary to deliver these outcomes. This entailed:

- A review of the overall trends in performance of the asset systems in delivering services to customers using the available indicators and measures to assess whether the flow of services was: improving (✓), stable (✓), deteriorating (✗) or marginal/uncertain (?).
- Recording the levels of activity and expenditure incurred by the company over time and the reasons for annual variations to establish the typical level of activity and expenditure for the period of the serviceability trend analysis.

Where the expert review identified improving (✓) or stable (✓) trends this led to a preliminary judgement that the typical level of activity had been sufficient. Where the trends were deteriorating (✗) or marginal/uncertain (?) we sought an expert assessment of the likely uplift in the typical level of activity that would have delivered stable serviceability.

Stage B – Is the future period different?

Understanding any underlying concerns in the asset systems to be maintained, particularly where these resulted in different challenges than had been met in the past. Essentially what would be different about the next period that would necessitate changes in the typical levels of activity that had been sufficient in the past. This entailed:

- A review of the results of the most recent assessment of overall asset condition and how this compared with previous assessments to understand the reasons behind changes.
- A review of company submissions on the changing requirements for capital maintenance with a focus on implications of any increase in the size of the asset systems.

The results from the asset inventory assessments were inconclusive. Generally, companies attributed the reported small net increases in proportions of assets in the poor condition grades to errors in the 1992-93 assessments, rather than deterioration in their systems. The company submissions tended to focus on a wish to improve asset condition and not on threats to continuing service performance. We considered these needs unlikely to surface in the next price period.

Stage C – Scope for improvements in efficiency?

Understanding the relative efficiency of each company, both in terms of its approach to capital maintenance and capital works, and the potential for even the best performing company to improve its efficiency over the next price limit period. This entailed:

- A statistical assessment of the relative performance of all the companies over the serviceability period. Rolling investigations were used to identify the key explanatory factors to include in econometric relationships and thus derive relative cost rankings. These were developed into relative efficiency rankings following reviews of special factor submissions from the companies.
- Comparative capital works unit cost assessments to look at the unit costs that underpin each company's planned capital expenditure programme.
- Reviews of the scope for continuing improvements on capital productivity over the next price limit period by comparing the use of up-to-date technology and practices in the UK water sector with those in other sectors and elsewhere in the developed world.

Where companies were found to be inefficient we assumed they would rectify this poor performance through a catch-up factor applied to its capital costs and all companies are expected to improve year by year by a continuing reduction that represented a proportion of the identified potential.

Stage D – Impact of the quality improvement programmes?

Understanding the implications of each company's water quality and environmental improvement programme for the normal capital maintenance programme. This entailed:

- A review of the potential scope for overlaps and synergies due to the interaction of the quality enhancement and capital maintenance programmes where existing assets were being replaced for quality improvement reasons. The review included looking closely at the implications of earlier improvement programmes on the typical levels of expenditure.

Developing our framework for the next price review

More information, greater consistency between companies, and longer trend data on service and serviceability measures/indicators, together with a further update on asset condition, will all lead to better understanding to inform our judgements at the next price review in 2004. The quality regulators (DWI and EA), the companies and ourselves are all working to develop various elements of the framework. Our involvement in these developments is summarised below.

Stage A Developments – We have worked together with DWI and consultants to develop better water quality related indicators to improve the robustness of the serviceability assessments. A similar initiative with the EA to develop better measures for the sewerage service has been completed. The outcome of the consultancy studies were shared with the industry (RD08/01 – ‘Review of drinking water quality aspects of serviceability relating to infrastructure and non-infrastructure assets’ (May 2001) and RD19/01 – ‘Consultation on our review of water quality and other aspects of serviceability relating to infrastructure and non-infrastructure assets’ (November 2001)), and we set out our views on the way forward in RD15/02 – ‘Maintaining serviceability to customers in England and Wales: an update on serviceability indicators and measures’ (May 2002). Companies have begun to report on the new indicators this year. Responses to RD15/02 were received in July 2002, and we are considering them.

Stage B Developments – We have set down in a letter to companies⁸ how we believe they should develop assessments of an economic level of capital maintenance that is consistent with the outcomes of the serviceability assessment and evolving needs of their businesses. We are talking with a number of companies in this area and have worked with United Kingdom Water Industry Research (UKWIR) and other regulators to establish a common framework for capital maintenance planning. The output is a significant report published by UKWIR ‘Capital Maintenance Planning, a common framework’, July 2002. The aim of the framework is to enable companies to demonstrate at the next and subsequent periodic reviews how the flow of services to customers can be maintained at least cost in terms of both capital maintenance and operating expenditure, recognising the trade off between cost and risk, whilst ensuring compliance with statutory duties.

We have consulted widely during this process, including holding a workshop in May 2002 when we discussed our proposed approach set out in RD14/02 – ‘Maintaining water and sewerage systems in England and Wales: our proposed approach for the 2004 periodic review’ (May 2002). Companies have begun to report on the new indicators this year. We shared the workshop with UKWIR and the launch of their common framework. Responses to RD14/02 were received in July 2002 and we are now considering them. We have also asked companies to set out their plans for using the common framework for our consideration in August this year. At the periodic review in 2004 we will consider whether each company has made a robust case for a change to the level of historic expenditure in each asset category when we make our assumptions on capital maintenance in price limits.

⁸ MD161 Maintaining Serviceability to customers (April 2000).

Stage C Developments – In the light of comments by the Competition Commission, we have consulted on capital efficiency methods. Two main points arose from companies, that is the need for transparency in assumptions being made, and how company strategies on balancing capital and operating expenditure affect the basis for establishing a benchmark in these two areas of investment. We are committed to providing clear statements of the assumptions made in our approach. And we believe that objective demonstration of strategies to integrate capital expenditure and operating expenditure for the whole life costing methods within the common framework would be helpful in this debate.

Stage D Developments – Impact of Enhancement Programmes – Historically, there has been overlap between capital maintenance of assets and the enhancement of assets under the quality programme. We intend to widen our analysis of interactions with capital maintenance, recognising the potential for other investment (such as enhanced levels of service) to have synergistic benefits. We are looking to work with companies to establish both the historic levels of overlap and those which may arise from future programmes of work.

Appendix 4:

Glossary of Terms and Definitions

Current cost profit and loss account

Turnover

All revenue derived from standard charges as defined in Condition B of the licence for inclusion in the tariff basket calculation, together with revenue grants and other sources, including non tariff basket charges, rechargeable works, bulk supplies and other appointed business revenue.

Operating costs

Total operating expenditure of the business net of any operating income, primarily any profits or losses on the disposal of fixed assets. Operating expenditure comprises, for example, power, rates, payroll costs and materials and consumables but excludes capital-related costs such as depreciation.

Current cost depreciation

The depreciation charge on tangible fixed assets based upon the current values of those assets, less amortisation of deferred credits relating to grants and third party contributions.

Infrastructure renewals charge

The annual accounting provision for expenditure on the renewal of infrastructure assets charged to the profit and loss account.

Working capital adjustment

The adjustment for the impact of general inflation on the real value of working capital to the business.

Financing adjustment

The impact of general inflation on the real value of net finance for the business.

Current cost operating profit

Operating profit of the business derived from the above current cost figures.

Other income

Income from other sources including rental income and income from investments but excluding interest receivable and profit on disposal of assets.

Net interest

Interest receivable less interest payable. Interest payable includes finance lease interest.

Taxation

Taxation on ordinary activities for the charging year including any change in provisions for deferred taxation.

Extraordinary items

The definition of extraordinary items is as stated in Financial Reporting Standard 3 - 'Reporting Financial Performance'.

Dividends

Dividends on ordinary and preference shares declared during the year.

Financial indicators**Cash interest cover**

The ratio of cashflow generated from operations to the amount of interest paid.

Debt payback period

Measures how quickly (in years) the cashflow generated from operations (after paying interest and taxation) could repay the net debt outstanding.

Dividend cover

The number of times by which the year's dividend can be paid out of the year's profit.

Cashflow to capital expenditure

Illustrates the amount of cashflow generated from operations (after paying interest, taxation and dividends) compared to amount of capital expenditure in the year (Purchase, less disposal of fixed assets and infrastructure renewals expenditure).

Interest cover

The number of times by which the year's net interest payable can be paid out of the profit before interest.

Gearing

The ratio of net debt to net debt plus equity, expressed as a percentage.

Cash flow statement

Net cash flow from operating activities

The net increase or decrease in cash and cash equivalents resulting from the operations shown in the profit and loss account in arriving at operating profit. The net cash flow from operating activities is calculated by adjusting the current cost operating profit for items which are not direct cash flows such as depreciation and also the change in the components of working capital, ie stocks, debtors and short-term creditors. It is also adjusted for infrastructure renewals expenditure which is shown as an investing activity.

Returns on investment and servicing of finance

Receipts and payments resulting from the ownership of an investment excluding those classified under operating, investing or financing activities.

Net interest

The net cash flow relating to the payment or receipt of interest.

Dividends

All cash flows relating to payment of equity dividends. Figures will typically comprise final equity dividends for the preceding financial year together with the interim equity dividends reported during the current financial year. However, in some instances, the interim equity dividends for the preceding financial year may also be included. The amounts for non-equity dividends (typically in respect of preference shares) are shown separately.

Taxation

All cash flows to or from taxation authorities in respect of the company's revenue and capital profits including payments of advance corporation tax.

Purchase of fixed assets

All cash flows relating to the acquisition of any asset held as a fixed asset. These outflows are shown net of grants and third party contributions and any other external sources of finance.

Infrastructure renewals expenditure

The actual expenditure incurred in the financial year in maintaining the operating capability of infrastructure assets.

Proceeds from sales of assets

Receipts from the sale of fixed assets.

Net cash flow before financing

The aggregate of the net cash flow from operating activities, returns on investment and servicing of finance, taxation and investing activities.

Net cash flow from financing

Financing cash flows comprise receipts from or repayments to external providers of finance, including receipts from the issue of shares, debenture and borrowings, new finance leases and the capital element of finance lease rentals.

Cash

Cash in hand and deposits repayable on demand, including amounts in foreign currencies.

Liquid resources

The revised Financial Reporting Standard 1 – ‘Cash flow statements’ (revised 1996) introduced the term ‘liquid resources’, which replaced the term ‘cash equivalents’ used in the earlier standard. Liquid resources are investments which are a readily disposable store of value, for example term deposits, Government securities or equities.

Cash equivalents

Short-term, highly liquid investments which are readily convertible into known amounts of cash without notice and which are within three months of maturity when acquired; less advances from banks repayable within three months from the date of the advance.

Investment and return on capital

Fixed asset formation

Additions to fixed assets during the year arising from capital expenditure (excluding infrastructure renewals expenditure) analysed by function, ie water, sewerage and sewage treatment and disposal. This is stated before grants and contributions.

Infrastructure renewals expenditure

Planned maintenance expenditure on the infrastructure network. This is stated net of any grants and contributions.

Gross MEA value

The gross cost of replacing an existing asset with a technically up-to-date new asset with the same service capability.

Net MEA value

The aggregate net book value of the fixed assets valued on a Modern Equivalent Asset (MEA) basis. This will be the cost of an asset of equivalent productive capability to satisfy the remaining service potential of the asset, less accumulated current cost depreciation. The net MEA value is stated gross of third party contributions.

Regulatory capital value

The capital base used in setting price limits for 1995 to 2005. It represents the initial market value (200 day average) including debt plus subsequent net new capital expenditure as assumed at the time of initial price setting and including new obligations imposed since 1989. The capital value has been calculated using Ofwat methodology (ie after current cost depreciation and infrastructure renewals accrual).

Investment by service area

Capital investment reporting by purpose category for future returns to us require a primary distinction to be made between the investment to maintain existing levels of service to customers and the investment to improve service to customers, for example, through expenditure on quality enhancements. This distinction is made to help us to develop a better understanding of the relationship between service to customers, company activity and expenditure.

In returns prior to 1995-96, detailed investment was reported under a mixture of purposes for the different asset groups. For example, in the past, capital investment for the purpose of maintaining sewers was collected in the same expenditure figure as capital investment on sewers for improving the supply/demand balance.

The consequence of the expenditure by purpose reporting in this report is that the investment by service area breakdown in tables 21 and 22 is compiled from company returns in a different but comparable manner to that in previous years. The definitions below describe the assets that are categorised under each heading in tables 21 and 22, for the 2001-02 year.

Water resources

Water resource facilities assets, including reservoirs and raw water aqueducts associated with potable water supply.

Water treatment

Water treatment works.

Water distribution

Water distribution mains including communication pipes, service reservoirs, water towers and pumping stations.

Sewerage

Sewers, storm overflows and in line pumping stations.

Sewage treatment

Sewage treatment works, terminal pumping stations, sludge treatment works, sea outfalls and sludge disposal.

Water and sewerage general

Computers, communications and telemetry equipment, regional instrumentation, control and automation systems, vehicles and plant, land and buildings (for example, capital grounds improvements at office premises) not included in other service categories.

Measuring investment by outputs

Look-up table

Table listing the maximum allowed numbers of exceedences, per annum, of a 95% standard for various total numbers of samples; the test procedure in use in England and Wales since 1985 for assessing sewage effluent compliance.

Population equivalent

The capacity of a sewage treatment works is measured in terms of the amount of organic material, which can be treated. It is assumed that one person is equivalent to a load of 60g of biochemical oxygen demand. This also includes industrial wastewater treated at works. Hence, the capacity of a works can greatly exceed the population served in the catchment, especially if a large volume of industrial effluent is also treated.

BOD (biochemical oxygen demand)

BOD is an indicator of the ability of a material to use up the oxygen which is dissolved in water. Something which has a high BOD has the potential to pollute a river, since a reduction in dissolved oxygen may harm or even kill animals living in the river.

SS (suspended solids)

Analysis of SS provides an indication of how much sediment is carried in water. If it has a high organic content, the sediment may contribute to a large biochemical oxygen demand (see above). In addition, even if the sediment does not affect oxygen levels, a sufficiently high level has the potential to harm river life by physically smothering animals breathing surfaces.

COD (chemical oxygen demand)

COD is an index of water pollution which represents the total amount of oxygen that could be consumed by oxidative degradation of the effluent or water sample.

Appendix 5: WaterVoice committees

WaterVoice Central

Responsible for customers of: Severn Trent Water Ltd
South Staffordshire Water plc

WaterVoice Eastern

Responsible for customers of: Anglian Water Services Ltd
Cambridge Water plc
Essex & Suffolk Water plc
Tendring Hundred Water Services Ltd

WaterVoice Northumbria

Responsible for customers of: Northumbrian Water Ltd
Hartlepool Water plc

WaterVoice North West

Responsible for customers of: United Utilities Water Ltd (formerly North West
Water Ltd)

WaterVoice Southern

Responsible for customers of: Southern Water Services Ltd
Folkestone & Dover Water Services Ltd
Mid Kent Water plc
Portsmouth Water plc
South East Water Ltd

WaterVoice South West

Responsible for customers of: South West Water Ltd

WaterVoice Thames

Responsible for customers of: Thames Water Utilities Ltd
Sutton & East Surrey Water plc
Three Valleys Water plc

WaterVoice for Wales

Responsible for customers of: Dŵr Cymru Cyfyngedig
Dee Valley Water plc

WaterVoice Wessex

Responsible for customers of: Wessex Water Services Ltd
Bournemouth & West Hampshire Water plc
Bristol Water plc
Cholderton & District Water Co Ltd
Thames Water Utilities Ltd at Tidworth

WaterVoice Yorkshire

Responsible for customers of: Yorkshire Water Services Ltd



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