

Our work in regulating the Scottish water industry:
A summary of our proposed approach

volume **6**

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FOR SCOTLAND**

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Chapter 1

Setting out a clear framework for the Strategic Review of Charges 2006-10

Introduction

This document sets out our forward work programme over the period from now through to 1 April 2006, when the next regulatory period begins.

Regulation seeks to ensure that customers enjoy a value for money service. Customers should be able to count on a supply of high-quality, wholesome drinking water, continuing improvement in our beaches and water environment, and a service that is provided at a reasonable cost. It is the job of the regulator to ensure that customers enjoy a 'silent' service, that is one they can take for granted.

Customers will rightly expect that we build on the progress of the last two years since the last Strategic Review of Charges. This will require effective monitoring of Scottish Water's performance in the remainder of the current regulatory period. We will also need to ensure that prices are sufficient, but no more than sufficient, to fund the levels of service and investment that will result from the *Quality and Standards III* investment programme.

This second full Strategic Review of Charges was commissioned in good time. We are keen to take advantage of the time we have to make sure that the current Strategic Review is as transparent as possible. This detailed explanation of our work-plan is the first in a series of publications that will describe what, when, how and why we will do certain tasks. All of these efforts are designed to ensure that customers can have confidence that they are getting value for money.

We would welcome the views of customers and other stakeholders on this and our other methodology publications. These should be sent to:

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We plan to publish five documents about our proposed methodology for the Strategic Review of Charges 2006-10.

The first four of these publications outline how we intend to prepare the 2006-10 Strategic Review of Charges. The four areas covered are:

- our work-plan (this document),
- the regulatory framework in Scotland and lessons learned,
- the calculation of prices,
- the scope for efficiency.

The fifth document is a summary of the first four.

We welcome comments from stakeholders about the content of these publications. The final date for comments is **29 October 2004**.

Regulatory information

Information is vital to effective regulation. We ask Scottish Water for a wide range of information, covering all aspects of its water and waste water businesses. This information allows us to monitor and report on Scottish Water's performance. We continually re-assess these information requirements.

Our key information requests are set out in the table overleaf.

Submission		Frequency of submission	Team that receives the submission
WIC 1/9/14/22	Non-domestic customer revenue information	Twice yearly	Revenue and Tariffs
WIC 4	Domestic customer revenue information	Twice yearly	Revenue and Tariffs
WIC 5	Customer service performance return	Quarterly	Competition and Customer Services
WIC 6	Quality performance assessments (written)	Quarterly	Competition and Customer Services
WIC 18	Quality & Standards final output	Ad-hoc	Investment and Asset Management
Q & S III	Baseline investment programme for Quality and Standards III	Ad-hoc	Investment and Asset Management
WIC 19	Investment appraisal audits	Annually	Investment and Asset Management
WIC 24	Leakage strategy	Annually	Investment and Asset Management
WIC 25	Resource accounting and budgeting (RAB)	Monthly	Costs and Performance
WIC 43	Annual Return 2003-04	Annually	Office-wide
WIC 45	Regulatory accounting (and transfer pricing)	Ad-hoc in 2004-05, but annually from 2005-06 onwards	Costs and Performance
Scheme of Charges	Scottish Water Scheme of Charges submission	Annually	Revenue and Tariffs
CIR	Capital Investment Return	Quarterly	Investment and Asset Management
SBP	Strategic Business Plan	Ad-hoc	Costs and Performance

In England and Wales it is water industry practice for the Office of Water Services (Ofwat) to use a consultant engineer, known as a Reporter, to help verify information submissions. The Reporter audits the information provided to the regulator by the companies and highlights any issues or inaccuracies.

Following discussions involving the Scottish Executive, this Office and Scottish Water, we appointed a Reporter for the water industry in Scotland in December 2003. We expect that this will improve the regulatory process and the reliability of regulatory submissions in Scotland.

The Reporter is Mr David Arnell of Black and Veatch Consulting. He is required to review all aspects of Scottish Water's information submissions, as directed by this Office. This will include auditing both the annual

regulatory return submitted by Scottish Water and its Business Plan submissions, and scrutinising the costing, scope and content of the proposed investment programme. Such scrutiny has played an important role in improving the quality and reliability of information provided to Ofwat by the companies in England and Wales.

The Reporter will remain strictly independent of Scottish Water.

As well as this Office, the Scottish Executive, the Drinking Water Quality Regulator (DWQR) and the Scottish Environment Protection Agency (SEPA) can ask the Reporter to examine Scottish Water's performance in areas relevant to their statutory duties.

We believe that the introduction of a Reporter will give customers greater confidence that the efficiency targets we set for Scottish Water are realistic.

This audited information will inform our work in assessing the scope for efficiency and the sustainable level of prices. As such, it is critical to the Strategic Review of Charges. Decisions about the prices that will be paid by customers from April 2006 will still not be made for some 18 months. There is a considerable amount of information collection, checking and analysis to be undertaken before we can finalise prices.

Ensuring transparency and accountability

We are providing stakeholders with a number of opportunities to make their views known both to us and to the Scottish Executive over the next 18 months. The Scottish Executive will seek the views of stakeholders through two important consultations: 'Paying for Water Services' and 'Investing in Water Services'. These consultations will help Ministers to formulate the detailed Guidance that they are due to provide to this Office in January 2005.

The work-plan for the Strategic Review of Charges also highlights a number of initiatives designed to improve the transparency and accountability of regulation. We

have introduced 'stakeholder information days', which will be held approximately every six weeks. These days will provide a forum for us to outline our progress and for stakeholders to have their say. A summary of these meetings will be made available on our website. Similarly, we are offering a series of three separate briefings to members of the Scottish Parliament.

A staged approach

In order to ensure that stakeholders are able to gain as much as possible from the Strategic Review, and to help manage the process, we have included a number of interim announcements in the work-plan. We have also set a series of dates by which we will have made some of our analytical tools available to stakeholders.

One of the key tools is the financial model. In common with other regulators, we will use a financial model to calculate the revenue that will be required from customers. This financial model allows different cost, investment and timing scenarios to be assessed so that we can be sure that the option that represents best value for money for customers is chosen. The financial model has been conceived and developed using in-house resources and will be subject to an extensive external audit. This audit will review both the workings of the model and internal processes, such as version control, during the preparation of the Strategic Review of Charges.

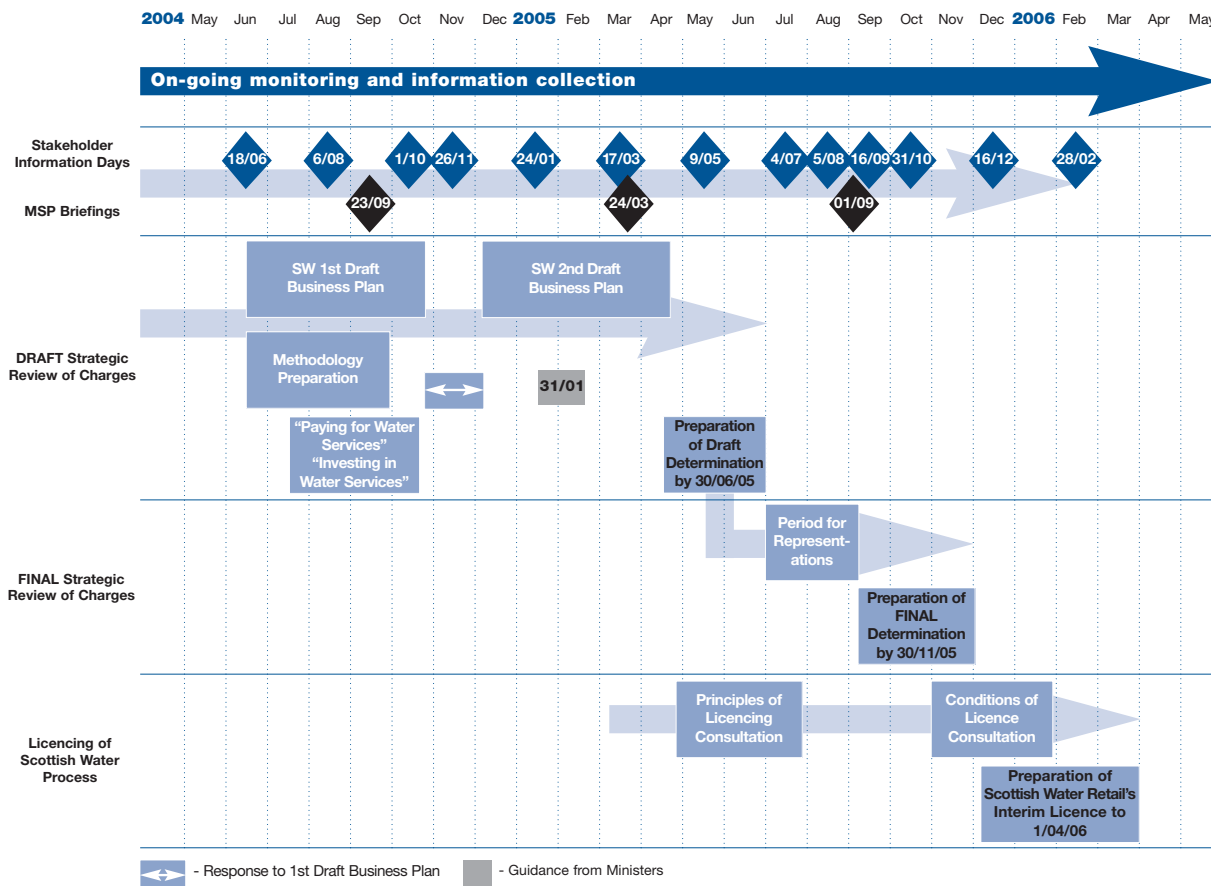
The financial model is constructed using Microsoft Excel¹. It will be made available on our website by the end of September 2004.

The detailed work-plan is reproduced below. Stakeholders should be aware of the following 11 key events in this work-plan:

- *Quality and Standards III* Consultation
- *Principles of Charges* Consultation
- Scottish Water's first draft Business Plan
- Ministerial Guidance
- Scottish Water's second draft Business Plan
- Scottish Water submits its Annual Return for 2004-05
- Water Industry Commissioner for Scotland draft advice on/determination of charges
- Opportunity for representations by stakeholders
- WICS' final advice on/determination of charges
- Minister's commissioning letter for the 2006-10 Strategic Review of Charges
- Scottish Water submits its Annual Return for 2003-04

¹ Stakeholders who wish to download the model will require a licensed copy of Microsoft Excel.

Figure 1: The calendar of events for the next two years



Minister’s commissioning letter for the 2006-10 Strategic Review of Charges

Ross Finnie, Minister for the Environment and Rural Affairs, asked us to begin work on the Strategic Review of Charges. This letter set out initial policy considerations and detailed proposed changes to the regulatory framework.

Scottish Water submits its Annual Return for 2003-04

The Annual Return is the principal information submission that Scottish Water makes to us. The return includes information about customers, assets and financial performance. It also covers progress on the agreed investment programme.

This Annual Return will underpin the draft advice on/or determination of charges.

Quality and Standards III Consultation

The Scottish Executive has coordinated a multi-stakeholder process to determine the objectives of the investment programme for the period 2006-14. This consultation is one of the main opportunities for stakeholders to make the Scottish Executive aware of their views. Following consultation, we expect Ministers to decide on investment priorities for the next regulatory period in January 2005.

Principles of Charges Consultation

This important Scottish Executive consultation will establish how customers should pay for water services. This should inform the Ministerial Guidance in January 2005.

Scottish Water's first draft Business Plan

This first draft Business Plan is due at the end of October this year. We provided Scottish Water with detailed guidance on the requirements for the Business Plan at the end of June. This is an important opportunity for Scottish Water to set out its strategy in some detail. We would expect Scottish Water to highlight any factors that it believes we should take into account in setting efficiency targets or prices.

This plan should also contain Scottish Water's view of an appropriate investment plan for the next regulatory period. This should take account of Scottish Water's knowledge of the Quality and Standards III process, any likely backlog from Quality and Standards II, and its views on the size of a programme that can be efficiently managed.

Ministerial Guidance

Detailed Guidance is due to be given by Ministers at the end of January 2005. This will help inform the draft Strategic Review of Charges in June 2005. It is expected that this Guidance will outline the priorities for investment in the next regulatory period and will detail the principles that should be applied in setting tariffs for customers. This Guidance will also cover issues such as public expenditure and new debt.

Scottish Water's second draft Business Plan

The second draft Business Plan is Scottish Water's final opportunity to communicate its strategy, objectives and resource requirements to this Office. This plan should reflect the Ministerial Guidance that will have been provided at the end of January 2005. The plan should also contain a detailed investment programme that will meet the priorities that were set out in the Guidance. This investment plan will be published in full.

Scottish Water submits its Annual Return for 2004-05

This Annual Return is particularly important as it will inform the final price limits in the Strategic Review of Charges.

WICS' draft advice on/determination of charges

The draft Strategic Review of Charges will be published at the end of June 2005. This document outlines our initial proposals for Scottish Water's price limits for the 2006-10 regulatory period.

Opportunity for representations by stakeholders

Following publication of the draft Strategic Review of Charges, there is a two-month period in which customers and stakeholders can make representations on the initial proposals. During this period, final advice from Ministers to inform the final Strategic Review of Charges is expected.

WICS' final advice on/determination of charges

The final Strategic Review of Charges will be published on 30 November 2005. This will contain our detailed advice to Ministers on the revenue requirements and charging levels for Scottish Water for the period 2006-10. It will explain in detail the processes we have gone through in establishing the revenue cap.

Under current arrangements, the Scottish Ministers are then responsible for taking due account of this advice in deciding the level of funding and the associated charges for Scottish Water. The Ministers' response to our advice is placed in the public domain. The proposals contained in the Water Services etc (Scotland) Bill, (which are discussed in more detail in Chapter 5.10 below), would empower the Water Industry Commission to decide on price limits for Scottish Water, subject to appeal to the UK Competition Commission.

Summary work plan for May 2004–May 2006

Reference	Event	Date
May 2004		
1.1	WIC 5: Customer service performance return (Quarter 4 – 2003-04)	07/05/2004
1.2	WIC 1/9/14/22: Non-domestic customer revenue information (Quarter 4 – 2003-04)	14/05/2004
1.3	WIC 4: Domestic customer revenue information (Quarter 4 – 2003-04)	14/05/2004
1.4	Presentation by Scottish Water of cost allocation system to Reporter	14/05/2004
1.5	WIC 6: Quality performance assessments (written) (Quarter 4 – 2003-04) – Scottish Water provides complaints files	24/05/2004
1.6	WIC 45: Issue of draft regulatory accounting tables (2003-04)	27/05/2004
1.7	WIC 25: RAB (resource accounting and budgeting) submission for April 2004	28/05/2004
June 2004		
2.1	Complete draft financial model	09/06/2004
2.2	Award research project on financial ratios and borrowing	09/06/2004
2.3	Workshop for Scottish Executive on methodology	10/06/2004
2.4	Workshop for Scottish Water on methodology	11/06/2004
2.5	Question & Answer session on draft regulatory accounting tables (2003-04)	15/06/2004
2.6	Workshop for academics on methodology	17/06/2004
2.7	Workshop for stakeholders on methodology: 1st stakeholder information day	18/06/2004
2.8	Capital Investment Return: Quarter 4 – 2003-04 submission	18/06/2004
2.9	Write out to workshop attendees on issues raised	24/06/2004
2.10	WIC 43: Annual Return 2003-04 submission	25/06/2004
2.11	Guidance due to Scottish Water on 1st draft Business Plan submission	25/06/2004
2.12	Draft financial model provided to Scottish Water	25/06/2004
2.13	WIC 25: RAB (resource accounting and budgeting) submission for May 2004	28/06/2004
July 2004		
3.1	Scottish Water to submit initial issues regarding guidance on 1st draft Business Plan	05/07/2004
3.2	Scottish Water to submit initial issues regarding methodology	05/07/2004
3.3	Initiate financial ratios & borrowing project	05/07/2004
3.4	Workshop on 1st draft Business Plan guidance	09/07/2004
3.5	Half yearly meeting with Water Customer Consultation Panels (WCCPs)	09/07/2004
3.6	Workshop for Scottish Water on draft financial model	14/07/2004
3.7	Scottish Water final issues regarding guidance for 1st draft Business Plan	16/07/2004
3.8	Scottish Executive Quality and Standards III consultation	20/07/2004
3.9	Scottish Executive Principles of Charging consultation	20/07/2004
3.10	Publication of the work-plan for the Strategic Review of Charges 2006-10	21/07/2004
3.11	Workshop for Scottish Water on methodology for calculation of prices for the Strategic Review	21/07/2004
3.12	Guidance to Reporter on 1st draft Business Plan audit	21/07/2004
3.13	WIC 25: RAB (resource accounting and budgeting) submission for June 2004	28/07/2004
3.14	Workshop for Scottish Water on methodology for assessing the scope for efficiency for the Strategic Review	28/07/2004
3.15	WICS final clarifications/responses on 1st draft Business Plan guidance	28/07/2004
3.16	WIC 43 Annual Return – 1st round of queries: response due from Scottish Water	30/07/2004
August 2004		
4.1	Capital Investment Return: Quarter 1 – 2004-05 submission	01/08/2004
4.2	Stakeholder information day	06/08/2004
4.3	WIC 5: Customer service performance return (Quarter 1 – 2004-05)	13/08/2004
4.4	Publication of framework for the Strategic Review of Charges 2006-10	16/08/2004
4.5	Quarterly meeting with Scottish Executive	18/08/2004
4.6	Scottish Water submits draft regulatory accounting tables (2003-04)	18/08/2004
4.7	Publication of report on financial ratio and borrowing	23/08/2004
4.8	WIC 43 Annual Return – 2nd round of queries: response due from Scottish Water	27/08/2004
4.9	WIC 25: RAB (resource accounting and budgeting) submission for July 2004	27/08/2004
September 2004		
5.1	Scottish Water submits draft investment programme to Reporter for audit	01/09/2004
5.2	Letter outlining initial views on regulatory accounting tables (2003-04)	09/09/2004
5.3	Workshop on completion of regulatory accounting tables (2003-04)	16/09/2004
5.4	Publication of methodology for calculation of prices for the Strategic Review of Charges 2006-10	22/09/2004
5.5	MSP briefing	23/09/2004
5.6	WIC 25: RAB (resource accounting and budgeting) submission for August 2004	25/09/2004
5.7	Scheme of charges – submission due from Scottish Water	27/09/2004
5.8	Publication of methodology for assessing the scope for efficiency for the Strategic Review of Charges 2006-10	29/09/2004
5.9	Publication of summary of methodology for the Strategic Review of Charges 2006-10	29/09/2004
5.10	Publication of draft financial model and draft manual	29/09/2004

Reference	Event	Date
	October 2004	
6.1	Stakeholder information day	01/10/2004
6.2	Asset management process review initiated	01/10/2004
6.3	WIC 25: RAB (resource accounting and budgeting) submission for September 2004	28/10/2004
6.4	Scottish Water submits 1st draft Business Plan	29/10/2004
6.5	Resubmission of regulatory accounts (2003-04) as part of 1st draft Business Plan	29/10/2004
6.6	Baseline investment programme for Quality & Standards III (draft programme)	29/10/2004
6.7	Close of methodology consultations	29/10/2004
	November 2004	
7.1	Capital Investment Return: Quarter 2 – 2004-05 submission	01/11/2004
7.2	WIC 1/9/14/22: Non-domestic customer revenue information (Quarter 2 – 2004-05)	12/11/2004
7.3	WIC 4: Domestic customer revenue information (Quarter 2 – 2004-05)	12/11/2004
7.4	WIC 5: Customer service performance return (Quarter 2 – 2004-05)	12/11/2004
7.5	Workshop on detail of Business Plan (definitional & clarification issues)	15/11/2004
7.6	Revised regulatory accounting and transfer pricing tables (2003-04)	16/11/2004
7.7	Copy of methodology response to Scottish Water & Scottish Executive	17/11/2004
7.8	Methodology response published	19/11/2004
7.9	Reporter's final report on capital programme contained in Scottish Water's draft Business Plan	19/11/2004
7.10	Summary of Reporter's view to Scottish Executive	23/11/2004
7.11	Scottish Water Board presentation on key strategic issues	23/11/2004
7.12	Quarterly meeting with Scottish Executive	24/11/2004
7.13	Publication of high-level summary of Scottish Water's 1st draft Business Plan	25/11/2004
7.14	WIC 25: RAB (resource accounting and budgeting) submission for October 2004	26/11/2004
7.15	Stakeholder information day	26/11/2004
	December 2004	
8.1	WICS response to 1st draft Business Plan and its implications for customers	03/12/2004
8.2	WICS writes to Scottish Water on cost of capital and plans for treating embedded debt	07/12/2004
8.3	Publication of guidance for 2nd draft Business Plan	08/12/2004
8.4	Scottish Water to submit initial issues regarding WICS guidance for the 2nd draft Business Plan	14/12/2004
8.5	WIC 19: Investment appraisal audits	15-16/12/2004
8.6	Half yearly meeting with Water Customer Consultation Panels (WCCPs)	15/12/2004
8.7	Workshop on 2nd draft Business Plan guidance	17/12/2004
8.8	Guidance to Reporters on 2nd draft Business Plan	17/12/2004
8.9	Resubmission of regulatory accounts and transfer pricing tables (2003-04) by Scottish Water	22/12/2004
8.10	WICS draft corporate plan & budget to Scottish Executive	23/12/2004
8.11	Scottish Water final issues regarding guidance for 2nd draft Business Plan	23/12/2004
8.12	WIC 25: RAB (resource accounting and budgeting) submission for November 2004	28/12/2004
8.13	WIC 24: Leakage strategy	31/12/2004
	January 2005	
9.1	WICS final clarifications/responses on 2nd draft Business Plan guidance	10/01/2005
9.2	Draft operating expenditure efficiency targets announced	14/01/2005
9.3	Letter to Scottish Water regarding regulatory accounts and transfer pricing tables (2003-04)	20/01/2005
9.4	Stakeholder information day	24/01/2005
9.5	Workshop on regulatory accounts and transfer pricing tables	27/01/2005
9.6	WIC 25: RAB (resource accounting and budgeting) submission for December 2004	28/01/2005
9.7	Detailed Guidance from Ministers	31/01/2005
	February 2005	
10.1	Capital Investment Return: Quarter 3 – 2004-05 submission	01/02/2005
10.2	Draft capital expenditure efficiency targets published	02/02/2005
10.3	Tri-partite workshop on implications of Ministerial Guidance	09/02/2005
10.4	Stakeholder workshop on implications of Ministerial Guidance	11/02/2005
10.5	WIC 5: Customer service performance return (Quarter 3 – 2004-05)	11/02/2005
10.6	Workshop on efficiency targets	21/02/2005
10.7	Final version of capital programme to be submitted to Reporter for audit	23/02/2005
10.8	Quarterly meeting with Scottish Executive	24/02/2005
10.9	WIC 25: RAB (resource accounting and budgeting) submission for January 2005	28/02/2005
10.10	WICS response to final Guidance from Ministers published	28/02/2005
	March 2005	
11.1	Stakeholder information day	17/03/2005
11.2	MSP briefing	24/03/2005
11.3	WIC 25: RAB (resource accounting and budgeting) submission for February 2005	28/03/2005
11.4	WIC XX: Annual Return 2004-05 guidance issued	End March
11.5	WIC XX: Regulatory accounting and transfer pricing tables 2004-05 guidance issued	End March

Reference	Event	Date
	April 2005	
12.1	Scottish Water submits 2nd draft Business Plan	20/04/2005
12.2	WIC 25: RAB (resource accounting and budgeting) submission for March 2005	28/04/2005
12.3	Launch of initial consultation on licensing	28/04/2005
12.4	Financial model finalised and published	28/04/2005
	May 2005	
13.1	Capital Investment Return: Quarter 4 – 2004-05 submission	01/05/2005
13.2	Workshop on the detail of Scottish Water's 2nd draft Business Plan (definitional and clarification issues)	04/05/2005
13.3	Stakeholder information day	09/05/2005
13.4	Scottish Water Board presentation on key strategic issues	12/05/2005
13.5	WIC 5: Customer service performance return (Quarter 4 – 2004-05)	13/05/2005
13.6	WIC 1/9/14/22: Non-domestic customer revenue information (Quarter 4 – 2004-05)	13/05/2005
13.7	WIC 4: Domestic customer revenue information (Quarter 4 – 2004-05)	13/05/2005
13.8	Publication of Scottish Water's 2nd draft Business Plan	16/05/2005
13.9	WIC 25: RAB (resource accounting and budgeting) submission for April 2005	27/05/2005
13.10	WICS response to Scottish Water's 2nd draft Business Plan and its implications for customers	30/05/2005
	June 2005	
14.1	Quarterly meeting with Scottish Executive	01/06/2005
14.2	Draft Strategic Review of Charges to printers	14/06/2005
14.3	WIC XX: Annual Return 2004-05 submission	17/06/2005
14.4	WIC XX: Regulatory accounting and transfer pricing tables 2004-05 submission	17/06/2005
14.5	WIC 25: RAB (resource accounting and budgeting) submission for May 2005	28/06/2005
14.6	Publication of draft Strategic Review of Charges 2006-10	30/06/2005
	July 2005	
15.1	Half yearly meeting with Water Customer Consultation Panels (WCCPs)	01/07/2005
15.2	Stakeholder information day	04/07/2005
15.3	WIC XX Annual Return – 1st round of queries: response due from Scottish Water	15/07/2005
15.4	WIC 25: RAB (resource accounting and budgeting) submission for June 2005	28/07/2005
15.5	Close of initial consultation on licensing	29/07/2005
	August 2005	
16.1	Capital Investment Return: Quarter 1 – 2005-06 submission	01/08/2005
16.2	Stakeholder information day	05/08/2005
16.3	WIC 5: Customer service performance return (Quarter 1 – 2005-06)	12/08/2005
16.4	WIC XX Annual Return – 2nd round of queries: response due from Scottish Water	12/08/2005
16.5	WIC 25: RAB (resource accounting and budgeting) submission for July 2005	26/08/2005
16.6	Quarterly meeting with Scottish Executive	31/08/2005
16.7	Final Guidance from Ministers	31/08/2005
	September 2005	
17.1	MSP briefing	01/09/2005
17.2	Deadline for representations on draft Strategic Review of Charges	05/09/2005
17.3	Stakeholder information day	16/09/2005
17.4	WIC 25: RAB (resource accounting and budgeting) submission for August 2005	28/09/2005
	October 2005	
18.1	WIC 25: RAB (resource accounting and budgeting) submission for September 2005	28/10/2005
18.2	Start of consultation on draft licence conditions	31/10/2005
18.3	Stakeholder information day	31/10/2005
	November 2005	
19.1	Capital Investment Return: Quarter 2 – 2005-06 submission	01/11/2005
19.2	WIC 1/9/14/22: Non-domestic customer revenue information (Quarter 2 – 2005-06)	11/11/2005
19.3	WIC 4: Domestic customer revenue information (Quarter 2 – 2005-06)	11/11/2005
19.4	WIC 5: Customer service performance return (Quarter 2 – 2005-06)	11/11/2005
19.5	Final Strategic Review of Charges to printers	14/11/2005
19.6	Quarterly meeting with Scottish Executive	16/11/2005
19.7	WIC 25: RAB (resource accounting and budgeting) submission for October 2005	28/11/2005
19.8	Publication of Final Strategic Review of Charges 2006-10	30/11/2005

Reference	Event	Date
	December 2005	
20.1	Half yearly meeting with Water Customer Consultation Panels (WCCPs)	01/12/2005
20.2	WIC 19: Investment appraisal audits	14-15/12/2005
20.3	Prices to Commission from Scottish Water	16/12/2005
20.4	Stakeholder information day	16/12/2005
20.5	WIC 25: RAB (resource accounting and budgeting) submission for November 2005	28/12/2005
20.6	WIC 24: Leakage strategy	30/12/2005
	January 2006	
21.1	WIC 6: Quality Performance Assessments (written) (Quarter 3 – 2005-06) Scottish Water provides list of complaints	23/01/2006
21.2	WIC 25: RAB (resource accounting and budgeting) submission for December 2005	27/01/2006
21.3	Close of consultation on draft licence conditions	31/01/2006
	February 2006	
22.1	Capital Investment Return: Quarter 3 – 2005-06 submission	01/02/2006
22.2	WIC 6: Quality Performance Assessments (written) (Quarter 3 – 2005-06) Scottish Water provides complaints files	06/02/2006
22.3	Publication of Investment and Asset Management Report (2004-05)	09/02/2006
22.4	WIC 5: Customer service performance return (Quarter 3 – 2005-06)	10/02/2006
22.5	WIC 25: RAB (resource accounting and budgeting) submission for January 2006	28/02/2006
22.6	Stakeholder information day	28/02/2006
	March 2006	
23.1	WIC 25: RAB (resource accounting and budgeting) submission for February 2006	28/03/2006
23.2	WIC XX: Annual Return 2005-06 guidance issued	End March
23.3	WIC XX: Regulatory accounting and transfer pricing tables 2005-06 guidance issued	End March
	April 2006	
24.1	Scottish Water retail business licensed	01/04/2006
24.2	Publication of Customer Service Report (2004-05)	06/04/2006
24.3	WIC 6: Quality Performance Assessments (written) (Quarter 4 – 2005-06) Scottish Water provides list of complaints	24/04/2006
24.4	WIC 25: RAB (resource accounting and budgeting) submission for March 2006	28/04/2006
	May 2006	
25.1	Capital Investment Return: Quarter 4 – 2005-06 submission	01/05/2006
25.2	WIC 6: Quality Performance Assessments (written) (Quarter 4 – 2005-06) Scottish Water provides complaints files	08/05/2006
25.3	WIC 5: Customer service performance return (Quarter 4 – 2005-06)	12/05/2006
25.4	WIC 1/9/14/22: Non-domestic customer revenue information (Quarter 4 – 2005-06)	12/05/2006
25.5	WIC 4: Domestic customer revenue information (Quarter 4 – 2005-06)	12/05/2006
25.6	WIC 25: RAB (resource accounting and budgeting) submission for April 2006	26/05/2006

External advice

We will deliver most of the work-plan outlined in this document using in-house office resources. In certain areas, there will be a need for specialist advice from a number of companies with appropriate financial, asset management and audit expertise. This is cost-effective for our Office and ensures that the Strategic Review of Charges benefits from the fresh perspective of external experts. At this stage, we are proposing to implement three projects, covering indicators of financial sustainability, an audit of our financial model and an audit of Scottish Water's asset management processes.

In addition, we are fortunate in being able to seek advice and comment from two senior advisors: Sir Ian Byatt and Professor David Simpson. Sir Ian was the former Director General of the Office of Water Services (Ofwat). Professor Simpson was former Economic Adviser to Standard Life, and his previous post was Professor of Economics at the University of Strathclyde.

Chapter 2

Background to and framework for the Strategic Review of Charges 2006-10

Introduction

The principal statutory duty of the Water Industry Commissioner for Scotland (WICS) is to promote the interests of customers. We promote the interests of customers primarily by encouraging Scottish Water to become more efficient. Cost cutting is not efficiency. Efficiency is about reducing costs and maintaining or improving the levels of service to customers. Scottish Water can therefore become more efficient by reducing its cost to deliver an acceptable level of service or by improving its service to customers without increasing its costs.

The last Strategic Review of Charges covered the period 2002-06. In November 2005 we shall publish our second full Strategic Review of the Scottish water industry. The Review will outline the price and revenue implications for customers of Scottish Water for the period 2006-10.

This is the second of a series of five information and consultation documents which we are publishing between July and September this year, and which will set out our proposed methodology and approach for the Review. All of the documents that we have published, and will publish over the coming months concerning the Review, reflect our intention to provide an open and transparent process. This is in accordance with our commitment to the Better Regulation Task Force principles of proportionality, accountability, consistency, transparency, and targeting².

In this document we outline the background to our work in assessing the appropriate level of prices. It divides into two parts;

Section 1 sets out and explains the background of the Review and the current regulatory framework; and

Section 2 discusses the changes to the regulatory framework that are anticipated in the near future and the impacts that these changes might have both for regulation and for customers.

We are also planning to hold a series of workshops and stakeholder information days where interested parties may express their views in person. Details of these events were contained in *Our work in regulating the Scottish water industry: Setting out a clear framework for the Strategic Review of Charges*, which was published in July 2004 and is available on our website.

Economic regulation

Prior to setting out the framework for the next Strategic Review of Charges, it is important to explain the role of regulation within the water industry in Scotland.

The purpose of regulation is to seek to ensure that monopoly businesses act in the customer interest. Customers should not have to pay higher prices or accept lower levels of service because they are unable to choose their supplier.

Network utility industries tend to be monopolies because the cost of replicating the network is excessive. Economists describe them as involving a significant 'natural monopoly' element. A 'natural monopoly' refers to the situation where there is only one firm supplying a product in the market, but this is not the result of the behaviour of the firm. Instead, it arises because it is the sensible way to organise the industry and it is in the best interests of customers.

However, the behaviour even of natural monopolies may work against the customer interest if unchecked. There are two ways in which this might happen.

First, if the service is essential and the customer has no choice about where to purchase it, the monopoly has an incentive to charge an excessive price and to make excessive profits.

Second, in the absence of competition the monopoly faces no incentive to innovate and improve its efficiency over time.

Economic regulators³ seek to establish a tight budgetary constraint on the regulated body. In other words, clear

² The Better Regulation Task Force was established in September 1997. It is an independent body that advises Government on action to ensure that regulation and its enforcement accord with the five Principles of Good Regulation. For further information see <http://www.brta.gov.uk>.

³ Regulation of a public sector corporation is not unique. Postcom fulfils a similar role to WICS in its regulation of the Royal Mail. The Civil Aviation Authority (CAA) also has economic regulation responsibilities for the locally owned Manchester Airport.

statements are made about the outcomes for customers that the body must deliver and about the amount of money that can be spent. This can be achieved by fixing the maximum return available (unless targets are beaten) or by limiting the total cash funds that may be consumed.

The tight budgetary constraint should focus the attention of management on delivering ongoing improvements in value for money to customers. This explains why regulators publish regular assessments of the financial performance of the companies or organisations they regulate.

In a competitive market, companies face similar tight budgetary constraints in that they have to match their costs to the revenue they can win from customers. Regulation consequently provides a proxy for the discipline of competition.

The creation of Scottish Water

The *Strategic Review of Charges 2006-10*, unlike its predecessor, will focus solely on the activities of Scottish Water. In the last Strategic Review of Charges (2002-06), the creation of Scottish Water from the three previous water authorities was still subject to ministerial approval.

The three separate authorities remained in existence until the formation of Scottish Water under the Water Industry (Scotland) Act 2002 on 1 April 2002. Under sections 21-23 of the Act the functions, property, liabilities, and staff of the water and sewerage authorities were transferred to Scottish Water.

Scottish Water remains in the public sector, and is owned by and accountable to the Scottish Executive and Ministers. However, the structure and management of Scottish Water draws on the private company model. The combination of public sector ownership and private sector organisational structure is intended to ensure that the business is run in the public interest as efficiently as possible.

Scottish Water has completed two years in its new form and has made good progress in reducing its operating costs. To date, progress in the delivery of the capital programme is less encouraging. Customer benefits will only fully be realised when progress in improving the efficiency and delivery of the capital programme accelerates.

If a public sector organisation can match the level of efficiency of investment and service delivery that is achieved by the private sector, customers of that public sector supplier could expect sustainably lower prices than could ever be achieved by the private sector. This is because the public sector is consistently able to access a lower cost of capital. There can be no doubt that customers of Scottish Water benefit significantly from access to attractive terms for public government loans that are much cheaper than the private sector's cost of capital⁴.

It is important to note that this cost benefit will only truly be realised by customers if they are not exposed to operational risks and if the service is delivered efficiently. However, as regulator we must take into account that customers of Scottish Water are more immediately exposed than customers in England and Wales to the financial risks of the business. This is because there are no private equity shareholders.

The Strategic Review of Charges 2002-06

Our analysis showed that a sustainable water industry in the public sector would require action to be taken in the following areas:

- increased revenue to the minimum level consistent with meeting ongoing maintenance and environmental/ public health compliance;
- challenging but achievable efficiency targets;
- further improvement in customer service;
- harmonised and broadly cost-reflective tariffs;

⁴ We estimate that customers of Scottish Water probably benefit by around £44 million per year, because of a 2% saving on the annual cost of capital (about 4.5% on the average bill). We have calculated this on the basis of current total borrowing of approximately £2.2 billion.

- improved regulation and financial control;
- improved performance monitoring; and
- better governance.

The level of revenue

We showed that the Scottish industry had spent considerably more, in the past several years, than it received in customer charges. We explained that this was a problem because there was a likelihood that sustained investment at current levels will be required for the foreseeable future.

Continuing to increase net borrowing significantly to eliminate the gap between revenue and expenditure will only make matters worse. Borrowing may delay a price increase, but it will increase future bills by the interest payable on any additional borrowing. In providing our advice on the level of revenue, we took into account a clear customer concern that the industry had “to get its house in order” and that, as a commodity business, “it should learn to live sustainably without real increases in price”. We believe that the revenue increases that were implemented will ensure that we have a more sustainable industry in the future and that customers will see the benefits in steady prices. If Scottish Water continues to make progress in reducing its costs, it is possible that prices will not need to increase in real terms.

Challenging but achievable efficiency targets

The charges paid by customers in the public sector model are a direct function of the efficiency of the water industry in Scotland. Unlike in the private sector, there are no dividends for shareholders from any profit. Any surplus in Scotland can go wholly to financing investment and improving the service to customers. There are no trade-offs between the customer and the shareholder.

We set three separate efficiency targets to cover operating costs, capital expenditure, and the potential

savings resulting from the merger of the three authorities. These efficiency targets were challenging but achievable. After two years, we can see real progress in reducing operating costs. Scottish Water is also confident that the creation of Scottish Water Solutions will improve both the timeliness and the efficiency of the delivery of capital investment.

The total annual value to customers if Scottish Water achieves the efficiency targets is in excess of £400 million a year by the end of the current regulatory period in 2005-06. Such an achievement would result in customers’ bills being some 40% lower than would otherwise have been the case⁵. These efficiencies are important because a sustainable water industry needs to be affordable both now and in the future.

Harmonised and broadly cost-reflective tariffs

When the Minister for the Environment, Sport and Culture, Sam Galbraith, MSP announced his intention to merge the three water authorities, he highlighted the harmonisation of charges as an important benefit. There were clearly significant anomalies in the charges that resulted from the three-authority model. It is, for example, much cheaper to supply Dundee than North Fife, yet charges were much higher in Dundee. It was more expensive to serve south Ayrshire than the western Central Belt, yet charges would be the same. We considered that a harmonised charge across Scotland was equitable for all customers. To do otherwise would have been to sanction a postcode lottery in charges for water. It would also break with normal practice in the pricing of utility services – ie to harmonise prices across the whole of a company’s area.

There has been some comment about our recommendation that charges for businesses should also be harmonised across Scotland. There were three reasons why we considered that this was important.

- The merger of the three authorities only made sense if cost savings, investment prioritisation and a single management structure were to be introduced. This would remove the justification for differential

⁵ This takes no account of any rebalancing between revenue and debt.

pricing for the three former areas. The choice therefore is between wholly cost-reflective charging (which will disadvantage the smallest and most rural) and fully harmonised charging.

- Businesses, like households, should not be asked to pay more solely because of their location.
- The distinction between some households and non-domestic customers was blurred, for example people who work from home, farms and crofts, owners or managers with accommodation in hotels or on school and business sites.

It still seems to us that it would have been difficult for Scottish Water to defend having different pricing regimes in different parts of Scotland.

Regulation and financial control

Over the past four and a half years we have dedicated significant resources to establishing a robust and objective regulatory reporting regime. We were fortunate that we could draw on the information contained in the Annual Return to write the *Strategic Review of Charges 2002-06*. This was the first time that such standardised information had been available. In the past two years we have made a considerable effort to improve further the overall quality of management information. This will be crucial to improving the financial and customer service performance of the industry.

Improved monitoring

Monitoring performance is central to regulation. This explains why we sought ministerial approval for the annual reports on the performance of the industry in Scotland and for a joint project with the quality regulators to agree how the outputs of the capital investment programme should be monitored. Increased information about performance is only valuable if, as a result, customers get a better level of service or the costs of the industry can be sustainably reduced.

Performance monitoring has developed significantly in last the two years. This monitoring takes two forms:

ongoing collection and analysis of information; and publication of annual reports on:

- Costs and Performance;
- Investment and Asset Management; and
- Customer Service.

These reports are objective analyses of the current performance of the industry in Scotland. We believe that our performance monitoring has already brought results. Scottish Water performed much better in its second year than initial drafts of its business plan suggested were possible. Our monitoring of the capital programme will also ensure that we can manage the transition from the *Quality and Standards II* to the *Quality and Standards III* period effectively. This will ensure that there will be no question of customers paying twice for the same promised improvement.

Better governance

We believed that better governance would be vital if the performance of the Scottish industry was to improve. It is encouraging that the Scottish Executive has adopted many of our recommendations from the last Review.

We made **five** principal recommendations. These recommendations and the current position are outlined below.

Recommendation:

There should be well-defined responsibilities for the Scottish Executive's de facto ownership role, the board and the senior management, ensuring that accountability of each party is rigorous and transparent.

Current position:

The Scottish Executive is introducing a much clearer regulatory framework. Ministers will take clear decisions on the levels of investment and investment priorities. They will also provide guidance on how customers should pay for water and where they want to see cross-subsidies.

Scottish Water will have to draft a business plan that takes full account of the guidance from Ministers and outline their strategy objectives and views on prices for the next regulatory period. This business plan will have to be approved by the Board. The Board will have to present this plan to the economic regulator. Ministers will use a first draft of this plan to inform the guidance that will underpin the second draft.

Recommendation:

There should be high-quality, commercially experienced non-executive board members who will bring openness, thoroughness and objectivity but also be able to question and advise senior management when necessary about the operation of the business.

Current position:

The Board of Scottish Water has eight non-executive members. These members bring extensive experience of different business sectors and sizes. In particular, they have significant expertise in utilities, asset management and finance. The Board can also draw on important expertise in large change programmes and human resource issues.

Recommendation:

The right balance should be struck between executive and non-executive directors. The Board is crucial in supervising the drive for efficiency.

Current position:

There are eight non-executive and five executive members of the Board.

Recommendation:

There should be transparent and appropriate incentives and penalties for executive board members and for senior management to ensure that the right calibre of professionals is attracted to the industry

Current position:

Senior management can earn bonuses. The remuneration committee of the Board sets these bonuses based on performance criteria established at the start of the year. In Scottish Water's Annual Report for last year, information was provided about how individual bonuses had been calculated.

There may still be room to improve the transparency of the incentive system. Best practice would suggest that the performance measures that will be used to determine bonuses will be published in advance and should be independently measurable and verifiable.

Recommendation:

There should be clear setting of the risk profile by the owner, followed by management of risks by the board to the criteria established by the owner.

Current position:

The strengthening of the governance and regulatory framework described above should ensure that this recommendation is met.

Inevitably there were some unexpected consequences of the actions that we recommended. One example would be the size of the percentage increases in bills for some non-domestic customers. While we recognise the concerns of these customers, it is not clear that we could have acted differently. We have to balance the interests of all customers and every customer who pays below the average cost of supply for the service that they receive is gaining at the expense of other customers. It is important to remember that even if the difference in tariffs had been reduced by half, water customers in the North would have been paying some 40-50% more for the water that they consumed.

The methodology for the 2006-10 Strategic Review of Charges will build on the solid foundation created by our work in 2001. We will use the improved information that is now available to broaden and deepen the analysis that we were able to complete for the last Review.

Resource accounting and the Strategic Review of Charges 2002-06

In reviewing the outcome of the *Strategic Review of Charges 2002-06*, it is important to explain the impact on customer bills of the introduction of resource accounting. In recent months, this topic has been discussed in detail by the Parliament's Finance Committee. We believe that the introduction of resource accounting did not have an impact on the prices paid by customers. Indeed, the introduction of resource accounting led to increased scrutiny of the value of assets owned and the depreciation policies used by the industry. This will have contributed to the progress of the past few years towards a more sustainable public sector water industry that can continue to meet the expectations of customers.

Resource Accounting and Budgeting (RAB) was fully introduced in April 2001. The Minister's commissioning letter for the 2002-06 Strategic Review of Charges set public expenditure limits on a resource accounting basis. It also made clear that we should regard these as maximum limits and that we should demonstrate, by means of risk analysis, that our advice on charges was consistent with these maximum limits.

The introduction of resource accounting did not directly impact on the way in which either the three authorities or Scottish Water managed their businesses or prepared their accounts. The three authorities had always prepared their accounts on an accruals basis. Resource accounting did change the financial control figure that the Scottish Executive used. Instead of monitoring the extent of new borrowing required (refinancing of existing debt at maturity does not count as public expenditure), the Scottish Executive began to measure consumption of resources and capital spending.

Clearly the way in which a company is monitored or analysed does not impact on either its accounts or its underlying business. Consequently, providing that the control total has been correctly adjusted to reflect the difference in how it is calculated, this should have

had no impact on the company or the prices that it needs to charge.

We were confident that the public expenditure control figures included in the letter were consistent with the approach that had been outlined by the Treasury and that they had been adjusted upwards to take account of the difference in the way in which the control figures were calculated.

Subsequent events have shown that sufficient public expenditure had been made available to cover any likely underperformance. The end-year flexibility allowed by the Scottish Executive has also allowed this expenditure to be used when required. We have to conclude, therefore, that the level of public expenditure that was made available by Ministers did not adversely impact on customer charges.

Performance monitoring

An important improvement in the regulatory framework for the water industry in Scotland in recent years has been the introduction of performance monitoring mechanisms. In England and Wales, Ofwat monitors and reports on the performance of the companies on a regular basis. Ofwat also sets targets for improvement that are, at least in part, driven by comparisons between the companies. Investors are very interested in these reports because they provide an objective source of information about the prospects of the companies. However, investor reaction to news from a company could alert Ofwat to an issue that may not yet have surfaced in a regulatory return.

In the public sector model, the absence of investor scrutiny makes our performance monitoring even more important. This explains both our recommendation to the Minister that we should publish annual performance reports, and the resources that we have invested in regulatory systems.

Shortly after the formation of this Office in November 1999, we signalled⁶ our intention to establish a mechanism to ensure that it would be possible to carry out rigorous comparisons between the water authorities

⁶ In the interim Strategic Review of Charges published by the Water Industry Commissioner for Scotland in early 2000.

and between the industry in Scotland and in England and Wales. The subsequent ‘information project’⁷ led to the creation of a Scottish version of the June return which is submitted to the Ofwat. This return provides a comprehensive set of financial, asset condition, capital investment and customer service indicators, which allow us to monitor and report on Scottish Water’s performance.

We included two key recommendations to strengthen performance monitoring further in our advice to Ministers contained in the *Strategic Review of Charges 2002-06*⁸.

- 1) To endorse a joint project between the Water Industry Commissioner, Scottish Environment Protection Agency and the then proposed (now established) Drinking Water Quality Regulator to ensure that consistent output measures and metrics are collected and monitored.
- 2) To require the publication by this Office of annual reports on the performance of the water industry in Scotland. These reports would cover operational costs, delivery of investment and the level of customer service.

We have also built up a range of other performance monitoring activities, which help to improve our understanding of how well Scottish Water is performing:

- Monthly financial returns – these financial reports provide a detailed breakdown of Scottish Water’s financial performance over the preceding month and progress against annual budgets;
- Quarterly returns on progress with the capital investment programme – provide an update on progress, at a project level, with delivery of the capital investment programme;
- Audits of Scottish Water’s investment appraisal process; and
- Customer service performance audits – provide an

assessment of Scottish Water’s performance across a range of customer service measures.

We are committed to ensuring that customers get better value for money and to this end we intend to work to strengthen our performance monitoring in the area of investment delivery. We will also need to adapt our processes to take account of future changes in legislation and the regulatory framework, such as the introduction of a competition framework and the development of regulatory accounts.

- The introduction of regulatory accounts

The Strategic Review of Charges 2006-10 will focus only on the core activities of Scottish Water in providing water and sewerage services to customers in Scotland. This change reflects the requirements of the Water Industry Act 2002, which restricts our role to promoting the interests of customers of the core business. We have begun to establish regulatory accounts, which will ensure that customers of the core business are only paying for services associated with core activities. This work will be completed during the current financial year.

- The introduction of a competition framework for the water industry in Scotland

The proposed changes to the competition framework contained in the Water Services (etc) Scotland Bill will also require a further level of accounting separation. This framework will require there to be a clear split between the retail (customer service and billing) costs and the wholesale (network management and operation of treatment plants) costs.

Both of these developments will improve the quality of information provision and hence the robustness of our analysis.

The ‘ten principles’

Successful performance monitoring, and hence successful regulation, relies on the existence of an

⁷ See Chapter 2, 2.2: ‘The collection and use of information’.

⁸ Strategic Review of Charges 2002-2006, Executive Summary Page 3 section c) ‘Key recommendations’.

agreed set of targets, which the regulated company (in this case Scottish Water) is required to achieve. Without agreement on these targets, performance monitoring and reporting becomes difficult and regulation will not be effective. This impacts directly on customers and stakeholders, as it is the existence of clear targets that drives regulated companies to tackle inefficiencies, deliver investment and achieve customer service improvements.

The Transport and Environment Committee of the Scottish Parliament reviewed the operating cost efficiency targets early in 2001. The Committee heard evidence from the three former water authorities and from the Scottish Executive, all of whom regarded the targets set out in the Review as achievable. It also heard from a range of other stakeholders, who did not express a view, and from the unions represented in the water industry. The unions regarded both the method of benchmarking and the resulting targets as unreasonable. After a long and detailed enquiry, the Committee concluded that the targets were challenging but fair.

The *Strategic Review of Charges 2002-06*, which was published in November 2001, advised on revenue caps both for the three authorities and for the proposed Scottish Water. The Review therefore established the regulatory targets for Scottish Water in the period to 2006.

Scottish Water is required to produce an annual business plan for approval by Ministers, which sets out the Board's strategic aims for the company and contains details of the key financial and delivery targets for the business.

In early 2003, Scottish Water submitted its proposed business plan for the three year period from 2003-04 to 2005-06. In March 2003, the Minister wrote to the Commissioner requesting that he consider representations from Scottish Water about its strategic business plan. In particular, the Minister noted that Scottish Water's proposed business plan suggested that Scottish Water's operating cost targets would be

different from those set out in the Strategic Review of Charges. This would have resulted in increased borrowing, with no extra benefits for customers and increases in future charges.

We received written representations from Scottish Water. We also met with Scottish Water to discuss these representations. In our response we pointed out that the operating cost projections contained in the Scottish Water strategic business plan would have led to price increases of around £40-£50 in 2006-07 for the average domestic customer. We explained that we considered this neither justifiable nor acceptable. We also concluded that Scottish Water's business plan did not provide a sufficient degree of financial sustainability to ensure the longer term success of the company. This is clearly not in customers' interests.

We had to find a settlement, which protected the customer interest, and would also be acceptable to Scottish Water. This led to the agreement of ten principles.

Principle 1

Operating costs for the whole year 2005-06 should be at a maximum of £265 million, which is £7 million above the £258 million WIC monitoring target set in the Strategic Review. The £7 million allows for factors that were unknown at the time of the Review and comprises £4 million additional allowance for the higher operating costs position inherited by Scottish Water and £3 million for the different legal status of lateral sewers in Scotland. This will provide a significant protection for customers against future unnecessary price increases. In reporting the operating cost performance of Scottish Water, the Commissioner will comment upon progress towards this figure.

Principle 2

Scottish Water's total debt at the end of the Strategic Review period may rise to a maximum of £2.47 billion. This level of debt includes an amount of up to

£112 million reflecting estimates of projected price inflation (above 1.5%) in the cost of capital goods. The range will increase to a maximum of £2.71 billion when the remaining £235.2 million (post-efficiency, £305.5 million pre-efficiency) of 'red'⁹ projects in the WIC 18 capital investment programme are approved by all stakeholders for inclusion in the programme

Principle 3

Scottish Water and the Commissioner will agree schemes of charges for both 2004-05 and 2005-06 in the near future, in such a way as to include price caps that are consistent with the revenue caps agreed in the Strategic Review. The purpose of this provision is to provide customers with a greater measure of certainty about their forthcoming bill. In addition, Scottish Water and the Commissioner will establish a mechanism to adjust future schemes of charges for over-collection and under-collection of revenue.

Principle 4

A Reporter of regulatory information will be appointed as soon as practicable. The Reporter will operate in a fashion similar to Reporters in England and Wales. The Reporter should be appointed by the Commissioner and would be chosen from amongst persons that have served at least three years as an Ofwat-named Reporter. The Executive will meet the cost of the Reporter.

Principle 5

Measurement of Scottish Water's comparative and improving efficiency will take place on the basis of the method established in the Strategic Review of Charges. Appropriate costs (subject to audit by the Auditor General) incurred in the pursuit of activities not undertaken in 2000-01 will be removed from regulatory operating expenditure to the extent that these costs are funded by revenues from these new activities.

Principle 6

Subject to the agreement of the Auditor General, the Commissioner and the Auditor General for Scotland will work closely to establish the nature of prospective regulatory adjustments, prior to the Auditor General commencing audit of Scottish Water's accounts. It is intended that the broad nature of forthcoming regulatory adjustments may be set out in a note in the accounts in addition to (but not substituting) information contained within the existing accounting requirements. The Commissioner will request that the Auditor General for Scotland audit the process by which the Commissioner makes adjustments to information contained within the accounts and regulatory return made by Scottish Water to the Commissioner. After consulting the Commissioner and Scottish Water, the Executive will seek the views of the Director General of Ofwat on the nature and scope of adjustments that should normally be made to audited accounts for purposes of regulatory comparison

Principle 7

Scottish Water will agree to work with the Commissioner to put in place a range of measures to assist the improvement in their relationship. This is likely to include various matters, including for example, the sharing of reports prior to publication (for the purposes of factual comment), the provision of regulatory and other information to the media, and other mutual mechanisms for resolving routine working issues as they arise.

Principle 8

Non-core activities that are new in nature or additional in extent to those passed to Scottish Water by the former Authorities may be pursued by Scottish Water (subject to the approval of Scottish Ministers) on the basis that they are funded by performance in excess of the agreed minima, taking into account progress towards the target for the end of the period.

⁹ 'Red' projects are projects originally included in *Quality and Standards II* that DWQR and SEPA had decided were no longer required. New outputs will be substituted.

Principle 9

The Executive will investigate setting up a prospective appeal mechanism to the Competition Commission.

Principle 10

Scottish Water will engage with the Commissioner in improving the quality of data supplied to the Commissioner.

In reaching an agreement on the ten principles, we were adamant that any proposal should be consistent with the customer interest. We believed that this process should either improve our ability to undertake regulation, or improve the likelihood that Scottish Water would achieve its efficiency targets. The ten principles achieve these objectives by providing a framework for improving regulatory information and by establishing a common understanding of Scottish Water's targets.

The use of borrowing in the Scottish Water Industry

There has been a great deal of discussion about whether or not the industry should borrow more and reduce prices to customers. It is important to look not only at the short-term price benefit that could be achieved by increasing borrowing but also to consider the increased exposure to risk, the potential disincentive to improve efficiency and the future level of prices before concluding that borrowing a lot more now is in the interests of both present and future customers.

The Scottish water industry is cash negative: that is to say it spends more than it receives in customer charges. This situation is likely to continue for the foreseeable future. As debt increases, so too does the total interest bill that must be met by customers. Managing debt at prudent and sustainable levels is therefore critical if the industry is to be able to respond to operational shocks.

A company will borrow when it is short of cash. This may be for short-term operational reasons (eg to cover working capital until goods or services are paid for) or for investment. If a company borrows for operational reasons, the company has to budget for the interest costs and the repayment of principal. If a company uses

debt as a source of funds for investment, management has to make sure that the additional return on the investment covers the interest payment and, ultimately, repays the capital.

In either case, the company is committing its future income to pay for today's cash resources. It is important to remember that debt is not an additional source of revenue.

Consideration of the prudence of increasing debt is more complicated in a regulated business. An economic regulator seeks to ensure that customer charges are set at the lowest level consistent with a sustainable business. He will therefore typically only allow an increased return (ie increased revenue from customers) to be earned by a company if there has been a net increase in the total asset base. As such, borrowing any more than this net increase in the total asset base would not be prudent. If a company continued to borrow in excess of the net new assets created, it would not take long for the revenue that its regulator allowed to be less than its outgoings (not including new investment). In a private sector context insolvency would follow.

In a public sector model, the trade-off between debt and equity returns is not an issue. All retained earnings will remain in the business and will be used to the benefit of customers. In a regulatory capital value model, customers pay a charge that depends upon the level of investment, the depreciation of the asset base, a rate of return on the regulatory capital value and allowable operating costs. The level of debt does not influence charges directly.

As new investment is added each year, the total value of the regulatory capital value will increase each year. Charges will gradually increase over time to reflect the larger capital value that needs to be remunerated. Customers do not therefore pay for the use of an asset before it has been added to the regulatory capital value. If the proportion of debt to regulatory capital value stays the same, there is no inter-generational wealth transfer. Moreover, if the cost of capital allowed on the regulatory capital value is the same as the borrowing cost of the public sector company, there should be no advantage to increasing debt (beyond increases allowed as the regulatory capital value increases).

Debt commutation

Many commentators have asserted that the Scottish water industry was unfairly treated in the amount of debt commuted at its reorganisation in 1996. The argument is that in England and Wales the water authorities had all of their debt written off before they were privatised, whereas less than half of the total water and sewerage debt accumulated by the Regional and Island Councils was commuted. This assertion does not bear scrutiny. Indeed, the Scottish water industry seems to have received a significantly better deal than the industry south of the border.

At privatisation in England and Wales, net debt of £4.95 billion was commuted^{10,11}. In addition, the Treasury provided a cash injection (known as the 'green dowry') of £1.57 billion. The total cost of the transaction before the proceeds from privatisation was £6.52 billion. This is equivalent to £275 for every household in England and Wales. Privatisation raised £5.22 billion. The net cost to the Treasury of the reorganisation of the water industry, therefore, was £1.3 billion. The net cost per household was approximately £55. The Treasury also transferred accumulated tax losses of £7.76 billion to the companies, but this did not have a cash cost to the Treasury.

Financial reorganisation in Scotland was more straightforward. When the three water authorities were created in Scotland, the Treasury commuted some £700 million of a total of £1,700 million of local Regional and Island Council debt relating to water and sewerage activities. This left £1 billion debt on the starting balance sheets of the three authorities. Clearly there were no receipts from privatisation to reduce the costs of the restructuring. The total cost to the Treasury from this reorganisation was therefore £700 million. This amounts to more than £330 per household. The cost to the Treasury was therefore around six times greater than that incurred reorganising the water industry in England and Wales.

At the time of the Strategic Review, the industry in Scotland had £1.7 billion in tax losses. These were

proportionately more than in England and Wales. These tax losses were transferred to Scottish Water by the Water Industry (Scotland) Act 2002.

It has also been argued that the Scottish water authorities were unfairly treated because of the high cost of debt after 1996. This argument again does not stand detailed scrutiny because the average interest charge on the debt compares very favourably with the returns that were offered to potential shareholders to ensure that privatisation was a success.

The public sector industry in Scotland will also continue to benefit from access to cheaper borrowing. The interest rate charged to Scottish Water is usually around 0.2-0.4% lower than the equivalent rate for the highest quality private sector debt.

The impression that customers in Scotland have been disadvantaged can only result from operational and capital inefficiency.

In our most recent Costs and Performance Report, we noted that out of an average domestic bill of £241, £80 or 33% was the direct result of inefficiency. This means that customers paid more than £300 million to finance inefficiency. The costs of this inefficiency were greater than the net new debt taken on by the three authorities. In real terms the customer has received no value for the extra debt accumulated and it follows that the industry's finances have been made less sustainable by this increase in borrowing.

Transparency in the level of debt

From a customer perspective, it is important that the industry is managed on a sustainable basis. This requires that management must face a hard budgetary constraint.

A hard budgetary constraint will also impact on the owner of a business. The owner needs to take difficult decisions in the event that performance (for whatever reason) lags behind what is expected. Providing some more short-term capital may be part of the solution but

¹⁰ £5.02 billion was commuted and £72.9 million of new debt issued in favour of the Treasury

¹¹ Two bonds, one valued at £61.0 million and a second at £11.9 million were issued to the Treasury by Anglian Water plc and Thames Water plc.

there will also be a need to ensure that other steps are taken to ensure that performance reverts back to an acceptable standard. The ten principles are a good example of such decisive action

Finance Committee Investigation

In recent months, the financing of the water industry in Scotland has come under scrutiny by the Finance Committee of the Scottish Parliament. Consideration of the findings of the Committee will form an important part of the next Strategic Review of Charges.

In November 2003, the Finance Committee agreed the following remit for an investigation by two of its members.

“To investigate the following issues:

- accountability – looking at the role of the Water Industry Commissioner, the relationship with Scottish Water, the Scottish Executive and local authorities;
- structure – looking at water charging and debt management;
- investment – looking at capital projects, the profile of procurement and borrowing, billing and financial management; and to suggest potential areas for the questioning of Scottish Water and the Water Industry Commissioner....”

The Committee published its report in April 2004. The Scottish Executive made an initial response almost immediately and a further response on 14 June 2004. We responded to the Committee at the beginning of June 2004.

Reasons for the investigation

There had been an increasing amount of press attention to water industry issues during 2003. The issues raised included:

- delivery of investment and an apparently increasing number of development constraints;

- disagreements between this Office and Scottish Water on its performance;
- the large increases in charges that some small businesses had faced – this had become a high profile issue, with representative organisations such as the Federation of Small Businesses and the Scottish Forum for Private Business raising concerns; and
- a paper written by Analytical Consulting Ltd and submitted to the Finance Committee, which suggested that public expenditure rules had been incorrectly applied and that customer charges were higher than necessary as a consequence.

The Committee’s findings and our response

A copy of the Committee’s report is available on the Scottish Parliament’s website (<http://www.scottish.parliament.uk/finance/index.htm>). The Committee made twenty one recommendations as a result of its inquiry.

We welcomed the Committee’s report and its scrutiny of the water industry in Scotland. In our view this report should help ensure that all customers will benefit from a more sustainable water industry.

We agree that the strengthened regulatory regime should be more clearly accountable to customers. The current role of the Water Industry Commissioner for Scotland, as defined by statute, is to advise Scottish Ministers and to approve schemes of charges proposed by Scottish Water so long as they are consistent with the advice provided to, and accepted by, Scottish Ministers. This advice is provided within a defined policy framework (for example, that there should be a link between domestic water and sewerage charges and Council Tax bands).

In evidence we suggested that economic regulation should work in broadly the same way as for other utilities. This model requires that Ministers provide clear guidance on social, environmental and public health priorities and that the regulator should then manage a transparent process, which leads to decisions on the

maximum prices that can be levied on customers. Scottish Water should have the right of appeal to the Competition Commission. This very clear process is likely to reduce the current uncertainty amongst stakeholders on roles and responsibilities.

The Committee also made a number of other observations. Their observations, and our responses, are detailed below.

28. It is clear that the optimistic forecasts of minimal price impacts from harmonisation of prices across Scotland were not realised. Efficiency gains from the greater economies of scale should have minimised any price impact. Instead between 2001-02 (the last year of the three separate authorities) to 2004-05 (the current year and harmonisation of prices at £338.31) customers in the East are paying 25.3% more (£68.31), customers in the West are paying 27% more (£71.91) while the North is paying marginally less -3.4% (-£11.87). This is at variance with the estimate provided by the WIC. The Committee is not convinced of the WIC's estimate and explanation of the impact of harmonisation on customers in the East and West

We can confirm that the estimate that we supplied to the Committee, on the impact of harmonisation on the value of the average domestic bill, is accurate. There would appear to be two principal reasons for the misunderstanding. Firstly, the Report includes a table that details changes in the Band D bill – this is significantly higher than the average domestic bill, which is between the Band B and the Band C levels. Secondly, the substantially increased level of investment included in *Quality and Standards II* resulted in an overall increase in prices that could only be partially offset by the efficiency targets that were set for capital and operating costs.

35. The Committee is concerned that there does not appear to be agreement between the WIC and Scottish Water on how much progress is being made with regard to efficiency savings and operating costs and is also concerned over

what the impact could be if the necessary savings are not met.

The Committee is correct to be worried about the impact on future prices of a failure to meet the efficiency targets that were set in the Strategic Review of Charges.

It is however not uncommon for there to be disagreement between the regulator and the regulated organisation about both the level of the efficiency target and progress towards that efficiency target. Our role is to monitor progress of Scottish Water on a fair and objective basis. Customers can therefore be assured that comments from this office will be supported by appropriate evidence and underpinned by a consistent methodology.

59. While the Committee understands the Scottish Executive's reasons for promoting the equalisation of domestic bills across Scotland, the consequences in terms of increased charges were not adequately explained to consumers and appear to have been underestimated.

Astonishingly, the impact of the harmonisation of business charges on low volume business users appears not to have been foreseen. No economic justification for business charge harmonisation was given either by Ministers or the WIC, despite its significant impact on firms adversely affected. The failure to openly debate and consult on harmonisation and the specific harmonisation methodology that was implemented for business users, as well as the failure to introduce such a significant change on a phased basis, has caused a great deal of distress to small businesses.

The desirability of harmonised charges was recognised in the discussion that followed Sam Galbraith's announcement to the Transport and Environment Committee in February 2001 of the Scottish Executive's intention to create Scottish Water.

We accept that many of those who faced sharp increases in bills believe that there was insufficient

debate and consultation about the change in tariffs. Any such change in tariffs is likely to be unpopular with those who end up paying more and accepted as right and proper by those who benefit. In this regard, while we can sympathise with businesses who were asked to pay more, we also believe it is important that we remember that there were many businesses that benefited from the change in tariffs and that they had been paying relatively higher (than others of a similar type and pattern of usage but located in another authority area) bills since 1996.

During our programme of consultation, we received many representations from businesses and business representatives that differential charging based on location was unfair.

In evidence, the Finance Committee heard that "...it is an unusual notion that would take a strategic asset like water and say that, no matter whether someone lives in Rannoch or the top of the Cairngorms, the same pricing policy will exist for all" (paragraph 57). However, other utility businesses operating in Scotland do precisely that. Scottish Gas and BT apply the same charges across the whole of Scotland, while the Scottish electricity companies (Scottish Power and Scottish Hydro-Electric) each apply the same tariffs throughout their respective areas. It would seem not unreasonable, therefore, for Scottish Water to apply uniform tariffs, regardless of location. Certainly considerable thought should be given to the implications of the location signals that would be given to developers of encouraging a major water user to locate, say, in North Fife (a high cost water area) rather than in, say, Dundee (a low water cost area).

80. The Committee recommends that to give the public greater confidence in the quality of the consultation carried out, both Scottish Water and the WIC should operate under clear consultation codes with consistent approaches to publication of responses. In particular, all consultation submissions made to the WIC should be made public before any of his statutory reports are released and the WIC should address the relevant issues raised by

consultees within the reports themselves. In this way, the public can be reassured about the conduct of the relationship between the WIC, Scottish Water, its customers and the Scottish Ministers.

We agree that the introduction of such a code would be of benefit. Our Office will prepare in draft and consult on such a code. It would be useful to formalise this in statute in the forthcoming Bill.

83. The Committee believes that it would aid the accountability and transparency of the WIC in the view of many customers if he had to give a formal response to submissions from the Panels, which could also be lodged with the Parliament.

We would agree that this proposal could bring benefits. There would, however, be a resource implication associated with preparing an appropriate detailed written response to all submissions.

84. The WIC is both financial adviser and guardian of the public interest but was unable to provide the Committee with a clear illustration of how the public interest is determined where different interests have to be balanced. For example, weighing lower prices to the customer against the long term sustainability of the water supply network is an important decision that has been taken with little public debate.

In our evidence to the Committee, we explained that our role is technical, not political nor representational of particular groups (as opposed to customers as a whole). This technical role should ensure that the aims of Ministers are delivered, for the lowest justifiable cost to all customers.

The Strategic Review drew on guidance from Ministers on the level of performance expected from the water and sewerage network. *The Quality and Standards II* process provided the vehicle for this guidance.

85. The Committee is concerned that there is a lack of transparency in the way in which the roles of

the WIC as regulator and customer champion are combined and that there is a perception in the minds of at least some stakeholders that there may be a conflict of interest between the WIC's stated role as a champion of current consumers and being a vital element in the drive for the water industry's long term efficiency.

The statutory duty of the Water Industry Commissioner for Scotland is to promote the interests of customers. Our principal weapon in promoting customer interests is to challenge the industry to improve its efficiency and to improve its level of service. The remit of the Office does not extend to supporting the interests of one group of customers when this would disadvantage others.

Throughout the regulated industries, the recognition of the potential conflict of interest between regulator and 'customer champion' to which the Committee seems to refer has led to the creation of separate customer bodies such as Energywatch, Postwatch, Rail Passengers' Council, WaterVoice and, in Scotland, the Water Customer Consultation Panels (WCCPs). We welcomed the creation of the WCCPs as it brings clarity to the role of promoting customer views and the representation of particular customer groups.

87. The current WIC told the Committee that a subsequent WIC may take a wholly different approach to providing advice on a charging structure. This is not conducive to long term planning for the industry, continuity of the office and neither does it display much thought to the representative nature of the WIC in making advice.

The nature of our role is to promote the interests of all customers now and in the future. WICS does not have a representative role; the WCCPS has a duty to represent the views of customers.

88. The Committee believes that an improved structure and support for the WIC is needed to ensure independent regulation and transparency across the industry. Modelled on some of the English and UK regulators, an

Office of the Water Industry Commissioner, including a non executive membership, could provide greater accountability and continuity for the Scottish water industry. Consideration should be given to whether certain decisions should be taken by the WIC in the context of advice from Ministers rather than the reverse.

We agree. We have been advocating for some time that, in the interests of customers, the water industry in Scotland should be regulated in a way that is more transparent and accountable, consistent with UK regulatory policy.

129. When the WIC was before the Committee, he implied that his financial limits were not particularly stringent in the light of what the English regulator did and in the light of the sorts of ratios that were achieved by water companies in the commercial sector in England and Wales. However, there was concern expressed by members of the Committee that the basis of comparison appeared to be different and therefore the Committee sought clarification from the WIC about the basis of comparison between financial ratio targets set in Scotland compared with those in England and Wales and found that there were very considerable differences between the bases on which these targets were calculated, invalidating the comparisons which had been suggested. In a letter to the Committee dated 27 February 2004, ACL highlighted that the basis used for Scotland is "revenue – less operating expenditure". Whilst broad financial ratio analyses can add clarity in making comparisons, they can be misleading where non-comparable bases are used to assess performance. The Committee found unacceptable the WIC's use of comparisons between Scotland and England and Wales without making clear the impact of different bases of calculation. Where different bases are used this should be fully explained to ensure transparency.

Having reviewed our oral evidence, we would agree that we should have been clearer about the basis of calculation of the respective ratios in Scotland and south of the border. The comparison was designed to indicate the ability of the industry in Scotland and south of the border to withstand shocks and, as such, it would not follow that the comparison was invalid.

Lessons learned from the Strategic Review of Charges 2002-06 and the response of stakeholders

The *Strategic Review of Charges 2002-06* highlighted a number of challenges:

- the need to improve efficiency;
- the potential threat of competition;
- the need to improve understanding of the condition and performance of assets; and
- the desirability of improving the financial sustainability of the industry.

The industry has responded well to all of these challenges and customers can look forward to much improved value for money as a result. Not surprisingly, some stakeholders have criticised the Review and some of the steps that have been taken to meet the challenges highlighted in our analysis.

The areas of criticism have included:

- the process of harmonising charges;
- the increase in fixed charges;
- the industry should have been allowed to borrow more;
- the efficiency targets were unreasonable;
- a lack of clarity in roles and responsibilities; and
- a lack of explanation.

In preparing the *Strategic Review of Charges 2006-10*, we are keen to learn lessons from the criticism that has been made. We do not expect that all stakeholders will like all of the contents of the next Review, but we are keen to improve the understanding of our role.

We believe that the *Strategic Review of Charges 2002-06* set a framework that was appropriate and in the interest of the customers of today and in the future. There has been a marked improvement in the industry's efficiency and in its understanding of its assets. We believe that the Review made a significant contribution to encouraging these improvements.

However, we do believe that there are a number of steps that we can take to improve the transparency, accountability and perceived proportionality of regulation.

Transparency

Improving process

In July we published *Our work in regulating the Scottish water industry: Setting out a clear framework for the Strategic Review of Charges 2006-10*. This described our work plan in some detail and highlighted all of the information that we collect from Scottish Water. It also gave information about the opportunities for stakeholders to learn more about our work and to ask questions.

Perhaps the most important part of the process begins with the publication of our draft advice/determination at the end of June next year. This will be followed by a period for representations about this answer from stakeholders. Our final advice/determination will be published at the end of November. These prices will take effect from the beginning of April 2006.

Better explaining our approach

We have arranged a large number of stakeholder information days. These half-day sessions will provide an opportunity for us to explain where we are in completing the Strategic Review of Charges. We hope that these sessions will also provide an opportunity for

stakeholders to raise their concerns or issues with us. We will respond to all such issues raised with us at a stakeholder information day.

Ensuring that stakeholders can understand the answer

There are three important ways in which we can ensure that stakeholders can understand the answer. Publishing all of the key inputs to the Review will be important. However, we will also endeavour to present the answer in a way that will allow stakeholders to understand what the answer means for them and for customers as a whole. We will also outline our reasoning and reference the evidence upon which we have relied to come to our answer.

We also note comments from some commentators that they found that our reasoning in the last Strategic Review of Charges was not complete. The next Strategic Review of Charges will provide sufficient information for all of the major findings of the Review to be replicated.

Providing opportunities for comment

There are three main ways in which we will provide stakeholders with an opportunity to comment. These are the stakeholder information days; the publication of our proposed methodology; and the period for representations after the publication of the draft advice/determination. Each of these will play a valuable role in allowing us to hear the views of stakeholders. We would encourage stakeholders to use these opportunities.

Accountability

Explaining the role of this office and other stakeholders

We believe that the Scottish Executive's proposals to strengthen the regulatory framework in Scotland will help improve both actual and perceived accountability. The establishment of a Commission should depersonalise regulation – a Commission arriving at a joint decision is always likely to be considered more accountable than an individual with a similar power.

The proposal to give the Commission the power to decide prices subject to ministerial guidance is welcome. This will ensure that authority and responsibility are aligned.

Proportionality

There has been a concern from some quarters (principally Scottish Water in its first year and the trades' unions) that our analysis lacked proportionality. The assertion was that we had adopted regulatory tools from south of the border and blindly applied these in Scotland, taking little or no account of the maturity, geography and asset base or of the public sector nature of the water industry in Scotland. Similarly there was a concern about how quickly we asked Scottish Water to narrow the efficiency gap.

We did explain our method for assessing how quickly Scottish Water should close the efficiency gap in some detail. Looking back, it may also have been helpful to re-emphasise the importance of spend to save in making our rate of catch-up less demanding.

In the *Strategic Review of Charges 2006-10*, we will pay particular attention to issues around comparability of companies, costs and levels of service. We will seek to set targets that are proportionate and take full account of factors that would both increase or reduce the targets.

Powers of determination

The Water Services etc (Scotland) Bill, introduced in June 2004, proposes a number of important changes to the regulatory framework. Its objective is to strengthen the regulatory framework for the water industry, and to ensure that there is a robust and transparent regime that operates in the interests of all customers. The Bill includes measures to improve the accountability and transparency of the regulator, including replacing the current individual Water Industry Commissioner with a body corporate, the Water Industry Commission for Scotland. The Bill then goes on to give the Commission powers of determination over Scottish Water's charges.

This 'power of determination' is a duty on the regulator to set prices. The Commission will operate subject to ministerial guidance. There are also proposals to allow

Scottish Water a right of appeal against the Commission's decisions to the UK Competition Commission.

The Competition Commission is an independent public body with the technical, economic and legal expertise to adjudicate in disputes between companies and their regulators. Its involvement helps to ensure that the charge setting process, carried out in the knowledge of a possible referral, is robust and transparent. If a case is referred to them, their decision will be binding. This check also ensures that regulators' decisions are subject to appropriate expert scrutiny.

We believe that this proposed right of appeal for Scottish Water would ensure that any challenges to regulatory decisions could be assessed in an objective and independent way.

Stakeholders could also seek a judicial review of the regulator's decisions. In principle, the purpose of judicial review is to guard against abuse of position by ensuring that the powers and duties of government and other public bodies are exercised consistently and within their legal bounds.

Effective regulation is in the interests of both customers and industry stakeholders. The creation of a Water Industry Commission for Scotland to take collective responsibility for the Commissioner's functions is in line with the restructuring proposed for the England and Wales water regulator. It is also consistent with the Board structures already established for other regulators. Like other sectors, the Commission will benefit from a high level of relevant experience from its future non-executive members.

The proposals regarding the introduction of powers of determination contain some material differences from the equivalent powers in England and Wales. From the standpoint of customers, the most significant difference involves Scottish Water's ability to borrow money. In most other regulated sectors, companies are freely able to access debt, subject only to conditions in the debt markets. Most other regulators do not have to adjust prices to take account of constraints on new borrowing.

The current proposals for Scotland would mean that Scottish Water is still subject to public expenditure limits. It is possible that in the future, it may be prudent for Scottish Water to borrow more than Ministers may be able to allocate in public expenditure. This would lead to an increase in customer charges beyond that decided in the relevant Strategic Review of Charges.

Core and non-core services

In the Water Industry (Scotland) Act 2002 our remit was changed to cover only Scottish Water's core activities and customers. The *Strategic Review of Charges 2006-10* will therefore establish the funding requirements for the core business of Scottish Water – the provision of water and waste water services in Scotland. The targets will not include funding for any non-core activities such as providing domestic plumbing services or delivering services beyond Scotland.

We believe that this separation of core and non-core business is in the customer interest.

In the *Strategic Review of Charges 2002-06* we had reviewed the experience of the privatised water and sewerage companies in England and Wales in generating additional sources of business from non-core activities. We also looked at the development of non-core activities in Scotland and their success or otherwise. We concluded that investment in new business by Scottish Water would need to be approached very cautiously.

The financing for any new ventures in Scotland, whether a small opportunity for a start-up with potential for organic growth, or an acquisition, ultimately has to be obtained from customers of the core business or from the taxpayer. Our view was that commercial opportunities should be carefully assessed, because even if the venture appeared to generate a return relatively quickly, there may be hidden costs (such as costs to exit the business), which could adversely impact on customers' bills in the future. There is also a risk that senior management spend an undue amount of time on the newer activities.

The Water Industry Act 1991¹² sets out the duties, rights and powers of the companies in England and Wales. They have a duty to provide water and sewerage services but the legislation does not define exactly the limits on or extent of the core business. In addition to the legislation, companies in England and Wales operate under licence.

This requires that Ofwat has a view on what forms the core business. Its approach is set out in its Regulatory Accounting Guidelines. We expect to draw heavily on Ofwat's work as we seek to ensure that there is a detailed definition of core activities.

In order to ensure that we promote the interests of customers of the core business, we will have to take a number of steps.

- Clearly define core activities;
- Establish a set of rules governing transfer pricing between the core and non-core activities; and
- Ensure that reporting is consistent with these definitions and rules and that this reporting is subject to rigorous monitoring and audit.

We have begun work on introducing regulatory accounts for Scottish Water. Regulatory accounts use standards, breakdowns and definitions designed to allow the regulator to fulfil his functions. They are used in most regulated utilities in the UK. These regulatory accounts will ensure that we are able to monitor effectively the separation of core and non-core activities.

An important area of work in introducing regulatory accounts will be the definition of transfer pricing rules. We would again expect that these rules would be broadly similar to those used by Ofwat.

Introduction of a framework for retail competition

An important consideration in formulating our proposals for the *Strategic Review of Charges 2006-10* will be the

possible impact of the proposed framework for retail competition.

The Water Services etc (Scotland) Bill includes provisions requiring the Water Industry Commission to introduce and administer a regime to license retail competition for 'non-household' (business and commercial) customers. Subject to the Scottish Parliament approving these provisions we propose that the licensing regime should be in place in Scotland by April 2008.

Prior to that date, we expect that the Scottish Executive will require Scottish Water to establish a subsidiary to manage its 'non-household' retail activities, which the Commission will license from the outset. In these circumstances, we expect that retail competition will impact the whole of the period covered by the next Strategic Review of Charges.

Our analysis suggested that there were three principal risks faced by the water industry in Scotland as a result of the Competition Act.

- It was clear that the industry needed to improve its efficiency and allocate its costs accurately;
- We also believed that it would be better to establish a clear framework for how competition would work in the Scottish water industry. Inaccurate cost allocation or inefficiency represented a risk because it could lead a customer or a supplier to accuse Scottish Water of breaching the prohibitions under the Act; and
- Likewise, we considered that a framework, which made it clear what Scottish Water was allowed to do and clarified the policy position on environmental and public health protection, could also reduce the risk of a challenge under the Act.

We will set price limits for both wholesale and retail elements of the business that are consistent with our overall aim of minimising costs to customers while ensuring the long-term financial viability of the industry.

¹² Amended by the Competition and Service (Utilities) Act 1992.

Trade effluent

Another development that will potentially impact on the next Strategic Review of Charges is the proposed change to the regulation of trade effluent charges. To date, tariffs for trade effluent have not been included in Scottish Water's scheme of charges and we have not played any role in regulating them. Instead, Scottish Water, exercising powers under section 29(3)(j) of the Sewerage (Scotland) Act 1968 has set these charges. In practice this has meant that the total amount raised from customers in trade effluent charges has been limited to the difference between the agreed revenue cap and the amount raised from the tariffs approved in the scheme of charges.

The provisions of the Water Services etc (Scotland) Bill 2004 provide for the Water Industry Commission to determine charges for all of Scottish Water's core services. As trade effluent is a core activity of Scottish Water, trade effluent charges are within these provisions. Consistent with that approach, the Bill provides for the repeal of section 29(3)(j) of the Sewerage (Scotland) Act 1968, thereby removing Scottish Water's power to set trade effluent charges separately.

There are three types of waste water: surface water draining to sewers, foul sewage and trade effluent.

Surface water refers to the rainwater that drains from roofs, yards, pavements, roads and so on.

Foul sewage refers to waste water (either domestic or non-domestic customers) from toilets and washing facilities (sinks, wash basins, showers, baths, etc).

Trade effluent is liquid waste from industrial or other commercial activity. It can cover a wide variety of liquid waste. Trade effluent is more difficult to treat and can represent a hazard. Businesses must have the consent of the sewerage company before discharging trade effluent into public sewers.

Paying for trade effluent

Historically, trade effluent charges in the UK were based on the volume of the discharge. In 1976, the National

Water Council and the Confederation of British Industry agreed the Mogden formula as a basis for trade effluent charges. This formula sought to increase the cost-reflectivity of the charges that were made for the treatment of trade effluent. The formula sets a higher charge for more concentrated effluent that will require a higher level of treatment.

As part of the *Strategic Review of Charges 2006-10*, we will seek to consult with trade effluent customers, appropriate representative bodies and Scottish Water about the appropriate way to regulate trade effluent charges as part of the determination of charges that we will be required to make.

Business plans

Customers and other stakeholders are entitled to expect Scottish Water to have well-developed, sound and clear plans for the business going forward. We require a clear business plan to inform our Strategic Review.

A business plan is a company or organisation's statement of its strategy for the future. It should present clearly its forecast of revenue and costs. A good business plan should reflect the circumstances of the business. The water industry is a long-term business. It has to look well into the future in order to ensure that this essential service will be available for future generations and at an affordable cost. It needs to plan to deal with long-term demographic, social, economic and other trends.

In order to inform our analysis of revenue, we have asked Scottish Water to provide us with a business plan. The business plan is an important opportunity for Scottish Water to influence the outcome of the Strategic Review of Charges.

In England and Wales, Ofwat requires the companies to submit detailed business plans. We have introduced a similar business plan requirement in Scotland. Our requirements are broadly similar but we have adapted them to the Scottish context.

Scottish Water will be required to submit a first draft business plan and a second draft business plan to us and to the Scottish Executive. The process for each of

these submissions is essentially the same. The first draft business plan will enable us to do much of the preparatory work for the *Strategic Review of Charges 2006-10*. The second draft business plan will allow us to draw our conclusions on prices for the draft advice/determination of charges.

We expect Scottish Water to submit a draft business plan that contains a complete statement of its strategy. Our review will assess whether:

- the plan sets out a strategy consistent with the expectations on Scottish Water;
- the strategy has taken account of costs and benefits and considered possible risks;
- the plan shows a clear relationship between what is required of Scottish Water by legislation, guidance and stakeholders and its outputs;
- the outputs are clear, defined and measurable;
- the information is robust and consistent with our guidance on the business plan.

We will work with Scottish Water to ensure that the business plan meets our needs and can be used to inform the price setting process. We will require Scottish Water to publish at least a summary version of the first draft business plan and both a summary and full version of the second draft business plan. The publication of this plan and in particular the detailed investment programme will be important in reassuring customers that they will receive value for money.

Reporters

Successful regulation relies on high-quality information and analysis. This is especially true for the Strategic Review process where we will place high reliance on the accuracy of information provided to us by Scottish Water.

The agreement between this Office, Scottish Water and the Scottish Executive on the ten principles included the introduction of a Reporter.

Principle 4

“A Reporter of regulatory information will be appointed as soon as practicable. The Reporter will operate in a fashion similar to Reporters in England and Wales. The Reporter should be appointed by the Commissioner and would be chosen from amongst persons that have served at least three years as an Ofwat-named Reporter. The Executive will meet the cost of the Reporter”

In England and Wales it is water industry practice for Ofwat to use a consultant engineer (known as a Reporter) to help verify a company's return. The Reporter audits the information provided to the regulator by the company and highlights any issues or inaccuracies. We appointed a Reporter for the water industry in Scotland in December 2003.

The regulatory Reporter is Mr. David Arnell¹³ of Black and Veatch Consulting. We will request the Reporter to review all aspects of Scottish Water's information returns. This will include the audit of both Scottish Water's annual regulatory return and its business plan. In particular, we will ask the Reporter to review the proposed investment programme to ensure that Scottish Water's investment plans are robust. Such scrutiny has played an important role in improving the quality and reliability of information provided to Ofwat by the companies in England and Wales.

There were four reasons why we wished to appoint a Reporter.

- There was a need for an independent assessment of the quality and reliability of information provided by Scottish Water.
- We believed that a Reporter could assist in accelerating the improvement in information quality in Scotland.
- We believed that a Reporter could help Scottish Water ensure that proper processes for collecting, storing and using information were established.

¹³ Mr Arnell is also the Reporter for Northumbrian Water Services Ltd.

- We believed that a Reporter could assist us in defining 'core' and 'non-core' activities and ensuring that the 'retail'/'wholesale' split was robust.

Conclusion

In the last five years we have established a strong foundation for regulation of the water industry in Scotland. Within this framework, Scottish Water has already reduced its operating costs by some 20% and, by the end of the current Review period, we expect that it will have reduced operating costs by £145 million in real terms. Customers' bills will be some 15% lower than they would otherwise have been as a result.

We recognise that there are lessons that we can learn from the first full Strategic Review of Charges. This information and consultation document is the second in a series of five such publications that will explain our proposed approach to the next Review. Our approach draws on the Better Regulation Task Force principles of transparency, accountability, proportionality, consistency and targeting. We would very much welcome the views of stakeholders on our proposed work plan or approach. These can be sent to:

Katherine Russell
The Water Industry Commissioner for Scotland,
Ochil House
Springkerse Business Park
Stirling
FK7 7XE

or by email to
SRCMethodology@watercommissioner.co.uk

The final date for comments is 29 October 2004.

Chapter 3

The calculation of prices

Introduction

We are committed to the principles of the Better Regulation Task Force: transparency, accountability, proportionality, consistency and targeting. Our approach to this second full Strategic Review of Charges covering the period from 2006-10 takes full account of these principles. In this third volume we discuss how we propose to calculate the prices that customers will have to pay in the next regulatory control period. We have identified a number of questions for consultation. These questions are set out at the end of the relevant chapters and are reproduced under chapter headings at the end of this Executive Summary. All responses to this consultation should be received by 31 October 2004. These should be sent to :

Katherine Russell
Water Industry Commissioner for Scotland
Ochil House
Springkerse Business Park
Stirling FK7 7XE

or by email to :

SRCmethodology@watercommissioner.co.uk

We will publish a summary of responses, and our conclusions, on our website www.watercommissioner.co.uk on 19 November 2004.

For many customers of water and sewerage services, price is the single most important issue. This volume therefore examines:

- the costs that have to be recovered by Scottish Water;
- the way prices are calculated;
- how adjustments to prices are made when circumstances change; and
- how financial risk is managed in the public sector.

Where costs are incurred

Rain water may well fall from the sky, but turning that raw water into a reliable, high-quality water and sewerage service is a costly and complex operation.

Treating water and transporting it through pipes to customers is asset intensive – there are more than 20 metres of water main for every household in Scotland. According to Scottish Water's 2003 regulatory return, it would cost some £32 billion to replace all of the water industry's assets in Scotland. This is more than £6,000 for every person in Scotland.

Customers, however, are not primarily concerned with how the service is delivered or the assets that are employed. They want a reliable and high-quality service to be available on demand. In particular, they want to be assured that the service they receive for the amount they pay represents value for money.

The Scottish Executive's consultation Paying for water services 2006-10

In June 2004 the Scottish Executive launched a consultation on the principles of charging for water. The consultation was prompted by the negative reaction of some customers to the introduction of broadly cost-reflective charging (including higher standing charges) and the harmonisation of charges across Scotland. Although this benefited many customers (households in the North, and properties with higher rateable values in the North and lower rateable values in the East), a large number of small business customers who did not use much water saw significant percentage increases in their charges and as a result were critical of the changes.

The Executive's proposals in *'Paying for water services 2006-10'* are presented in two sections: 'Proposed principles of charging' and the 'Application of principles'. The consultation makes proposals on the principles of charging in four areas:

- **Charging for services:** The Scottish Executive suggests that, subject to safeguards, customers should pay for the service they receive;

- **Harmonised charges:** The Executive believes that, since Scottish Water provides services on a national basis, it is right that customers should pay for those services on a consistent basis throughout the country;
- **Cost reflectivity:** The Executive suggests the charges for similar types of customer should broadly reflect both the fixed and variable costs of supplying those customers (subject to the principles of harmonisation and affordability); and
- **Making changes to charging structures:** The Executive proposes to gradually introduce changes in tariffs over a number of years.
- **Funding expansion of the public networks:** The Executive sets out proposals that will share the cost of growth in the network between existing and future customers.

Our response to the consultation

We agree with the principles of charging proposed by the Scottish Executive. The first three of these principles are fully consistent with the principles that we applied at the time of the last Strategic Review of Charges. On the proposals for making changes to charging structures we would note that there is no easy way to implement these changes. While we recognise that it is not desirable to increase bills sharply, we are also aware that introducing changes more slowly requires those who are currently paying more than their fair share to continue to pay (at least) a little more in the interim. We regard this as a political question and would welcome clear guidance from Ministers.

The consultation also considers the application of the principles of charging. The issues it addresses include:

- **Cross subsidies:** A cross subsidy exists when one group of customers pays more (in percentage terms) relative to their cost of supply than another group of customers. The Executive differentiates between desirable cross subsidies (resulting from the policy to harmonise charges across Scotland or to link household charges to Council Tax bands) and unintended cross subsidies. The Executive has commissioned work to understand the nature and extent of any unintended cross subsidies. In the consultation, the Executive also seeks views on how quickly any such cross subsidies should be unwound;
- **Household charging:** The Executive proposes to discontinue the current system of discounts and to use the proceeds to provide more targeted support to those in receipt of Council Tax benefit;
- **Non-household charging:** The Executive proposes to introduce new methods of charging for unmeasured customers and for surface and property drainage in the 2010-14 regulatory control period;
- **The balance between charging and borrowing:** The Executive proposes to keep the total level of borrowing by Scottish Water broadly constant in real terms; and

Depreciation

The effectiveness and value of assets declines over time and customers should bear these costs as they receive the benefit from use of the assets. Although effective asset management can help to reduce costs, asset replacement costs will continue to have a major impact on customers' bills.

The water and sewerage industry has two broad types of asset. These are termed infrastructure (essentially the water mains and sewers) and non-infrastructure (treatment plants, offices, vans, computers, etc). From a regulatory point of view, the depreciation policy of the water and sewerage business has to strike a balance between current and future customers. We therefore allow for an appropriate depreciation charge to be recovered from customers' charges. There are two types of depreciation charge: a standard depreciation charge on the non-infrastructure and an infrastructure renewals charge.

Infrastructure renewals charge

Infrastructure assets such as sewers and water mains usually have very long lives. It is particularly difficult to

assess these lives accurately. This is because different types of construction (each with a different expected life) have been interconnected throughout the network. For that reason we rely on the portfolio effect¹⁴ and treat the whole infrastructure network as a single system. The complete asset will never become obsolete or require replacement at any one time; instead, it is replaced in parts as different elements come to the end of their useful lives.

Traditional methods of depreciation for discrete assets, which have observable discrete asset lives, do not work. To overcome the problem, the industry has introduced infrastructure renewals accounting. Under infrastructure renewals accounting, an infrastructure renewal charge is charged to a company's revenue each year. The infrastructure renewal charge is calculated as the average of the forecast capital expenditure on the infrastructure assets over the next 15-20 years.

Non-infrastructure depreciation

We propose to use the same approach to non-infrastructure depreciation as Ofwat uses for the water and sewerage companies in England and Wales. The depreciation charge will be calculated using the straight-line method. We believe that current cost accounting using the Modern Equivalent Asset (MEA) valuation for a fixed asset is the most appropriate for regulatory purposes. This approach ensures that:

- customers bear reasonable costs for the use of assets;
- Scottish Water is fairly remunerated for its capital expenditure; and
- Scottish Water is provided with the incentive to invest in new technology and more cost-effective assets.

These assets will be grouped into five categories:

- very short (assets having a life of up to five years);

- short (assets having a life of six to 15 years);
- medium (assets having a life of 16 to 30 years);
- medium/long (assets having a life of 31 to 50 years); and
- long (assets having a life exceeding 50 years).

The management of financial risk in the public sector

Risk management is the process of identifying, evaluating and responding to risks. Water and sewerage businesses are exposed to operational, legal and asset risks that could affect their compliance with public health or environmental standards and to financing risks. In the *Strategic Review of Charges 2006-10* we will seek to minimise the exposure of Scottish Water's customers to these risks. One of the main ways in which we can reduce customers' exposure to risk in the public sector model is to adopt the Regulatory Capital Value (RCV) approach to price setting.

We are also keen to ensure that there are effective controls on access to borrowing. We have therefore commissioned a report from ING Barings on the privatised companies' access to debt. If there are no such controls, the incentives to achieve efficiency targets on time are reduced.

We propose to extend our risk analysis to include the financial ratios that we target in the financial model.

Managing financial risk in the private and public sectors

The purpose of regulation is to seek to ensure that monopoly businesses act in the customer interest. In the private sector, the regulator seeks to establish a balance between the interests of customers and those of finance providers. In doing so, it is the regulator's duty to ensure that an efficient business can fund its operations. In the public sector, the regulator focuses on ensuring that customers receive a value for money service, and on the

¹⁴ The portfolio effect is discussed in 'Principles of Corporate Finance' by Brealey and Myers. Please reference the seventh international edition from page 187 onwards.

delivery of environmental, public health and government policy objectives. These objectives apply over the short, medium and long term.

In both the public and private sectors, economic regulators seek to establish a tight budgetary constraint on the regulated body. In other words, clear statements are made about the outcomes for customers that the body must deliver and about the amount of money that can be spent. This can be achieved by fixing the maximum return available (unless targets are beaten) or by limiting the total cash funds that may be consumed.

A properly tight budgetary constraint will focus management attention on delivering ongoing improvements in value for money to customers.

Other differences in financial risk

The private sector cost of capital is higher than Scottish Water's cost of debt. Ofwat has recently set a nominal, pre-tax cost of capital of 8.3% [5.1%, real, post-tax]. This compares with Scottish Water's average new borrowing rate of just over 4% nominal pre-tax. Indeed, shareholders of the privatised companies can improve their return further by ensuring that the company performs better than the targets set by the regulator. However, shareholders do also have to absorb risks that are currently borne by the customers of Scottish Water. These would include the costs of any external shocks such as the drought in summer 1995.

In the event of such a shock or underperformance by the business (whether caused by management or external operational factors) a private utility can:

- withhold dividend payments to shareholders;
- seek a rights issue; and
- obtain debt in the private markets.

Private utilities do not have the easy option of increasing charges to customers. The presence of private equity acts as a significant 'shock absorber', which protects customers of the water companies in England and Wales. This is because prices set by Ofwat will not

normally be influenced by a change in borrowing by an individual company.

The Glas Cymru model

It is not necessary to adopt an equity based or private sector model in order to manage financial risk. Welsh Water, for example, has established a structure that protects customers from financial risk, without a traditional shareholder acting as a shock absorber. Glas Cymru is a not-for-profit company limited by guarantee which is wholly debt financed. Glas Cymru has no shareholders. In this case the risk is borne by the providers of the debt finance.

If there is an unforeseen shock, which could have been avoided or limited through proper management, customers will not suffer because Ofwat is under no obligation to increase the cash value of the return on capital allowed to Welsh Water.

Current situation for Scottish Water

In contrast, if Scottish Water is faced with an unforeseen shock, it must either:

- seek unplanned public expenditure in the form of a loan; or
- increase charges to customers immediately.

Customers are currently particularly exposed to any shortfall in Scottish Water's performance against targets. This is because there are no transparent incentives to perform and its budgetary constraints are not truly tight. Scottish Water can seek to use contingency margins within public expenditure limits and the cost of this extra borrowing would be passed on to customers.

We believe that Scottish Water's customers are entitled to a similar level of protection from shocks as customers south of the border. We therefore propose to set prices on the assumption that Scottish Water has achieved both its operating and capital efficiency targets and has delivered the capital programme in full. We propose to

make adjustments to reflect any shortfall in performance in order to ensure that customers are not disadvantaged.

How we propose to determine charges for the 2006-10 period

The role of a regulator is to set prices that are sufficiently high – but no higher – to ensure the sustainable delivery of the desired level of service. We will therefore scrutinise costs carefully.

The costs faced by customers can be categorised into three main areas:

- running costs;
- costs associated with the use of existing and new assets; and
- costs of public private partnership (PPP) contracts.

We use a financial model to establish an appropriate level of revenue that is consistent with:

- meeting these costs; and
- ensuring that Scottish Water should be able to deliver the level of service to customers that will be defined by the Quality and Standards process¹⁵.

This model allows us to ensure that an appropriate balance is struck between current and future customers. We will also seek to ensure that customers in general are protected from unnecessary fluctuations in their charges.

In calculating prices for customers, we use a tariff basket to divide the identified revenue requirement between customer groups. The detail of how much each customer group will pay will depend on the result of the Scottish Executive's consultation, *'Paying for water services 2006-10'*.

The RCV method of price setting

At this review we are proposing to make some changes to our approach to price setting. We propose to introduce a Regulatory Capital Value (RCV) for Scottish Water. Scottish Water will receive an appropriate rate of return on this RCV. Efficient investment in new assets will be added to the RCV. Depreciation (reflecting the costs of using existing assets) will reduce the RCV.

These changes are limited to the approach to meeting the costs of new and existing assets. We do not believe that this revised approach has any immediate material impact on the prices faced by customers, on the resources available to Scottish Water, or on the implications for public expenditure. The changes are designed principally to allow greater transparency. They bring the approach to price setting for Scottish Water into line with that for the English and Welsh water and UK energy sectors. As such, we will be able to make more direct comparisons in financial ratios than was previously possible.

The RCV is a proxy for the current value of Scottish Water's above-ground asset base. This value will change over time to reflect the ageing of assets (the cost of which is recognised by the infrastructure renewals and depreciation charges) and investment in new assets.

The rate of return is the cost associated with managing and financing the above-ground asset base. The cash cost of replacement is covered by the depreciation charge.

The revenue that Scottish Water should be allowed is calculated as follows:

Return allowed on the Regulatory Capital Value + allowable operating costs + depreciation on non-infrastructure assets + the infrastructure Renewals Charge (IRC) + the costs of PPP contracts.

¹⁵ See the Scottish Executive's consultation document, *'Investing in water services 2006-10'*.

The product of the RCV and the allowed rate of return will give the total return allowed on the RCV. This ensures that customers only contribute towards those assets that have been created and which are providing a benefit to customers.

The allowed level of revenue includes an appropriate allowance for operating costs. Our assessment of operating costs will take into account inflation, the scope for efficiency and an allowance for efficient new operating costs. It is important to highlight that our assessment of efficiency includes a detailed comparison of both the relative level of cost incurred and the relative level of service delivered.

We will allow for asset costs in two ways, that is the allowed cash return on the RCV and an allowance for depreciation. The allowance for depreciation and the Infrastructure Renewal Charge ensures that sufficient funds are available to replace assets that are at the end of their useful lives.

The PPP contracts effectively swapped initial capital costs, financing and maintenance costs and operating costs over the life of an asset for a series of annual payments. We propose to scrutinise these costs carefully. Our analysis of the appropriate level of these PPP costs will be allowed in our calculation of revenue.

One important feature of the regulatory capital method of price setting is that we do not have to take decisions about how much extra borrowing Scottish Water should seek. The method of financing (whether from retained surplus or from new debt) will not have an impact on the price paid by customers. However, if debt increases as a proportion of the RCV, future customers will face either higher prices or a service that is less able to absorb operational or legislative shocks.

Monitoring of the RCV and the ratio of total debt to the RCV should therefore provide stakeholders with a useful indicator of the financial performance of the water industry in Scotland. Stakeholders can reasonably expect the RCV to increase in line with the profile that is established at the start of the regulatory period. Smaller increases would suggest that the capital programme is making less progress than was expected at the start of

the regulatory period; larger increases would suggest that better progress had been made.

If the capital programme is on target, the ratio of debt to RCV should indicate whether Scottish Water is making sufficient progress towards the efficiency targets that we set in the *Strategic Review of Charges 2006-10*. We propose to use our performance reports to monitor these financial indicators.

The introduction of price caps

In this Review, we also propose to determine a series of price caps rather than a general cap on revenue. We believe that the introduction of a price cap is in the general interest of customers. A price cap largely insulates customers from the impact of changes in the customer base or volumes of consumption during a regulatory period. We will translate the required revenue into a series of price caps for our tariff baskets. The weightings of these tariff baskets will reflect the guidance that we receive from Ministers as a result of the principles of charging consultation.

A customer will be better placed to understand the maximum price that they are likely to have to pay by looking at their use of the water and sewerage service and the price cap for the relevant tariff basket.

The introduction of regulatory accounts

In the last Strategic Review of Charges, we commented on the advantages to be gained from a proper accounting and legal separation between Scottish Water's core and non-core activities. We were therefore pleased when the *Water Industry (Scotland) Act 2002* limited the remit of this Office to promoting the interest of customers of the core business. This will require us to be able to distinguish between the core and non-core functions of Scottish Water. The current *Water Services (Scotland) Bill* would also require us to differentiate between Scottish Water's wholesale and retail functions.

Scottish Water's statutory accounts are not sufficient to provide the information that we now require. In particular, they only detail the financial performance of

Scottish Water as a whole and, as such, are unable to provide a specific breakdown of costs by activity.

Other regulators have overcome these limitations by introducing a set of parallel, regulatory accounts. These accounts are tailored to provide the specific information required for effective regulation. We propose to adopt the practice of other regulators by asking Scottish Water to complete regulatory accounts.

In particular we propose to adopt Ofwat's regulatory accounting guidelines (RAGs) as the basis for our Regulatory Accounting Guidelines. Where we amend or develop these guidelines for application in Scotland we will do so simply to ensure that they are fully consistent with Scottish Water's statutory duties. However, in so doing, we will endeavour to ensure that they remain as consistent as possible with the original Ofwat guidelines. This will be important to our detailed comparison of the financial performance of the industry in Scotland.

Financial modelling

We have built a financial model to allow us to calculate the revenue that Scottish Water requires to carry out its core functions. There is also a tariff basket model, which translates the revenue collected from customers to the tariffs they will pay. Ernst and Young LLP has audited the financial model.

The model is constructed in Microsoft Excel© and consists of a series of linked spreadsheets. The model goes forward to March 2025. We have also developed a detailed user manual which will be available on our website.

Input information

We require robust and detailed information for the financial model. We provided Scottish Water with the input tables for the financial model as a part of the business plan guidance, which we issued in June 2004.

The model also contains financial assumptions, including information on interest rates and inflation

expectations. In the Strategic Review we propose to use two indexes to measure inflation, namely:

- the Consumer Price Index (CPI) for all non-asset costs; and
- the Construction Output Price Index (COPI), to assess the impact of increases in prices on investments.

Other proposed assumptions are outlined in Table 1 below:

Table 1: Other proposed assumptions in the financial model

Title	Assumption	Value
Trade debtors	Number of days	35
Stocks	Percentage of operating expenditure excluding PPP	2%
Prepayments and accrued income	Percentage of revenue	5%
Other debtors	Percentage of revenue	2%
Trade & capital creditors	Percentage of capital expenditure	17%
Accruals and deferred income	Percentage of operating expenditure including PPP	30%
Other creditors	Percentage of operating expenditure including PPP	7%

Financial ratios

One of the key considerations of our modelling is the financial sustainability of Scottish Water. The model will automatically calculate key financial ratios. Our proposed move to use the Regulatory Capital Value method of price setting will allow us to make direct comparisons of Scottish Water's financial sustainability with that of the companies south of the border. We will compare Scottish Water's financial ratios (as far as possible¹⁶) with those used by Ofwat in its last two price reviews.

Ofwat set out a list of the financial ratios that it had taken into account in setting price limits at the 1999 review in its report, *'Final determination: Future water and sewerage charges 2000-05'*. These ratios are shown in Table 2.

¹⁶ For example, comparisons using equity are unique to the private sector and account needs to be taken of the PFI contracts in Scotland.

Table 2: Ofwat's target ratios for 2000-05

	Water and sewerage companies	Large water only companies	Small water only companies
Historic cost interest cover	Min 2x	Min 2.25x	Min 2.5x
Average gearing (D/D+E)	45-55%	45-55%	45-55%
Cash interest cover (EBITDA Basis)	Min 3x	Min 3.4x	Min 3.75x
Cash interest cover (EBIDA Basis)	Min 2x	Min 2.25x	Min 2.5x
Debt payback period (EBITDA Basis)	Max 5 yrs	Max 5 yrs	Max 5 yrs
Debt payback period (EBDA Basis)	Max 7 yrs	Max 7 yrs	Max 7 yrs
Cashflow to capex ratio (EBIDA Basis)	Min 40%	Min 40%	Min 40%

In 'Future water and sewerage charges 2005-10: Draft limits', Ofwat outlined the financial indicators that it has used to set prices for the next regulatory period. Table 3 shows these ratios.

Table 3: Ofwat's draft target ratios for 2005-10

	Target
Cash interest cover (funds from operations/gross interest)	Around 3 times
Adjusted cash interest cover (funds from operations less capital charges/gross interest)	Around 1.6 times
Adjusted cash interest cover (funds from operations less capital maintenance expenditure/gross interest)	Around 2 times
Funds from operations/debt	Greater than 13%
Retained cash flow/debt	Greater than 7%
Gearing (net debt/regulatory capital value)	Below 65%

How we propose to use these ratios in the Strategic Review of Charges 2006-10

Where Ofwat has stated that a target is "around" a certain level, we assume that the ratio for Scottish Water should be within 25% of the target. We would change price limits to ensure that Scottish Water remains compliant with each of these ratios, except debt/RCV (leverage). This is because Scottish Water has no equity finance.

We also propose to publish the two debt payback period ratios and the cashflow to capital expenditure ratio that Ofwat used for the 2000-05 regulatory period. It would be desirable for Scottish Water to remain within these targets. However, we will not change price limits to ensure compliance with the targets for these ratios. This reflects the capital market's view that these ratios are

now outdated. We believe that it is useful to continue to monitor these ratios to ensure consistency in our approach to financial sustainability.

Setting an initial RCV

There are four broad approaches that regulators can use to establish the initial RCV of a regulated utility in the private sector:

- **An accounting approach.** The RCV takes into account the asset value of the company;
- **A market value approach.** The RCV adopts the value placed on the company by the financial markets;
- **A comparator approach.** The RCV is set through comparison with a similar company that has an RCV; and
- **A discounted cash flow approach.** The RCV is calculated by using financial valuation techniques.

Most UK regulators used the second approach to estimate the initial RCV of their regulated businesses. It is obviously not possible to apply this method for a public corporation such as Scottish Water.

However, there are precedents for the establishment of a RCV for a public sector organisation¹⁷. For example, in Australia regulators have tended to use asset based approaches. We could potentially set the RCV by one of four common asset based approaches:

- **Depreciated actual cost:** this approach is straightforward to implement but will tend to understate (possibly significantly) the replacement costs of assets;
- **Depreciated indexed historical cost:** this approach is certainly preferable to depreciated actual cost, but it does not take account of changes in technology;
- **Depreciated Optimised Replacement Cost (DORC):** this approach is theoretically the best asset based approach; however, it is very

¹⁷ See the Scottish Executive's consultation document, 'Investing in water services 2006-10'. Manchester Airport has a regulatory capital value set by the CAA.

information intensive and can be regarded as quite subjective; and

- **Modern equivalent asset value:** this approach has many of the advantages of DORC, but is less subjective as it does not try to assess the reductions in cost that could be achieved by optimising the design of the water and sewerage network.

A second option would be for us to use a comparator approach. This would have the advantage of being consistent with the approach Ofwat used to set the initial RCV of the water only companies. To use this approach, we would need to identify companies that are broadly comparable to Scottish Water. Two sets of information would need to be available for the comparator company:

- First, a financial measure that is also available for Scottish Water should be available for the comparator. This financial measure could be the book value of debt, the book value of fixed assets or the current cost accounting value of fixed assets; and
- Second, a financial measure that is relevant to estimation of the RCV should be available for the comparator. If the comparator were regulated and had an RCV this could be the RCV itself. If the comparator had no RCV it could be an equity value for the firm.

The water and sewerage companies in England and Wales would provide the most obvious comparators for Scottish Water. We believe that there are a number of ways that we could look to set an initial RCV for Scottish Water based on comparison with the companies south of the border.

The options would include setting the initial RCV for Scottish Water by making comparisons with:

- asset bases (in terms of both value and structure);
- non-infrastructure capital investment;
- Welsh Water's debt to RCV ratio;
- companies' funding costs to RCV ratio (ie debt and dividends); and

- assets relative to the type and number of customers served.

The options would also include comparing the factors outlined above historically with those for Scottish Water today. This would reflect the opportunity that the companies south of the border have had to transform their operations.

The final option that we propose to consider is the discounted cash flow method of asset valuation. We would use our financial model to calculate the current value of Scottish Water. We are not, however, optimistic about this approach as we believe that it would be difficult to establish an appropriate discount rate.

Setting the allowed rate of return

In the private sector, a regulator sets an allowed rate of return. This is often referred to as the cost of capital. The regulator will set this rate of return to reflect current and expected market conditions. The regulator has a duty to set an appropriate rate of return such that an efficient company can properly finance its functions. A company may choose a mix of debt and equity funding, but its rate of return (unless it outperforms efficiency targets) is capped.

In the public sector the regulator cannot set the rate of return based on his observation of the cost of capital in the market. Scottish Water's cost of debt is set by Government. As a public sector organisation it has no contributed equity capital, although it does generate and reinvest trading surpluses.

The allowed rate of return is the rate of return that we believe Scottish Water requires to meet the objectives that have been set by Scottish Ministers. If we set the allowed rate of return at too low a level, there is a risk that Scottish Water would not have sufficient funds to meet its obligations. This could result in debt increasing to unsustainable levels. This would penalise future customers to the benefit of current customers. Alternatively, it could result in delays to the promised environmental, public health or customer service benefits. Customers would certainly pay lower charges if the rate of return was set too low, but they would also receive a poorer service.

If we set the allowed rate of return at too high a level, customers will pay more than they need to. This would act as a disincentive on management to achieve efficiency targets. Failure to achieve efficiency targets means that customers pay more than is necessary in the medium term. Alternatively, if efficiency targets were achieved in full the level of outstanding debt would decline significantly relative to the asset value of the company. This would penalise current customers to the benefit of future customers.

The weighted average cost of capital

The market value of a firm is equal to the market value of the equity plus the market value of the debt. The Weighted Average Cost of capital (WACC) is the overall cost of capital for a firm. It takes account of the capital structure of the firm (ie the market value of its debt and equity) and the rates of return it pays on both its debt and equity.

In order to calculate a WACC a regulator therefore has to decide an appropriate rate of return for both debt and equity. He also has to assign an appropriate market value to the debt and equity of the firm. His calculation of the rate of return is further complicated by both taxation and inflation.

Debt and equity are treated differently for tax purposes. Interest charges are an allowable expense for the purpose of corporation tax. The corporation tax advantages of debt are recognised in the post-tax Weighted Average Cost of Capital calculation. This is shown in Figure 1.

Figure 1: Post-tax Weighted Average Cost of Capital

$$\text{WACC} = \left[r_D^* \left(\frac{D \times (1-t)}{D + E} \right) \right] + \left[r_E^* \left(\frac{E}{D + E} \right) \right]$$

Where:
 r = return
 D = debt
 E = equity
 t = corporation tax rate

The investor is therefore concerned with the real rate of return – that is the return after having adjusted for the effect of inflation.

The formula for calculating the real rate of return is shown in Figure 2.

Figure 2: Formula for calculating the real rate of return

$$\text{Real rate of return} = \text{nominal rate of return} - \text{inflation rate}$$

It is important to differentiate between the real rate of return (the return after inflation) and the nominal rate of return (the return before account is taken of inflation).

Applicability of WACC to a Public Corporation

Assessing the WACC for a public corporation is problematic. This is because the regulator cannot easily observe costs of debt or equity and, moreover, estimating the market value of the organisation is difficult.

Setting an allowed rate of return for Scottish Water

Scottish Water does not borrow directly from the capital markets nor does it borrow at commercial rates. Scottish Water does generate surpluses and therefore has retained earnings, which it can invest to achieve the outputs set by Scottish Ministers. It does not currently pay dividends and therefore all of the surplus generated can be reinvested for the benefit of current and future customers. These retained earnings differ from retained earnings in the private sector in that they are not reinvested with the specific goal of generating increased surpluses in the future.

To set an allowed rate of return for Scottish Water based on the same principles used by the regulators of private sector utilities, we would need to estimate an allowed rate of return on debt and an allowed rate of return on 'customer retained earnings'. Scottish Water should be allowed to earn a return when it uses customer retained earnings as a source of funds.

Although it may seem feasible to estimate a WACC for Scottish Water, issues arise because Scottish Water does not have debt or equity that is publicly traded. We

are not therefore able to establish a market-based measure of equity or debt returns for Scottish Water in the way that we would for a private sector company.

The WACC approach is further complicated because regulators have tended to regard the RCV as a proxy for the enterprise value (market values of the debt plus the equity) of the regulated business. The market value of the equity is therefore equal to the RCV minus the outstanding net debt.

The market value of the equity would normally be estimated using the dividend growth model or calculating the NPV of future cash flows. The dividend growth model cannot be used because Scottish Water does not pay dividends. The NPV approach requires an appropriate discount rate to be established in order to discount cash flows that will occur in the future. However, it would be difficult to justify the use of a discount rate that is different from the allowed rate of return. The NPV approach cannot therefore be used since we need a market value to establish the allowed rate of return, but need an allowed rate of return to use the NPV method of establishing a market value. There are, however, four approaches that we could consider:

Ofwat's assessment of the allowed cost of capital

At each periodic review Ofwat establishes an allowed Weighted Average Cost of Capital for the water companies south of the border. Ofwat's current proposed allowed rate of return for the water and sewerage companies is 5.1% real and post-tax.

A possible approach for Scotland would be to use Ofwat's allowed rate of return. We believe that such an approach would not be in the customer interest. Most obviously, the cost of Scottish Water's debt (both the current overall cost and the cost of new debt) is lower than Ofwat's estimate of the cost of debt for the companies south of the border. This would suggest that Ofwat's WACC would significantly overestimate the appropriate rate of return for the water industry in Scotland.

Long-term average borrowing rates

A second possible approach for establishing an allowed rate of return for Scottish Water would be to apply an average of observed historic real borrowing costs. This would have the advantage that it is relatively straightforward to apply. If we were to use this method, we believe that it would not be appropriate to allow extra costs associated with embedded debt to be recovered from customers.

There would still be a potential issue about the rate of return that should be allowed on customer retained earnings. Retained surpluses represent an important source of funds for Scottish Water.

The Treasury Green Book¹⁸

The 2003 edition of the Green Book reduced the HM Treasury estimate of the appropriate discount rate for public sector projects to 3.5% real. However, HM Treasury did not update the 6% real estimate for the cost of capital included in the 1997 edition of the Green Book.

A third possible approach to setting the allowed rate of return for Scottish Water would be to take the discount rate of 3.5% real as the allowed rate of return. There are two advantages of this approach. It uses a rate of return that is established by Government and it should therefore be sufficient for Scottish Water to fund its efficient operation. Secondly, this approach could cover both the debt and customer retained earnings portions of the Regulatory Capital Value.

However, setting an allowed rate of return at 3.5% real would currently be quite significantly higher than the observed cost of new debt to Scottish Water. This could have the effect of encouraging Scottish Water to increase its borrowing and may delay the necessary improvements in efficiency. The effect of this could be reduced if we regarded the 3.5% real rate as the return pre-tax rather than post-tax.

¹⁸ 'The Green Book' Appraisal and Evaluation in Central Government, HMSO, 2003

Hybrid approach

A fourth potential approach would be to apply a modified version of the WACC approach. We would combine an observed real cost of debt with an estimate of an appropriate rate of return on the customer retained earnings (the equity portion of Scottish Water's RCV) in order to produce an allowed rate of return.

The future real rate of interest on debt for Scottish Water could be estimated as described above. We propose that the pre-tax allowed rate of return on the customer retained earnings should be set at the post-tax allowed rate of return for debt. In real terms this rate is likely to be low. Valuing customer retained earnings in this way will replicate within a public sector capital structure the equity buffer that protects customers south of the border from operational or legislative shocks¹⁹.

An additional advantage of this approach is that there would be no incentive for Scottish Water to seek to change its current ratio of debt to regulatory capital value. If the return on the customer retained earnings is greater than the return on debt, Scottish Water would have an incentive to pay down debt. In contrast, if the return on the customer retained earnings is lower than the return on debt, Scottish Water would have an incentive to take on more debt.

This approach should also help stakeholders to monitor Scottish Water's performance. The level of its outstanding debt relative to its RCV should be in line with the forecasts that are included in the Strategic Review of Charges. If the level of debt to RCV declines, either Scottish Water has outperformed its efficiency targets or it has not delivered its capital programme as planned. Conversely, if the level of debt relative to its RCV increases, Scottish Water is either ahead of schedule in delivering the capital programme or has underperformed relative to its efficiency targets.

We currently favour the hybrid WACC approach outlined above.

Depreciation and additions to the RCV

The value of the RCV changes over time to reflect efficient new investment and depreciation of existing assets. Since the RCV is central to the determination of Scottish Water's revenue requirement, it is important that the initial RCV that we establish continues to be representative of the value of its asset base.

Revenue requirement = operating costs + Public/Private Partnerships (PPP) + Infrastructure Renewals Charge (IRC) + depreciation + cash return on the regulatory capital value

Depreciation and additions play a role in this calculation through the impact they have on the RCV, and, in the case of depreciation, as a separate component of the revenue requirement.

Treatment of additions to the asset base

Additions affect the price cap by increasing the RCV. As the rate of return remains constant (it is a percentage of the RCV), any increase in the RCV increases the amount of return allowed in Scottish Water's revenue requirement, and hence increases prices.

The key role of the RCV in price setting is to reflect the value of the physical assets used to provide a service to customers. When Scottish Water makes an investment in its assets – be it simply to replace or maintain assets that have worn out, or to enhance the asset base – this should be reflected in an increase in the RCV. In increasing the RCV, we are ensuring that the return earned on total assets will increase in recognition of the investment made.

If Scottish Water has made additions to the RCV which have increased its value (net of depreciation), then the return component of the revenue requirement will be higher and prices will also be higher. Providing capital expenditure has been justifiably incurred in order to provide service to customers, then it is reasonable that customers should remunerate this investment in the RCV.

It is very important, however, that customers are only required to remunerate justifiable expenditure. We

¹⁹ This issue is discussed in detail in Chapter 4.

therefore need to ensure that only appropriate and efficiently procured capital investment is added to the RCV.

Treatment of depreciation

The role of depreciation is a little more complicated. It can affect prices in two ways:

- It is deducted from the RCV and hence represents the amount by which the value of the assets has fallen. Again, assuming a constant rate of return, any reduction of the RCV would reduce the amount of return allowed in Scottish Water's revenue requirement; or
- The expected depreciation charge is added to the cash return and operating costs to determine the revenue requirement.

Depreciation can therefore influence Scottish Water's revenue requirement either directly, or indirectly (by affecting the level of return).

Rolling forward the RCV

The process of adjusting the RCV from its starting value to reflect changes in the asset base is known as 'rolling forward'. In the Strategic Review of Charges we will have to set the level of efficient new investment and the appropriate depreciation charge. We would adjust the RCV before the next regulatory period to reflect any extra or inefficient investment.

Figure 3 outlines how the change in the RCV is calculated for each year of the regulatory control period.

Figure 3: Rolling forward the RCV

Closing RCV (previous year)	
+	Indexation
+	Capital expenditure (excluding IRE)
+	Additions
	Infrastructure renewals expenditure (IRE)
-	Infrastructure renewals charges (IRC)
-	Grants and contributions
-	Depreciation
-	Disposals
=	Closing RCV

In order to ensure that the RCV does not decrease in real terms as a result of general price rises in the industry itself, we adjust the RCV each year to take account of inflation.

Interim determinations and logging up and down

In Scotland, a Strategic Review of Charges is carried out every four years, while in England and Wales a price review is carried out every five years. The period of time between regulatory reviews is referred to as the regulatory control period. At a regulatory review, the regulator sets price caps or revenue caps for the next regulatory control period.

In order to set price caps or revenue caps, the regulator forecasts the costs that the regulated company will incur over the next regulatory control period, if it carries out its functions efficiently. The revenues recovered by the company must be sufficient to cover these costs.

Ofwat uses two mechanisms to adjust the regulatory price settlement in the event that assumptions made at the periodic review need to be revised. The first is an 'interim determination of the price limit', which takes place during a regulatory control period. The second is the approach of 'logging up and down' at a regulatory review.

The proposed change in the regulatory framework to create a Water Industry Commission with a power to determine prices will, we believe, make it necessary to introduce both the possibility of an interim determination and the logging up and down process. This will ensure that Scottish Water is properly able to finance its functions and can recover the costs of any unexpected expenditure that results from uncertainty rather than underperformance. We propose to introduce a similar framework to adjust prices in Scotland.

What are 'interim determinations'?

An interim determination is a reconsideration of a firm's price limits that is undertaken between formal price reviews. The reconsideration is carried out in the light of

a particular set of circumstances or factors that were not taken into account at the last review. Either the firm or the regulator may initiate an interim determination. If Ofwat knows that there is significant uncertainty about a particular area of the periodic review, it can notify an item. This allows either the regulator or the regulated company to revisit the price limit if better information becomes available. An example would be the rate at which households opt for meters. An example pertinent to Scotland may well be the split between the wholesale and retail businesses.

What is logging up and down?

Whereas an interim determination occurs between reviews, logging up and logging down is an adjustment that takes place at the end of the regulatory control period to reflect differences in cost from the original determination. Such differences will have an impact on prices only in the next regulatory period.

Price caps and tariff baskets

We propose to establish tariff baskets to cover the core services provided by Scottish Water. The use of tariff baskets will also help to ensure that the principles of charging determined by Scottish Ministers are applied in a transparent way. They will also bring the price setting process more into line with the other utility regulators in the UK, such as Ofgem and Ofwat.

The detail of the tariff baskets will be available on our website early in 2005. This will give customers better access to information about bills and will help strengthen the regulatory regime.

Table 4 presents a summary of Scottish Water's tariffs.

Table 4: Summary of tariffs

	Type of tariffs		
	Fixed £ per annum	Fixed – based on rateable value (pence per £ of RV)	Volumetric (pence per m ³)
WATER			
Unmetered domestic	✓		
Metered domestic	✓		✓
Unmetered non-domestic	✓	✓	
Metered non-domestic	✓		✓
SEWERAGE			
Unmetered domestic			
Wastewater (including foul and surface water drainage)	✓		
Metered domestic			
Sewage	✓		✓
Surface water drainage	✓		
Unmetered non-domestic			
Sewage	✓	✓	
Surface water drainage		✓	
Metered non-domestic			
Sewage	✓		✓
Surface water drainage		✓	
Trade effluent	✓		✓ ²⁰

A definition of tariff baskets

A tariff basket includes all of the tariffs that impact on customers who receive a particular service. For example, if measured non-domestic water customers were considered as a group, all of the tariffs that impact on them would be included. Such a tariff basket would therefore include the standing charges relating to the different sizes of connection available and the volumetric tariff. The balance of tariffs within the basket will be determined by the number and type of connections, amount consumed and by increases or decreases in the tariffs included in the basket.

Total revenue is determined by adding together the output of each tariff basket. The revenue from an individual tariff basket is assessed by calculating the sum product of the relevant customer base and relevant tariffs.

²⁰ Trade effluent is charged for using both volume and strength.

Table 5: The use of weighted average tariffs

	% increase (D)	% of total revenue (E)	Weighted % increase (D x E)
Tariff A	5%	50%	2.5% (A)
Tariff B	-5%	20%	-1% (B)
Tariff C	20%	30%	6% (C)
Weighted average (A+B+C)	-	-	7.5%

The weighted average increase provides a reasonable indication of the impact on customers, as it takes account of the relative size of the impact from each tariff change. We would scrutinise very carefully any material divergence in tariff changes within a basket.

It is important to emphasise that changes in the current balance of tariff baskets will be made to reflect the outcome of the Scottish Executive's consultation, 'Paying for water services 2006-10' and the ministerial guidance which we will receive in January 2005.

Our proposed approach to tariff baskets

In England and Wales tariff baskets are defined in condition B of the companies' operating licences. Scottish Water's duties are set out in statute and there is no equivalent licensing regime in Scotland. We therefore propose to describe our proposed tariff baskets in detail in our *Strategic Review of Charges 2006-10*.

We propose that there should be eight or ten separate tariff basket items:

- domestic unmeasured water;
- domestic unmeasured wastewater;
- non-domestic unmeasured water;
- non-domestic unmeasured wastewater;
- measured water (possibly split 20mm connection and other);
- measured wastewater (possibly split 20mm connection and other);

- surface water drainage (excluding unmeasured domestic); and
- trade effluent.

We believe that it may be worth considering the introduction of two separate tariff baskets to include tariffs (except surface drainage) for customers with a standard metered connection. There are four principal reasons why we consider that this may be worthwhile:

- measured customers with a standard connection are more like households than other measured customers;
- monitoring prices for this group separately should help to ensure that their interests are properly protected in the event that Parliament approves the current Water Services (Scotland) Bill;
- it should be easier to reflect the outcome of the 'Paying for water services' consultation in the tariff basket weightings; and
- the extra tariff baskets should improve the predictability of prices for a large number of smaller businesses.

There are two principal reasons why we should restrict the number of tariff baskets to eight:

- Scottish Water would have less flexibility in managing the expectations of its business customers; and
- greater complexity is introduced to price setting.

On balance we believe that the advantages outweigh the two potential disbenefits.

Treatment of large customers

Larger customers in England and Wales can benefit either from an inset appointment or negotiation on price with their existing supplier. Ofwat considers that pricing arrangements for larger customers could significantly

distort tariff baskets and put at a disadvantage those who can neither benefit from competition nor negotiate.

Excluding large customers from the tariff basket has the effect that shareholders pay for these discounts.

In the public sector model in Scotland, the cost of any discount to one customer has to be paid by all other customers. Special agreements should only be entered into when everyone gains from the agreement. We would therefore propose that special agreements remain in the tariff basket.

Standard customers

In the *Strategic Review of Charges 2002-06*, we illustrated the effect of our recommendations with reference to a number of standard customers. We propose to develop our use of standard customers to help customers to understand better the likely impact of the Review on the bill that they pay.

A customer's bill will vary depending on the relative use of the services provided. For example, the bill for a domestic customer with no meter will be based on the Council Tax band of the property, whereas charges for a business customer with a meter will be based on:

- the size of the water connection;
- the amount of water consumed;
- an assumed size of the waste water connection;
- the assumed amount of waste water discharged; and
- the rateable value of their property (for draining surface water from the property).

The customer's bill will be the sum product of the relevant factors and the appropriate tariffs.

Scottish Water has more than approximately 140,000 non-domestic customers. These customers will each require a quite different mix of services from the water and sewerage undertaker, so the impact of tariff changes will impact on their total bills in different ways.

It is clearly important that our set of standard customers is representative of the actual customer base. This ensures that all customers can find a 'match' that will illustrate the likely impact of tariff changes on their bill.

Table 6 shows the standard customer descriptions that we used in the *Strategic Review of Charges 2002-06*. It also shows the proposed new name for these customers for the *Strategic Review of Charges 2006-10*.

Table 6: Standard customers used at the 2002-06 Review

Name in 2002-06 Review	Proposed name for 2006-10	Water		Sewerage		
		Meters	Volume (m ³)	Meters	Volume (m ³)	RV
Newsagent	High Street newsagent	1 x 20 mm	30	1 x 20 mm	28.5	£5,000
Garage	Garage	1 x 20 mm	100	1 x 20 mm	95	£10,000
Restaurant	Large restaurant	1 x 20 mm	500	1 x 20 mm	475	£100,000
Commercial	Large office	1 x 25 mm	900	1 x 25 mm	855	£750,000
Retail	Retail group	2 x 20 mm 20 x 25 mm 1 x 35 mm	4,500	2 x 20 mm 20 x 25 mm 1 x 35 mm	4,275	£1,700,000
Food manufacturer 1	Food manufacturer 1	2 x 25 mm 1 x 80 mm	50,000	2 x 25 mm 1 x 80 mm	47,500	£100,000
Food manufacturer 2	Food manufacturer 2	2 x 25 mm 1 x 50 mm 1 x 100 mm	100,000	2 x 25 mm 1 x 50 mm 1 x 100 mm	95,000	£260,000
Manufacturing	Large manufacturer /pharmaceuticals	1 x 150 mm	175,000	1 x 150 mm	166,250	£1,225,000
Brewers	Brewers	2 x 25 mm 1 x 100 mm 1 x 150 mm	600,000	2 x 25 mm 1 x 100 mm 1 x 150 mm	150,000	£500,000

Unmeasured customers

Our 2001 set of standard customers did not include unmeasured customers who pay according to their rateable value. We therefore propose to include four unmeasured non-domestic customers in our list of standard customers, as shown in Table 7.

Table 7: Proposed additional standard unmeasured non-domestic customers

Customer name	Rateable value
Small newsagent /grocer	£200
Local hairdresser	£920
Sports club	£2,250
Supermarket	£30,000

Measured customers

Our review of the customer information provided by Scottish Water suggests that metered customers are reasonably well represented within the existing standard customers. We therefore propose to add only four additional standard customers.

The proposed additions are outlined in Table 8.

Table 8: Proposed additional standard metered customers

Name	Water		Sewerage		
	Meters	Volume (m ³)	Meters	Volume (m ³)	Rateable value
Warehouse	1 x 20mm	10	1 x 20mm	9	£500
Large house	1 x 20mm	110	1 x 20mm	104	Band H
High School	1 x 25mm	2,000	1 x 25mm	1,900	£18,000
Hotel	1 x 50mm	15,000	1 x 50mm	14,250	£75,000

Standard trade effluent customers

It is more difficult to define standard trade effluent customers than it is to define water customers or customers who discharge standard-strength sewage. There are just over 2,000 customers in Scotland who have trade effluent agreements. They range from a small garage to a large petrochemical firm.

The six additional standard customers that we propose are shown in Table 9.

Table 9: Proposed additional standard trade effluent customers

Standard customer name	Volume m ³		Load kg		Average Strengths mg/l	
	Annual	Daily	Total suspended solids	Biological oxygen demand	Total suspended solids	Settled chemical oxygen demand
Bakery	200	0.55	0.5	0.75	575	1600
Clothing manufacturer	12000	32.9	1	1	20	300
Abattoir	90000	246.6	150	250	600	1500
Electronics Business	550000	1507	15	50	10	75
Printers	10000	27.4	5	40	100	2500
Distillery	150000	411.0	7	55	15	200

Method for setting retail and wholesale prices

The proposed competition framework would allow new entrants to obtain a licence to provide retail services to non-domestic customers. These new entrants would be retail specialists who would buy water and sewerage services wholesale from Scottish Water. To determine appropriate wholesale prices we would first need to define the wholesale and retail activities.

Defining the retail and wholesale activities

Wholesale is the selling of goods or services to merchants, usually in large quantities and for resale to consumers. Retail is the selling of goods or services directly to consumers. Our initial view is that retail activities would include all matters relating to:

- retail pricing and tariffs;
- the billing process;
- collection of charges;
- debt follow up and debt management;
- meter reading, customer meter operations and ownership;
- call and correspondence handling;
- responses to customer enquiries, complaints or requests for information;
- key account management;
- liaison with the wholesaler to deal with customer issues; and
- marketing.

Scottish Water currently handles all aspects of the water and sewerage service. Its activities can be represented in a value chain. Retail is a relatively small part of what Scottish Water does.

Figure 4: Scottish Water's value chain

The Bill would require Scottish Water to establish a retail subsidiary. Scottish Water would be required to treat that retail subsidiary no differently from any potential new entrant.

We would expect that new entrants, as focused, specialist retailers, could improve the level of service offered to customers. For example, they could offer customers multiple payment alternatives (in method of payment and frequency), could combine the bills of various locations into one single bill (for multi-site customers), or could offer advice about how to reduce consumption. Further opportunities could exist if the retailer were already providing the customer with another utility service, as they would benefit from economies of scope, and could offer their customers a single bill that covers a number of utility services.

Possible approaches to setting wholesale prices

There are four approaches to setting wholesale charges that we intend to consider:

- the efficient component pricing rule;
- the long run marginal cost approach;
- accounting approaches; and
- comparator approaches.

The efficient component pricing rule

Economists developed the 'Efficient Component Pricing Rule' (ECPR) during the 1980s as a method of setting charges for access to an essential facility. The ECPR applies the concept of 'avoidable costs'. An avoidable cost is the cost that a company no longer has to bear if it ceases to supply a customer.

ECPR was developed to set an access price when the incumbent would provide retail services itself – not to set a wholesale price for an arm's length subsidiary company. The separation of Scottish Water's retail arm is important because otherwise there would be a risk of challenge from new entrants that the retail business [with access to cheap Government borrowing] has an unfair advantage.

The long run marginal cost approach

A second approach to access pricing would be to set the access charge at the 'long run marginal cost' (LRMC) of providing access to the network. The LRMC is a measure of those costs that could arise in the future if demand were to change. There are two potential problems with using LRMC. These are that there is insufficient information on the very long-term investment needs of the water industry in Scotland and the approach does not take account of central overheads. Modifying LRMC to take account of central overheads is possible but is likely to result in the same answer as the accounting approach.

The accounting approach

We would use our proposed regulatory accounts to define the accounting costs of the wholesale and retail businesses. These accounting costs would include all:

- direct and indirect operating costs (indirect costs include items such as shared legal, IT, and head office functions);
- direct and indirect capital expenditure; and
- financing costs.

The comparator approach

We also propose to analyse other network utility industries that have wholesale and retail activities. In both the gas and electricity industries there has been structural separation between the vertical components of the businesses. The monopoly elements of the businesses have been separated from those elements that are subject to competition.

While we recognise that there are differences both in terms of cost structure and in the extent to which the industries have been opened up to competition, we believe that there could be important lessons to be learned. These would include:

- What does a gas retailer do that a water retailer does not?
- What are the costs of the gas retailer?
- Why should the water retailer's costs be different?

Proposed method

We currently favour the accounting approach to determining the wholesale price. In our view this approach is most likely to ensure that a proper balance is struck between the wholesaler and the retailer.

Connection charging regime

Throughout the utility industry, issues have arisen in relation to the allocation of costs for new connections between existing and prospective customers. In Scotland, the mechanism for establishing how costs should be shared between existing and prospective customers is currently being redefined by the Scottish Executive through changes set out in the *Water Environment and Water Services (Scotland) Act*. The outcome of this process will impact on customer charges in the period of the next Strategic Review.

For both existing and new customers, the allocation of the costs associated with new connections needs to be both equitable and transparent. This requires a careful assessment of the impact of connection charging regimes, particularly where network capacity is limited. For the water industry in Scotland, the impact of limitations of the network capacity on new development confirms the need for robust connection charging arrangements to be in place.

Scottish Water's current connection charging policy

For domestic (or household) customers, current legislation²¹ requires Scottish Water to provide a connection to the public network for either new or existing properties, where it is practical to do so at 'reasonable cost'. Scottish Water currently interprets reasonable cost for new households as being a maximum of £1,500 per property, split £1,000 for waste water and £500 for water.

For first-time household water connections, Scottish Water defines the reasonable cost threshold as £500. For first-time household waste water connections, a sliding scale operates based on the Council Tax band of the property, ranging from £1,995 for a Band A house to £5,985 for a Band H.

In effect, the existing customer base funds the contribution towards the cost of connection. The process for establishing the level of the provision is not, however, transparent and appears to have evolved through custom and practice.

For non-domestic (industrial or commercial) customers there is no direct equivalent of the reasonable cost contribution. However, for waste water connections only, Scottish Water currently provides a connection allowance of £23,600 per hectare of land connected.

A number of issues have arisen in relation to Scottish Water's connection charging mechanism, including the following key concerns:

- The cost to customers of the 'reasonable cost' contribution. This is equivalent to almost 2% of a customer's bill;
- The reasoning behind the reasonable cost contribution. In particular, it is not clear why customers, including the vulnerable, should fund the installation of water and waste water services to new houses. This is not consistent with the approach taken in the electricity, gas and telephone industries.

²¹ *The Water (Scotland) Act 1980, The Sewerage (Scotland) Act 1968, The Water (Scotland) Act 1980 and the Water Environment and Water Services (Scotland) Act 2003.*

- The impact of the connection charging policy on new development. This contribution would appear to increase demand that cannot realistically be met. Moreover, similar problems do not appear to exist to the same extent in other utility models where developers fund a larger proportion of the connection costs.

Our current understanding is that the Scottish Executive proposes to bring forward regulations under the *Water Environment and Water Services (Scotland) Act 2003* by the end of 2005. These regulations will revise the mechanism by which Scottish Water determines reasonable cost for both new development and first time provision. Consequently, these changes will have an impact on the period of the *Strategic Review of Charges 2006-10*.

The Scottish Executive is currently considering whether the introduction of an infrastructure charge (as is levied south of the border) is appropriate in Scotland. This could go some way to financing local network reinforcement work that cannot be attributed to specific development.

Questions for consultation

Chapter 3: An introduction to depreciation

1. Is the proposed approach to depreciation for the *Strategic Review of Charges 2006-10* appropriate? In particular:
2. Is the proposed method of determining asset life, through a five stage classification from 'very short' to 'long', adequate?
3. Is straight line depreciation the most appropriate mechanism for assessing the annual reduction in value of Scottish Water's assets?
4. Does the proposed use of MEA valuation provide a suitable method for estimating the economic value of Scottish Water's assets or would other methods give a better estimation?

Chapter 4: Managing risk in the public sector

5. Do respondents agree that we should extend risk analysis to cover the financial ratio comparisons?
6. Do respondents agree that access to borrowing should require Scottish Water to conform to the same disciplines and control, that apply in the private sector?
7. Do respondents agree that customers should not pay for a failure to meet agreed targets?
8. Are there other factors that we should take into account in minimising the risks to customers both now and in the future?

Chapter 5: How we propose to set prices

9. Do customers agree that the regulatory capital method of price setting will help to facilitate comparisons between the water industry in Scotland and south of the border? If not, what are the alternative methods they would suggest?
10. Do customers agree that it would be better to set a series of price caps rather than the current system of setting a single revenue cap?
11. Are there other actions we should consider to improve the transparency of the price setting process?

Chapter 6: Regulatory accounts and accounting separation

12. Do respondents agree with our proposal to require Scottish Water to submit regulatory accounts?

Chapter 7: Financial modelling

13. Do respondents agree with the financial assumptions that we propose to make?
14. Do respondents agree with our proposal to use the Ofwat ratios as the primary indicator of financial sustainability? If not, which ratios should we use?

Chapter 8: Establishing an initial RCV

15. Do stakeholders agree that there are broadly three ways to establish an initial RCV for Scottish Water?
16. Which method would stakeholders see as the most reliable, and why?

Chapter 9: Allowed Rate of Return

17. Do respondents agree that it would not be appropriate to adopt the rate of return allowed for the private sector water industry south of the border by Ofwat?
18. Do respondents agree that the hybrid approach described above should be used to set the allowed rate of return for Scottish Water? If not, what other method would respondents suggest? In particular how could the suggested method facilitate monitoring and avoid any incentive for any stakeholder to seek to change the ratio of debt to RCV?
19. Do respondents agree that we should make an allowance for embedded debt for this regulatory control period, but only make such allowances in the future if there has been a material change in the rate of inflation?

Chapter 10: Regulatory capital value – treatment of depreciation and additions

20. We would welcome the views of stakeholders on the content of this Chapter. There are no specific consultation questions.

Chapter 11: Interim determinations and logging up and down

21. Do stakeholders believe that there should be a process to adjust prices during a regulatory control period? If so, should we seek to introduce a process for interim determinations?
22. Do stakeholders believe that it is appropriate to adjust prices in the next regulatory control period to

reflect actual outcomes in the previous period? If so, should we seek to introduce a similar process to Ofwat's logging up and down?

23. What factors should trigger an interim determination? At what level of materiality should an interim determination be triggered?
24. Are there other relevant changes in circumstance that we should consider introducing?

25. What is the most effective method for consulting with customers about a potential price change?
26. Would customers prefer the regulator to revised prices downwards during a regulatory period (eg in the event of slow delivery of outputs) even if prices are likely to increase by a greater percentage in the future as a consequence?

Chapter 12: Setting price caps: the role of the tariff basket

27. Do you agree that the proposed approach for the tariff basket items is appropriate for Scotland?
28. Do you agree that we should introduce more tariff baskets than Ofwat?
29. Do you agree that we should establish tariff baskets for metered water and wastewater customers with a standard connection?
30. Do you agree that the proposed method for calculating the weighted average price increase is the most appropriate method to use? If not, which alternative method would be more appropriate and why?

Chapter 13: Standard customers

31. Is a target date of the end of December for announcing tariffs (which will come into effect on 1 April in the following year) acceptable, given that details about tariff baskets and their weightings will be included in the *Strategic Review of Charges 2006-10*?

32. We would like to hear your views on the proposed changes to the standard customers used in the *Strategic Review of Charges 2002-06*. Do you feel that our proposals will make it easier to identify the customer group represented? Are there any other changes you would like to see being made?
33. We would like to hear your views on the proposed additions and changes to the standard customers, as detailed previously. Do you consider that we have achieved broad representation of the customer types? Are there any other customer types that we should add to the lists?
34. Are there any other customer types that are not properly represented in the revised list?
35. Do respondents consider that the criteria that we propose to use in assessing different approaches to setting wholesale prices (ie that the approach should be theoretically sound, practical, consistent with Scottish Executive policy and flexible) are appropriate?
36. What are respondents' views on the ECPR, LRMC, accounting cost and comparator approaches to the setting of wholesale prices?
37. Do respondents agree that the split between wholesale and retail activities should be a notified item?

Chapter 15: Connection charging regime

38. Are there any lessons from England and Wales that you want to propose for application in Scotland?

Chapter 4

The scope for operating cost efficiency

Introduction

The role of this Office, as economic regulator, is to set a regulatory framework that provides incentives to Scottish Water to achieve efficiencies and improve customer service.

This is the fourth volume in a series of documents which explain and seek views on our proposed approach to the *Strategic Review of Charges 2006-10*.

In this volume we discuss:

- how the regulatory regime can create incentives to improve performance;
- how we propose to decide on the level of operating costs that Scottish Water should be allowed to incur; and
- how best to ensure that customers receive an appropriate level of service.

We have identified a number of questions for consultation. These questions are set out at the end of the relevant chapters and are reproduced under chapter headings at the end of this Executive Summary. All responses to this consultation should be received by 5 November 2004. These should be sent to :

Katherine Russell
Water Industry Commissioner for Scotland
Ochil House
Springkerse Business Park
Stirling FK7 7XE

or by email to :

SRCmethodology@watercommissioner.co.uk

We will publish a summary of responses, and our conclusions, on our website www.watercommissioner.co.uk on 19 November 2004.

We had planned to include our proposed method for assessing the scope for operating cost and capital expenditure efficiency in this volume. Unfortunately, there are a number of issues that are still outstanding in defining the current *Quality and Standards II* capital programme. With some reluctance we have therefore

delayed finalising our approach to assessing the scope for capital expenditure efficiency until we have a fully defined capital programme for *Quality and Standards II*. This area of work will now be covered in a fifth volume. We will extend the date for responses to the questions for consultation that are set out in Volume 5.

Incentive based regulation

Regulation seeks to limit the power of a natural monopoly and ensure that it acts in the customer interest. Regulation ensures that the monopoly:

- restrains prices, by setting price or revenue limits; and delivers acceptable levels of customer service.

Common forms of regulation

There are five main regulatory models:

- **Cost-of-service regulation:** in this model the regulator sets the return that can be earned on investment by companies. This enables a company to recoup, at a set rate, the costs and investments that it has put in to provide the services. There is no incentive for a company to minimise prices or to delay investment for as long as possible.
- **Price cap regulation:** price cap regulation (RPI-X) sets the maximum prices that companies can charge for their services for a period of years. This provides an incentive to a company to improve its efficiency. This is because it has to drive down costs in order to maximise profits.
- **Yardstick regulation:** yardstick regulation involves comparing the performance of a company with that of other companies in the same industry. The regulator uses these comparisons to set targets for other companies in the industry. Yardstick regulation is usually used in conjunction with either price cap or rate of return regulation.
- **Performance based regulation:** performance based regulation relies on establishing a reliable link between the profits of the regulated company and the performance measures set by the regulator. Price increases could be delayed or fines become payable if the company does not achieve the defined

performance targets. The company therefore has a strong incentive to meet the targets set.

- **Franchise regulation:** under franchise regulation, the regulator invites companies to bid for the right to provide services to the public. The company that offers the best price-quality package wins the bid and will contract to provide the services at a certain price and to a defined quality standard.

We believe that price cap regulation is the most applicable to the current position of the water industry in Scotland. The RPI-X approach is widely used in the regulation of utilities in the UK. Using this approach in Scotland will allow more direct comparison with the industry in England and Wales. This is important as it is through benchmarking the performance of Scottish Water with other water companies that we can determine the extent of efficiencies that are possible.

Providing incentives through regulation

In the context of regulated utilities, incentive regulation has been defined as “the use of rewards and penalties to induce the utility to achieve desired goals where the utility is afforded some discretion in achieving goals²².” In the case of the water industry, the “desired goals” would include:

- keeping prices to customers as low as possible;
- meeting environmental and water quality objectives;
- delivering the required investment programme;
- maintaining the long-term sustainability of the industry; and
- meeting customer service targets.

As part of its 2004 price review²³, Ofwat listed the general criteria that it considered should apply for incentive mechanisms. Ofwat stated that the mechanism should:

- be in the long-term interests of customers;
- offer meaningful and worthwhile rewards for genuine outperformance;
- offer adequate penalties for underperformance;
- provide timely rewards and penalties;
- stimulate continuous improvements;
- be known in advance;
- be straightforward in concept;
- follow simple rules;
- be simple to apply; and
- avoid retrospective changes.

We believe that these criteria are as relevant to the public sector as to the private sector water industry. Our proposed use of the RPI-X mechanism would seem to be consistent with these criteria.

²² Lewis, Tracy and Chris Garmon, ‘Fundamentals of incentive regulation’. PURC/World Bank International Training Program on Utility Regulation and Strategy, June 1997.

²³ Ofwat, ‘A further consultation on incentive mechanisms: Rewarding future outperformance and handling underperformance of regulatory expectations’, June 2003.

Table 1: Criteria for an effective framework for incentives

Criteria	How well does RPI-X fit the criteria?
In long-term interests of customers	Good. It is widely agreed that RPI-X works well in incentivising firms to improve efficiency in operation and investment. There are risks that firms may seek to cut corners in service delivery, but proper scrutiny from regulators and customer committees should reduce this risk.
Meaningful and worthwhile rewards for genuine outperformance	Good. Regulated companies in the UK have improved their efficiency. This suggests that regulated firms believe the benefits to be worthwhile. The context of 'rewards' for a public sector company may be different.
Adequate penalties for underperformance	We are not aware of any evidence showing the penalties for underperformance to be inadequate.
Timely rewards and penalties	Acceptable. A regulatory period of four to five years ensures that the incentive framework can reward (or penalise) managers who are responsible for outperformance (or underperformance). The period is not so long that there is an inordinate delay in transferring the benefit to customers.
Stimulate continuous improvements	Good. This can be further enhanced by implementing a rolling incentive mechanism.
Known in advance	Good. The targets for the regulatory period are set out in advance. The mechanism is well understood by all stakeholders.
Straightforward in concept	Good. The concept is relatively straightforward. Companies are motivated to meet and beat the targets set by the regulator.
Simple rules	Acceptable. In its initial form, simplicity was one of the merits of the framework. However, the rules have inevitably become increasingly complicated.
Simple to apply	Acceptable. No new information, which is not already collected either during the initial price-setting or through ongoing monitoring, is required. The rules are well documented.
Avoid retrospective changes	The incentive framework relies on consistency and transparency. These are two of the Better Regulation Task Force Principles that we have adopted.

Some commentators have suggested that RPI-X promotes short-term planning by utilities instead of encouraging the long-term investment planning that could sustain efficiency improvements and would be more beneficial to customers. We agree that there is a risk that regulated companies are likely to maximize their short-term performance. It would be desirable to ensure that regulated companies planned for the long term. We consider that transparent and consistent regulation are likely to be at least as important as other potential regulatory actions.

Our view is that there needs to be a balance between short-term and long-term pressures. It is important to both customers and to the service provider that we are clear about the long-term prospects for prices. It is equally important, however, that there is a current pressure to deliver value for money to customers. On balance, we believe that RPI-X does work in the

customer interest. If the regulator monitors service levels and asset condition and performance effectively, he can reduce the risk that a company seeks short-term benefits and stores up problems for the future. Regulatory consistency and transparency are essential, but so too is the strength of the regulatory framework. The regulated company must believe that the regulator can and will apply incentives or penalties.

In order to improve the transparency and consistency of the framework, we would also propose to introduce a rolling incentive mechanism. In its 1999 price review, Ofwat proposed a rolling incentive mechanism, which it believed would strengthen incentives for the companies. The mechanism allows companies to keep the benefit of outperformance of targets for a full five-year period, irrespective of when the savings are made. It is only after a period of five years that the benefit of any outperformance is passed to customers.

Employee incentives

It is important that the benefits of any outperformance encouraged by RPI-X regulation are shared appropriately between the various stakeholders. The periodic setting of prices will ensure that customers benefit in the medium term. There does, however, have to be appropriate incentives for Scottish Water's employees to outperform the regulatory targets.

The nature and scope of incentives for management and employees is clearly outside our remit. However, the potential benefits to customers of improved and sustained performance are important considerations for this office. From a customer perspective, we believe that incentives should be designed to encourage exceptional performance and should be consistent with the regulatory settlement. Management bonuses should also be seen to reflect improvements in the value for money that is achieved for customers.

Under RPI-X regulation, Scottish Water could be permitted to retain the benefits of outperformance of regulatory targets. It is important that this incentive is in the customer interest. We therefore propose to protect this interest by introducing the right to retain the benefits of outperformance on the condition that the Board

agrees to publish, in advance, the incentive framework for managers. The Board would also be required to ensure that achieving regulatory targets is a clear and discrete element of the framework.

This is not without precedent in quasi-public, regulated organisations. Two examples of other benefit sharing schemes indicate the scope of what is possible.

Glas Cymru²⁴: the remuneration of Glas Cymru's executive directors is designed in such a way that a high proportion of the maximum potential pay is linked directly to company performance. Half of the maximum bonus is based on financial performance (measured by growth in financial reserves) and the other half is based on how well the company delivers services to customers.

Network Rail Limited²⁵: Network Rail's Management Incentive Plan (MIP) is designed to: "create the potential to reward outstanding performance based on individual contribution and the overall success of Network Rail in meeting the objectives of the Business Plan."²⁶

Setting the allowed level of operating costs

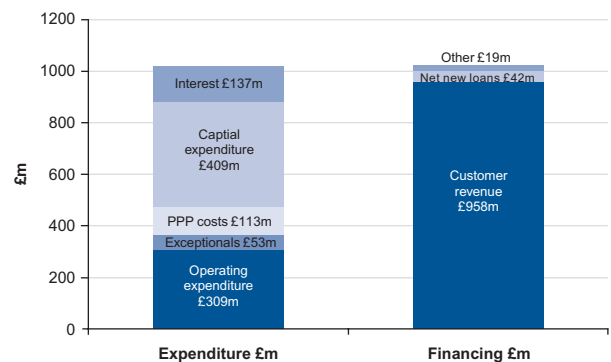
Operating expenditure comprises day-to-day running costs such as employment costs, electricity, materials, hired and contracted costs, local authority rates, insurance, software licences and vehicle running costs. Bad debt is also regarded as a running cost.

We do not include the following in operating costs:

- maintenance of the asset base;
- depreciation;
- infrastructure renewals charge;
- costs of Public Private Partnership (PPP) schemes;
- interest payments; and
- taxation.

Operating expenditure accounts for some 30% of revenue. This is illustrated in Figure 1, which shows that in 2003-04, Scottish Water's operating expenditure was £309 million.

Figure 1: Scottish Water expenditure and funding 2003-04



We collect information about the operating costs incurred by the water and sewerage service undertakers in the UK using a consistent breakdown of operating expenditure. This facilitates comparisons with other water and sewerage companies.

Underlying operating expenditure

In order to ensure that our comparisons are objective and fair, we exclude one-off items of expenditure that can affect reported operating expenditure. Examples would include:

- the costs of abnormal pension contributions;
- redundancy payments;
- rates rebates; and
- unusual weather conditions.

Base service operating expenditure

The baseline level of operating expenditure is the expenditure incurred in the base year. We will apply

²⁴ Source: Interim statement of Glas Cymru policy for the remuneration of directors, Glas Cymru Cyfyngedig Annual Meeting (2001).

²⁵ Source: Management Incentive Plan Statement – 2002-03, Network Rail Limited.

²⁶ Ibid.

future efficiency targets to this baseline. We will use the following process to set the baseline level of operating costs for the draft determination:

- We will use the 2003-04 statutory accounts and Annual Return information to establish the total level of Scottish Water's operating expenditure in that year.
- We will identify exceptional and atypical costs and subtract them from total operating expenditure. This will allow us to establish the normal ongoing costs of running the business.
- Finally, we will assess whether there is anything unusual about Scottish Water's cost allocation in 2003-04. We will compare Scottish Water with the companies in England and Wales to ensure that its cost allocation practices are consistent with those in England and Wales. If necessary, we will make appropriate adjustments to Scottish Water's operating expenditure.

We are due to publish the final determinations in November 2005. We will therefore have information for 2004-05 at that stage. We therefore propose to revise our assessment of the baseline using information for 2004-05.

New operating expenditure

Scottish Water incurs 'new' operating expenditure to deliver improvements in:

- environmental standards;
- drinking water standards;
- levels of service to customers; and
- the supply/demand balance.

Such new operating costs are added to the baseline that we described above.

We propose to use the same criteria to assess the level of new operating costs as in the *Strategic Review of Charges 2002-06*. These are as follows:

- Does the expenditure result in a level of service that exceeds the reported norms for England and Wales, or enable significant additional sewage treatment?
- Is the authority required to provide this additional level of service, and for what reason?
- Has the authority carried out a proper assessment of the proposed new operating expenditure, rather than relying on estimates from contractors/manufacturers or on an arbitrary percentage of the capital cost?
- Has the authority demonstrated management challenge and control over the proposed costs?
- Has the authority compared alternative options on a whole life cost basis, within a project appraisal?
- Have full net present value calculations been provided?
- Do the alternative options include different mixes of operating expenditure and capital investment?
- Where appropriate, have single authority solutions been investigated?
- Has the authority quantified potential savings to the baseline operating expenditure, which arise from upgrading works or systems, and offset increases in new operating expenditure?

Like-for-like comparison

In order to make reliable like-for-like comparisons we need to understand the factors that can influence the level of costs incurred by the water and sewerage companies in the UK. These can typically be divided into those that are broadly controllable by management and those that are outside the control of management. These factors are called 'internal' and 'external' respectively.

It is possible to identify a number of external factors that affect the costs of the water and sewerage industry. They include the following:

- difficulty of operating environment (eg population density, topography, types of water source, etc);
- customer mix;
- customer requirements (resolving complaints, etc);
- environmental requirements (eg leakage levels, sewage effluent standards, etc);
- volumes (water consumption, peak use, sewage loads);
- nature of the assets operated and maintained in the short to medium term (size, mix, performance);
- regional variations in charges for local authority rates, water abstraction and sewage discharges;
- regional variations in services such as mains diversions and sewer diversions ('third party' services); and
- regional variations in market rates for salaries, electricity or other costs.

We can also identify a number of factors that are within the control of management. They include the following:

- the organisation's remuneration policy;
- the organisation's policy regarding the use of permanent or temporary employees;
- the organisation's policy regarding purchasing and stocks of materials and consumables;
- the organisation's policy regarding hired and contracted services, for example the use of lawyers and consultants;
- and, in the long term, the nature of the assets operated and maintained (size, mix, performance) – over time, water and sewerage service providers can change the assets that they own and operate, either by building new ones, decommissioning old ones or

making changes to existing assets to modify the way in which they operate.

Calculating relative efficiency

In order to make objective comparisons we need to take proper account of the external factors that influence the level of costs of each company. We use two separate benchmarking models to allow us to assess the relative efficiency of the water and sewerage companies.

The models allow us to compare the actual costs incurred by a water and sewerage company with a predicted level of costs from our benchmarking models. The difference between the predicted and the actual level of costs is an indicator of the relative efficiency of the company. We adjust these results so that the average level of predicted costs is 100. The results for other companies can be adjusted in a similar way. Those with results which are lower than 100 are relatively efficient, while companies with scores higher than 100 are relatively inefficient.

Ofwat's methods of benchmarking

Ofwat uses econometric modelling to establish a relationship between the costs incurred by the companies and a number of cost drivers. These cost drivers take account of both engineering and economics. Ofwat developed these models jointly with Professor Mark Stewart of Warwick Business School in the early 1990s. They have subsequently been updated and improved.

The Competition Commission endorsed the models in August 2000, following a detailed review, and in January 2000 Ofwat's approach earned wide endorsement as an example of best practice from the Performance and Innovation Unit of the UK Government Cabinet Office.

In January 2004, Ofwat published a revised suite of models for comparing operating expenditure. The 2004 models have been re-estimated using 2002-03 information from the companies south of the border and will be used as part of the 2004 price review. There are nine models for operating expenditure²⁷:

²⁷ There are eight econometric models for assessing capital maintenance efficiency, hence the 17 models referred to by the Performance and Innovation Unit in its report

- water resources and treatment;
- water distribution;
- water power;
- water business activities;
- sewer network;
- large sewage treatment works;
- small sewage treatment works;
- sludge treatment and disposal; and
- sewerage business activities.

The purpose of each model is to establish a relationship between the costs reported by the companies and external cost drivers. The models themselves take different forms. These are summarised in Table 2.

Table 2: Summary of econometric models and explanatory factors

Model	Model type	Explanatory factors
Water resources and treatment	Linear model for unit cost	Population, number of sources, distribution input, proportion of supplies from rivers.
Water distribution	Log unit cost	Population, proportion of total mains length with diameter > 300mm.
Water power	Log linear	Distribution input, average pumping head.
Water business activities	Log linear	Number of billed properties.
Sewer network	Log linear	Sewer length, area, resident population, holiday population.
Large sewage treatment works	Log linear	Total load, use of activated sludge treatment, tight effluent consent for both suspended solids and BOD ₅ .
Small sewage treatment works	Unit cost	Works size, works type, load.
Sludge treatment and disposal	Unit cost	Weights of dry solids, disposal route.
Sewerage business activities	Unit cost	Number of billed properties.

Water resources and treatment

This model predicts the costs associated with water resources, the treatment process and the operating environment.

Table 3: Ofwat's model for water resources and treatment operating expenditure

Water resources and treatment		
Modelled cost:	Resources and treatment functional expenditure (£m) less power expenditure (£m), less Environment Agency charges (£m), divided by resident population (millions)	
Explanatory variables	Coefficient	Standard error
Constant	1.485	1.927
Number of sources divided by distribution input (M/d)	16.770	6.268
Proportion of supplies derived from river sources	5.124	2.449
Statistical indicators:	Number of observations: 22	R ² : 0.274

(Resources and treatment expenditure less Environment Agency charges less power expenditure) / resident population = 1.485 + 16.770 x (number of sources / distribution input) + 5.124 x (proportion of supply from rivers)

Water distribution

At the 1999 price review, Ofwat carried out a thorough review of the potential cost drivers for water distribution. Analysis showed that the length of large diameter mains (300mm diameter or more) was statistically significant. This result is not surprising given that repairs, maintenance and inspection on large mains are likely to incur much greater costs than those on small mains.

Table 4: Ofwat's model for water distribution operating expenditure

Water distribution		
Modelled cost:	Log to base e of (distribution functional expenditure (£m) less power expenditure (£m), divided by resident population (millions))	
Explanatory variables	Coefficient	Standard error
Constant	-5.203	0.160
Length of main greater than 300mm diameter / total length of main	5.165	1.943
Statistical indicators:	Number of observations: 22	R ² : 0.261

Log to base e of ((distribution functional expenditure less power expenditure) / resident population) = -5.203 + 5.165 x (proportion of large diameter mains)

Water power

This model is based on the physical relationship between the amount of water pumped and the energy required. It incorporates both vertical lift and the energy required to overcome friction in pipes.

Table 5: Ofwat's model for water power operating expenditure

Water power		
Modelled cost:	Log to base e of power expenditure (£m)	
Explanatory variables	Coefficient	Standard error
Constant	-9.081	0.245
Log to base e of (distribution input (Ml/d) x average pumping head)	0.940	0.023
Statistical indicators:	Number of observations: 22	R ² : 0.989

Log to base e of power expenditure = -9.081 + 0.94 x log to base e of (distribution input x average pumping head)

Water business activities

This model relates business activity costs (including customer services, scientific services and the charge for doubtful debts) to the number of billed properties.

Table 6: Ofwat's model for water business activities expenditure

Water business activities		
Modelled cost:	Log to base e of business activities expenditure (£m) plus doubtful debts (£m)	
Explanatory variables	Coefficient	Standard error
Constant	-3.916	0.255
Log to base e of number of billed properties (thousands)	0.949	0.040
Statistical indicators:	Number of observations: 22	R ² : 0.966

Log to base e of (business activities expenditure plus doubtful debts) = -3.916 + 0.949 x log to base e of (number of billed properties)

Sewer network

This model expresses costs per unit length of sewer. It takes into account the amount of sewage being transported through the sewerage system. This is a function of area, since this will affect surface water drainage volumes. Costs associated with remoteness are also a function of area. Sewer network costs are also a function of population since this will impact on sewage volumes. The model also takes account of the higher costs expected in regions with a significant holiday population.

Table 7: Ofwat's model for sewer network operating expenditure

Sewer network		
Modelled cost:	Log to base e of sewer network expenditure (£m) less Environment Agency charges (£m), per kilometre of sewer for each area	
Explanatory variables	Coefficient	Standard error
Constant	-6.515	0.313
Log to base e of area of sewer district per kilometre of sewer	0.179	0.032
Log to base e of residential population per kilometre of sewer	0.432	0.169
Holiday population divided by resident population	0.715	0.501
Statistical indicators:	Number of observations: 64	R ² : 0.457

Log to base e of sewer network expenditure less Environment Agency charges per kilometre of sewer = -6.515 + 0.179 x (log to base e of area of sewer district per kilometre of sewer) + 0.432 x (log to base e of residential population per kilometre of sewer) + 0.715 x (holiday population/resident population)

Large sewage treatment works

The large sewage treatment works model covers those sewage treatment works serving a 'population equivalent' of at least 25,000. Population equivalent is a measure of the amount of sewage treated, both domestic and industrial, expressed in terms of the number of domestic customers required to produce a similar strength and volume of sewage.

Table 8: Ofwat's model for large sewage treatment works operating expenditure

Large sewage treatment works		
Modelled cost:	Log to base e of functional expenditure on sewage treatment at large works (£000) less Environment Agency charges (£m) and terminal pumping costs	
Explanatory variables	Coefficient	Standard error
Constant	-1.455	0.253
Log to base e of total load ²⁸	0.754	0.028
Tight effluent consent for both suspended solids and BOD ₅ ²⁹	0.060	0.051
Activated sludge used	0.353	0.054
Statistical indicators:	Number of observations: 369	R ² : 0.715

Log to base e of large sewage treatment works expenditure less Environment Agency charges and terminal pumping costs = -1.455 + 0.754 x (log to base e of total load) + 0.06 if tight effluent consent for both suspended solids and BOD₅ + 0.353 if activated sludge used.

²⁸ For the purposes of this model, total load is estimated as population equivalent x 120.

²⁹ Tight effluent consent is defined as 30 mg/litre or less suspended solids and 20 mg/litre or less BOD₅.

Small sewage treatment works

This model uses average unit costs across England and Wales.

Table 9: Ofwat's model for small sewage treatment works operating expenditure

Cost of small sewage treatment works										
This is a unit cost model. Each company's average annual expenditure divided by the total load treated at each works is compared with the weighted average industry cost.										
	Weighted average industry unit cost £000s/(kg BOD5/day)									
	Primary	Secondary activated sludge	Secondary biological	Tertiary A1	Tertiary A2	Tertiary B1	Tertiary B2	Sea outfall preliminary	Sea outfall screened	Sea outfall unscreened
Size band 1	0.78	1.04	1.00	1.07	0.72	0.69	0.92	10.89	-	0.32
Size band 2	0.33	0.83	0.59	0.62	0.38	0.49	0.55	-	-	0.05
Size band 3	0.33	0.46	0.31	0.43	0.33	0.30	0.39	0.43	0.04	0.01
Size band 4	0.30	0.21	0.16	0.20	0.29	0.16	0.19	0.01	0.10	0.01
Size band 5	0.24	0.14	0.11	0.14	0.16	0.10	0.12	0.01	-	-
Number of observations: 500										

Sludge treatment and disposal

This model compares the costs of sludge treatment and disposal to the volume treated and the possible methods of disposal. The model uses average unit costs across England and Wales.

Table 10: Ofwat's model for sludge treatment and disposal operating expenditure

Cost of sludge treatment and disposal								
This is a unit cost model. Each company's average annual expenditure is divided by the amount of sludge disposed to each disposal route and this is compared with the weighted average industry cost.								
	Weighted average industry unit cost £000s/(thousand tonnes of dry solids)							
Disposal route	Farmland - untreated	Farmland - conventional	Farmland - advanced	Incineration	Landfill	Composted	Land reclamation	Other
£000/ttds	-	198.2	255.9	161.6	208.6	205.2	140.7	118.4
Number of observations: 80								

Sewerage business activities

This model uses an average unit cost per billed property across England and Wales.

Table 11: Ofwat's model for sewerage business activities operating expenditure

Sewerage business activities	
This is a unit cost model. Each company's average annual business activities expenditure (plus doubtful debts) is divided by the number of billed properties. This is then compared with the weighted average industry cost.	
£/billed property	Weighted average industry unit cost 11.77
Number of observations: 10	

We only made one change to the Ofwat models in the *Strategic Review of Charges 2002-06*. This change concerned the small sewage treatment works model. We took the view that many of the small works in Scotland were significantly smaller than this and therefore developed a new size band for works with a population equivalent up to 100 – we called this size band 0. Size band 1 for Scotland now covered works with a population equivalent of between 100 and 250 (rather than 0 to 250, as in England and Wales).

We developed two new unit costs for Scotland – one for works in size band 0 and the other for works in size band 1 in Scotland. The unit costs of the very small works in size band 0 were high relative to those in the other size bands. This reflects the fact that it tends to cost more to treat loads at very small works. The small sewage treatment works model therefore continued to demonstrate economies of scale.

The alternative model

At the time of the last review we developed an alternative model to assess the efficiency of the water industry in Scotland. This model was used to check the results of the Ofwat econometric models. We were aware that the Competition Commission had concluded that, although the Ofwat econometric models were robust, alternative models could have a place in efficiency analysis.

In developing an alternative model we took particular care to use a different approach to Ofwat's econometric models so that the alternative model could provide an independent check on the results given by Ofwat's models.

The alternative model splits the water and sewerage business into ten different activities:

- water abstraction and treatment;
- water distribution;
- business activities (water);
- bad debt (water);
- sewage collection;

- simple sewage treatment;
- complex sewage treatment;
- processing sludge;
- business activities (sewerage); and
- bad debt (sewerage).

For each of these activities, we determine the principle factors that would affect comparisons of operating costs between Scottish Water and the water and sewerage companies in England and Wales.

We identified appropriate drivers for the costs that cannot be controlled by management. Tables 12 and 13 set out the cost drivers (for water and sewerage respectively) that we identified for each activity.

Table 12: Alternative model: cost drivers by activity for the water service

Activity	Cost drivers used in the model, associated with each activity				
	Assets operated	Asset attribute	Customers served	Volume	Other
Abstraction and treatment	Impounding reservoirs and lochs	Number and average size of each asset type	-	Annual distribution input ³⁰	Average pumping head ³¹ in abstraction and treatment
	Burns and springs				
	River abstraction				
	Boreholes				
	Water treatment works				
Distribution	Water mains	Length of network	Resident connected population	Annual distribution input	Average pumping head in the distribution system
	Water pumping stations	Number and average size of each asset type			
	Service reservoirs and towers				
Business activities			Number of billed water customers – domestic (unmeasured, metered) non-domestic (unmeasured, metered)		Annual number of water samples taken
Bad debt					Annual revenue billed

³⁰ Distribution input is the volume of water put into supply (including all leakage).

³¹ Average pumping head is the average lift through pumping of water put into supply. Pumping takes place as part of the abstraction and treatment processes, and within the distribution system, where treated water is provided to customers.

Table 13: Alternative model: cost drivers by activity for the sewerage service

Cost drivers used in the model, associated with each activity					
Activity	Assets operated	Asset attribute	Customers served	Volume	Other
Sewage collection	Sewers	Length of network	Resident connected population	Volume per head	Size of area served
	Pumping stations	Number and average size			
	Storm outfalls	Number			
Simple sewage treatment	Sea outcrops - unscreened - screened	Number and average size	-	Load ¹¹ treated	
	Preliminary treatment works				
	Primary treatment works				
	Public septic tanks	Number			
Complex sewage treatment	Secondary treatment works - using activated sludge process - using biological process Tertiary treatment works - using activated sludge process - using biological process	Number and average size		Load treated	
Processing sludge				Tonnes disposed (dry weight)	Disposal route (landfill, farmland, incineration, other)
Business activities	-		Number of billed sewerage customers - domestic (unmeasured, metered) non-domestic (unmeasured, metered)		Number of sewage samples taken
Bad debt					Annual revenue billed

We used information from Scottish Water and the water and sewerage companies about each of these cost drivers. The model also takes account of economies of scale. We do this by calculating the number of 'standard

assets' that each company has. The standard assets take account of the size and operating costs of the companies' assets.

We multiply the unit costs for each asset cost driver by the number of 'standard' assets to arrive at a predicted cost for each of the ten activities of the business. We multiply the unit costs for customers, volumes and other drivers by the information reported by the companies and by Scottish Water on these items. This results in an additional predicted cost for each of the ten activities. We then sum, for each activity, all of the relevant predicted costs. This tells us the average expected operating expenditure of that activity for each company and for Scottish Water.

We then combine the ten areas of the model to determine the overall predicted operating expenditure of each water and sewerage undertaker. Comparing this predicted cost with the actual cost reported by each undertaker gives us an initial indication of the level of efficiency.

The purpose of making adjustments to reported costs

It is important for us to consider the results of both the Ofwat and the alternative modelling approaches very carefully. Our models cannot take account of all of the external factors that influence cost. These factors may either increase or decrease the level of cost.

We need to take account of all of these differences. For that reason, we ask Scottish Water to draw to our attention all factors (those not included in the models) that influence cost. This should include factors that both increase and decrease cost.

We want to ensure that our efficiency targets neither unduly penalise nor reward Scottish Water. Some commentators have argued that it is unfair to draw comparisons between Scottish Water's performance and that of the privatised water and sewerage companies in England and Wales. In particular, they question the application of Ofwat's econometric models in Scotland³². We believe that the fact that the Ofwat

³² See, for example, J Findlay, 'Financing the Scottish water and sewerage industry', paper to the Scottish Trades Union Conference, April 2004.

models have been successfully applied to companies as different as Severn Trent Water³³ and South West Water³⁴, and to both large water and sewerage companies³⁵ and small water only companies³⁶, confirms that the models can reasonably be applied in Scotland. While some new special factors may have to be taken into account, this does not invalidate the modelling process.

Commentators who question our benchmarking process cite the following differences between the industry in Scotland and that south of the border:

- Scotland's geography (its size, remote islands, long coastline and topography);
- its population settlement patterns (remote communities, concentrated dense urban areas);
- the extent of the assets required to serve customers in Scotland (long mains, small isolated treatment works);
- the quality of the assets inherited by Scottish Water (condition and performance of the mains, sewers, treatment works, pumps);
- the nature of the customer base;
- the fact that Scottish Water is in public ownership (political interest, Scottish Water's duty to Scotland, remit and freedom of management); and
- the short time that Scottish Water has had to mature and improve.

We believe that some of these factors may require us to make adjustments to the results of the models. To justify an adjustment, Scottish Water has to provide evidence in the following areas:³⁷

- What is the justification for the special circumstances which demonstrates a material difference from

industry norms? Scottish Water will need to set out whether the factors are the result of special obligations, the character of all or part of its customer base, or the result of historical development of the water and sewerage systems in its area of supply.

- What is the quantification of the impact of the special factors that demonstrate a net additional effect on Scottish Water's costs, over and above that which would be incurred without these factors?
- What has Scottish Water done to manage the additional costs arising from the special factors and to limit their impact?
- Are there other special factors that reduce costs relative to industry norms? If so, have these been quantified and offset against upward cost pressures?

Assessing the size of the efficiency gap

The term 'efficiency gap' refers to the difference between Scottish Water's actual reported operating costs and the costs reported by the comparator companies for providing a similar level of service. We need to distinguish between the efficiency gap that exists today and the gap that could exist in the future, as the companies in England and Wales are likely to continue to improve.

The efficiency gap is the difference between Scottish Water's actual costs and its adjusted predicted level of costs. We convert these differences to a relative scale in order to be able to complete the benchmarking. We call this the efficiency score. An illustrative example is presented in Table 14 opposite.

Table 14: Example illustrating how the efficiency score is calculated.

	Adjusted Observed £m	Predicted £m	Adjusted Residual		Efficiency Score
			£m	%	
A water & sewerage company	200.00	155.00	45.00	29.03%	129.03

³³ Severn Trent Water covers West and East Midlands and part of rural Wales.

³⁴ South West Water covers Devon and Cornwall.

³⁵ Thames Water has some 12 million customers.

³⁶ Bournemouth and West Hampshire Water covers just the water service for the Bournemouth area.

³⁷ These questions are adapted from Ofwat's letter to Regulatory Directors, RD35/98, 1998.

In this example, a company has reported operating costs of £200 million, after adjustments. The econometric models predict costs of £155 million for this company. It is therefore relatively inefficient. We first calculate the residual in percentage terms:

$$100\% \times 45/155 = 29.03\%$$

The last step in the comparison process is to rebase efficiency scores such that the average efficiency score of companies south of the border is 100. This simplifies the presentation of Scottish Water's score.

Assessing the future efficiency gap

The efficiency of the comparator companies in England and Wales continues to improve. We believe that we need to take account of the way in which the performance of the companies south of the border is likely to change over the next regulatory control period. Otherwise customers in Scotland may have to pay more than is necessary.

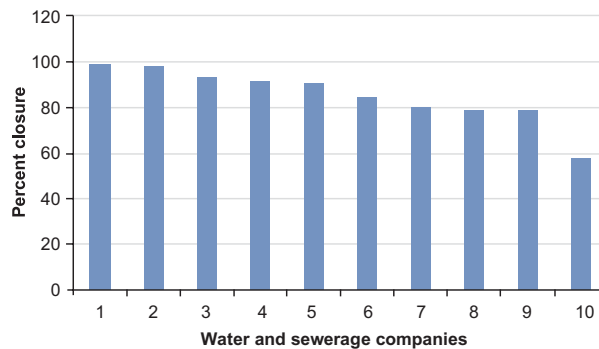
Ofwat published draft targets and incentives in August 2004³⁸, and will finalise them in November 2004. This will inform our assessment of the scope for improvement by Scottish Water over the period 2006 to 2010. We can then set targets for Scottish Water, which would close much of the expected efficiency gap in 2010.

Rate of improvement in efficiency

The final important area that we need to consider relates to the rate of improvement that we can expect from Scottish Water. In the *Strategic Review of Charges 2002-06* we examined evidence from England and Wales about the rate of progress achieved by companies during the 1990s. We assumed that Scottish Water should be able to match the pace of change achieved south of the border.

Our analysis demonstrated that during their best five-year period, the companies achieved an average closure of 85% of the gap to the leading company. Figure 2 is taken from the *Strategic Review of Charges 2002-06*.

Figure 2: Closure of efficiency gap by water and sewerage companies over five years



We propose to conduct a similar analysis to establish the rate at which Scottish Water should be required to improve during the 2006-10 regulatory control period.

Calculating total allowable operating expenditure

We are proposing to set targets in terms of total allowable operating expenditure (not including depreciation). We will set total allowable operating expenditure at a level that we believe is sufficient for Scottish Water to carry out its operations for each year of the regulatory period. This is the amount that will be funded through customer charges. It is made up as follows:

Total allowable operating expenditure
=
Baseline operating expenditure ³⁹
±
Assessed changes in baseline operating expenditure
-
Efficiencies in baseline operating expenditure ⁴⁰
+
New operating expenditure ⁴¹
-
Efficiencies on new operating expenditure ⁴²
+
Public Private Partnership operating expenditure
-
Efficiencies on Public Private Partnership operating expenditure
+
The impact of annual inflation on all of these components

³⁸ Ofwat Future water and sewerage charges 2005-10 – Draft determinations, August 2004.

³⁹ See Chapter 6.

⁴⁰ See Chapters 7, 8 and 9.

⁴¹ See Chapter 12.

⁴² See Chapter 13.

We will no longer refer to a monetary value for the total efficiencies required. However, if stakeholders want to count the total monetary value of the efficiencies required in this regulatory control period in order to compare it with that used in the *Strategic Review of Charges 2002-06*, for each year they should add the following then adjust for annual inflation:

- efficiencies in baseline operating expenditure;
- efficiencies in new operating expenditure; and
- efficiencies in Public Private Partnership costs.

Public Private Partnerships

The three former authorities decided to let a total of nine concessions for the building and operation of waste water treatment plants. These concessions were for a period of 25-30 years.

The concessions were let to joint venture companies which usually consisted of a consultant engineering and design firm, a construction contractor and an operations company. The companies had to accept responsibility for both maintenance over the contract period and the inherent risks of project delays, cost over-runs and volume changes caused by shifts in demand. They were also required to deliver the service within tightly specified parameters. An essential element of PPP is the transfer of risk from the public to the private sector.

The results of the nine projects would appear to have realised considerable tangible benefits in the short term. It is open to question whether these benefits still apply.

The nine PPP contracts represent a capital investment on behalf of customers of around £550 million, which contrasted with an estimated investment of over £700 million under the conventional procurement route.

The contracted solutions for the collection, transmission and treatment of waste water and its resultant sludge are tailored to each project's particular location. The annual fees are therefore only comparable on an

aggregate basis if the actual service delivered and the construction of assets are taken into account.

The nine projects are outlined in Table 15. The table also shows the projected fee payable to each consortium.

Table 15: PPP contracts with Scottish Water

Project name/ Company name:	Contract signed	Duration years	Construction costs (£m)	Annual fee in 2002-03
Almond Valley, Seafield and Esk Valley: Stirling Water (Seafield) Ltd	1999	30	£100m	£25m
Levenmouth: Caledonian Environmental Services Ltd	2000	40	£46m	£5m
Highland (Fort William and Inverness): Catchment Ltd	1996	25	£33m	£9m
Tay: Catchment (Tay) Ltd	1999	30	£84m	£17m
Aberdeen: Aberdeen Environmental Services Ltd	2000	30	£64m	£13m
Moray: Catchment (Moray) Ltd	2001	30	£60m	£8m
Dalduwie/Shieldhall: SMW Ltd	1999	25	£66m	£16m
Dalmuir: Scotia Water UK Ltd	1999	25	£37m	£7m
Meadowhead, Stevenston & Inverclyde: Ayr Environmental Services Ltd	2000	30	£59m	£12m
Scotland total			£549m	£112m

Financial and efficiency consequences

We analysed the value for money of the PPP contracts in 2001. The evidence suggested that these schemes were all delivered at a much lower cost for customers than would have been achieved by the three authorities under traditional procurement.

In the *Strategic Review of Charges 2002-06* we highlighted that there may be opportunities for Scottish Water to review the PPP contracts that it inherited. It seems clear that the implied operating costs of the PPP consortia are high relative to the expected level of operating costs associated with a waste water treatment plant of similar size. There would therefore appear to be

some scope for improved efficiency. Moreover, the recent and continuing significant improvement in Scottish Water's operating expenditure efficiency would suggest that it is now quite likely that Scottish Water could operate these plants at equal or lower cost than the PPP companies. It is conceivable, therefore, that Scottish Water could seek to take the operation of these assets back 'in-house'.

We have no doubt that the contracts represented good value for money at the time they were concluded. However, we consider that improvements in Scottish Water's performance have made it less certain that the PPP contracts represent value for money to customers today. It is important that we ensure that customers' bills are no higher than they need to be and, as such, we need to consider whether we can take any steps to ensure that PPP costs can be reduced. Possible options could be to set an efficiency target for PPP or to adjust the level of allowed revenue to reflect the efficient costs (financing and operating) of the services that are being delivered through PPP.

Our first proposed approach will be to look at the prices for which shares in the PPP concessions are changing hands and assess what this might tell us about the value for money that customers are currently receiving. Even if these prices are quite significantly lower than the apparent value to current customers, we would have to take account of the extent of the risk transfer that still remains with the PPP contractor.

The second proposed approach will be to look again at the operating and capital maintenance costs of the PPP company and, using the benchmarking techniques that we outlined in Chapters 8 and 9, assess the scope of any inefficiency. We will also use the capital maintenance models that we will describe in detail in Volume 5. Again, we would propose to take account of the value of any remaining risk transfer.

If we conclude that customers are currently paying too much for the services that are being provided (or will be by the end of the next regulatory control period) we would propose to take account of this in Scottish Water's price caps. This is clearly a move forward from the *Strategic Review of Charges 2002-06* where we did not

set an efficiency target on PPP. However, we did note at that time that it might be appropriate to apply such an efficiency target in the future.

Levels of service

Monitoring the levels of service

We monitor three broad aspects of service:

- asset performance measures;
- customer service measures; and
- public health and environmental performance measures.

Asset performance measures cover areas of service that depend on the water supply and sewerage infrastructure. They cover:

- pressure;
- planned supply interruptions;
- unplanned supply interruptions; and
- sewer flooding.

Customer service measures cover areas of service that depend on the management and employees of the organisation and the processes they use. Customer service measures cover:

- billing enquiries;
- written complaints;
- telephone contacts; and
- Public health and environmental performance measures.

Public health and environmental performance measures cover areas of service that relate to the service provider's ability to comply with the requirements for quality standards. These standards are set by the

respective quality regulators, DWQR⁴³ and SEPA⁴⁴. These measures include:

- meeting drinking water quality standards,
- complying with abstraction consents for rivers,
- complying with discharge consents at waste water treatment works, and
- the number of pollution incidents.

There are also a number of guaranteed minimum standards. Failure to comply with any of the guaranteed standards entitles the customer to financial compensation.

Encouraging improvements in the level of service

There are two possible approaches to regulating levels of service:

- Firstly, we could benchmark the performance of the regulated company against the performance of other companies in the same or similar industries. The results of this benchmarking would be published in order to provide the company with an incentive to improve performance in the future.
- Alternatively, we could set targets for some or all aspects of service quality. These targets should be quantifiable so that it is possible to measure whether the particular aspect of service has been delivered to the required standard.

Publishing the results of performance benchmarks is likely to encourage companies to improve their performance.

- Managers do not want to get a reputation for running a company that performs less well than other similar companies.
- Shareholders will be concerned about the impact of poor performance.

- The level of service adjustment applied by Ofwat at the price review should provide companies with an incentive to avoid being one of the worst performing companies and to aim to be one of the best performing companies.
- The threat of competition in certain aspects of the business, for example as a result of common carriage, retail competition or off-network solutions, should encourage companies to consider their level of service performance relative to other companies.

The benchmarking approach raises two issues:

- Are the incentives for performance improvement sufficiently strong?
- Are the incentives for performance improvement appropriate? Provided the overall performance measure reflects customer preferences accurately, this should not be an issue. However, this places an onus on the regulator to ensure that the performance measurement system is updated in line with any significant changes in customers' priorities.

The target setting approach is particularly useful in situations where there are no direct comparators for the regulated company, for example, in industries where there is one company and one regulator. In industries where comparators are available there may also be a role for targets. For example, it could be argued that it is appropriate to set Scottish Water a level of service target since it lags so far behind the companies south of the border.

The target setting approach also raises two issues:

- Is there sufficient information to set a target?
- Does the interaction between efficiency targets and levels of service targets weaken the regulator's ability to target reductions in costs?

There are many different aspects of customer service.

⁴³ DWQR – Drinking Water Quality Regulator – www.DWQR.org.uk

⁴⁴ SEPA – Scottish Environment Protection Agency – www.SEPA.org.uk

The cost of improving each aspect of customer service will vary depending on the level of service target that is set. Initial improvements may not be too costly to achieve, but further improvements are likely to become increasingly expensive. The regulator needs to understand these marginal costs and customers' willingness to pay if he is to set appropriate levels of service targets. We are not convinced that this would be consistent with our principles of transparency, consistency and proportionality.

The proposed approach for Scottish Water

We propose to develop our use of the benchmarking approach for quality of service regulation. The approach is tried and tested for the water industries in Scotland and England and Wales.

We have explained that we are proposing to set efficiency targets that are adjusted to take account of differences in the level of service. In this instance, we would accept claims for new operating costs designed to improve levels of service, provided there is a clear measurable output. We believe that this refinement of our benchmarking approach may capture some of the potential benefits of the target setting approach without the weaknesses.

Monitoring operating expenditure and levels of service

Framework for monitoring

The *Strategic Review of Charges 2006-10* is only the start of the regulatory process. During the regulatory control period we will monitor Scottish Water's progress in reducing costs and improving levels of service. We intend to build on the framework that we have already put in place to monitor performance, through:

- regular information submissions, comprising the Annual Return and more frequent updates of key performance indicators, and forecasts;
- independent audit of regulatory information;

- a process of query, challenge and confirmation of numbers;
- rigorous analysis of current and expected progress against targets;
- published reports; and
- the application of analytical tools which are designed to ensure that we can monitor real progress as opposed to apparent progress (for example, improvements that are due to the information for the annual return being calculated in a different way).

We will also monitor Scottish Water's progress relative to that of the companies in England and Wales. We will continue to use information from the companies south of the border. This information will include:

- companies' Annual Returns to Ofwat;
- comments on these returns by independent auditors, published by Ofwat;
- companies' published regulatory accounts;
- Ofwat's published analysis of companies' progress; and
- rigorous analysis of relative efficiency using our benchmarking tools.

Monitoring operating expenditure

Our monitoring will cover the following⁴⁵:

- baseline operating expenditure;
- new operating expenditure;
- Public Private Partnership (PPP) operating expenditure;
- year on year progress on each of the above against targets; and

⁴⁵ Chapters 6, 12 and 13 define and explain baseline, new and PPP expenditure, respectively.

- progress on baseline and new operating expenditure, relative to England and Wales.

Table 16 sets out our framework for monitoring progress on operating expenditure.

Table 16: Framework for monitoring progress on operating expenditure⁴⁶

Sources of information	Operating expenditure			Relative performance
	Baseline	New	PPP	Baseline and new ⁴⁷
<i>Scottish Water</i>				
Annual Return	✓	✓	✓	✓
Regulatory accounts (from 2005)	✓	✓	✓	✓
Monthly operating expenditure returns	✓			
Quarterly investment returns ⁴⁸		✓		✓
Independent comments by Scottish Water's Reporter	✓	✓	✓	✓
<i>England and Wales</i>				
Companies' annual returns				✓
Company regulatory accounts				✓
Independent comments by Reporters in England and Wales				✓
Ofwat's published annual reports				✓
Reporting progress	↓			
	Costs & performance reports			

Monitoring levels of service

We monitor the level of Scottish Water's customer service performance by using the overall performance assessment (OPA) that Ofwat has developed. We would propose to monitor improvements in customer service (financed by new operating cost) relative to the OPA or, if this is not appropriate, to some other clearly defined benchmark.

The OPA combines results for customer service measures with other information about performance in drinking water quality and environmental compliance to derive an overall score for the level of service.

Our framework for monitoring performance will focus primarily on the levels of service measures that comprise the OPA. We will also monitor performance against Scottish Water's Guaranteed Minimum Standards (GMS).

Table 17 sets out our framework for monitoring levels of service performance.

Table 17: Framework for monitoring levels of service performance

Sources of information	Guaranteed Minimum Standards	Overall performance assessment
<i>Scottish Water</i>		
Annual Return	✓	✓
Customer Service Performance Return	✓	✓
Quality Performance Assessments	✓	
Independent comments by Scottish Water's Reporter	✓	✓
<i>England and Wales</i>		
Companies' annual returns		✓
Independent comments by Reporters in England and Wales		✓
Reporting progress	↓	
	Customer service reports	

Conclusion

We believe that our framework for monitoring Scottish Water's performance is robust. The introduction of regulatory accounts in 2005 will further strengthen this framework.

We will continue to publish reports on progress made by Scottish Water, in order to inform stakeholders and encourage discussion and debate. These reports will pay particular attention to changes in the level of service that is provided to customers. They will also examine whether such changes are consistent with any new operating costs claimed by Scottish Water.

⁴⁶ The components of operating expenditure are defined in earlier chapters of this volume and are summarised in Chapter 14.

⁴⁷ Comparisons of relative performance exclude PPPs as there is no direct parallel in the water and sewerage industry in England and Wales.

⁴⁸ We use the quarterly investment returns to help monitor new operating expenditure because this expenditure is driven largely by Scottish Water's capital investment.

Questions for consultation

Chapter 3: Types of regulatory framework

1. Do stakeholders agree that the RPI-X framework is appropriate to the regulation of Scottish Water? If not, what alternative would you suggest and why?

Chapter 4: RPI-X incentive framework and benefit sharing

2. Assuming that an RCV approach is applied in Scotland in the *Strategic Review of Charges 2006-10*, is a cap required on the capital expenditure to be included in the RCV?
3. If so, should we implement a service-capping rule, similar to the one implemented by Ofwat in England and Wales⁴⁹?
4. Does the RPI-X mechanism provide appropriate incentives for Scottish Water?
5. Are there any significant differences between private and public companies, which we have not taken into account in this analysis?
6. Does our assessment of the importance of benefit sharing in providing incentives to Scottish Water to achieve efficiencies appear reasonable?
7. What level of transparency is appropriate for management bonuses in a public sector organisation?
8. Should management bonuses for Scottish Water be aligned with independently assessed regulatory and customer service targets?

Chapter 5: What is operating expenditure and why is it important?

No questions for consultation

Chapter 6: Establishing a baseline for operating costs

9. When setting operating expenditure efficiency targets, do respondents agree that we should use 2003-04 as a base year for the draft determinations and 2004-05 as a base for the final determinations?
10. We invite comments on the most appropriate figure to use for baseline operating expenditure in 2005-06 and the impact that different assumptions may have.
11. What factors do stakeholders believe could result in changes in baseline operating expenditure in the period 2006-10?
12. Do stakeholders think that our criteria for assessing Scottish Water's claims for changes in baseline operating expenditure are sufficient?

Chapter 7: Ensuring like-for-like comparisons of efficiency

13. Do respondents agree that our proposed "top-down" approach to benchmarking will provide the most appropriate method of comparing Scottish Water's performance?

Chapter 8: Ofwat's approach to assessing operating cost efficiency

14. Do respondents agree that the Ofwat econometric models for operating expenditure should be extended to Scotland for our *Strategic Review of Charges 2006-10*.

Chapter 9: An alternative method to assessing operating cost efficiency

15. What are your views on this alternative model?
16. What other approaches to the assessment of the scope for operating efficiency would you suggest? How would these work?

⁴⁹ Ofwat, 'A further consultation on incentive mechanisms: Rewarding future outperformance and handling underperformance of regulatory expectations', June 2003.

Chapter 10: Ensuring modelled results are objective and fair

17. Do you agree that it is appropriate to take into account differences in the scope of activities when determining Scottish Water's operating efficiency, relative to England and Wales? If so, which differences do you think are important to recognise and possibly take into account?
18. Do you agree that it is appropriate to take into account differences in levels of service when determining Scottish Water's operating efficiency, relative to England and Wales? If so, which differences do you think are important to recognise and possibly take into account?
19. How should we assess the cost of any such differences?

Chapter 11: The scope and timeframe for improvement

20. Do respondents agree with our proposed approach to assessing the rate at which any efficiency gap may be closed? If not, what approach would they suggest?

Chapter 12: New operating expenditure

21. Do respondents agree that the criteria that we adopted for assessing new operating expenditure at the *Strategic Review of Charges 2002-06* remain appropriate for assessing such expenditure for 2006-10?
22. Do respondents agree that there is greater scope for achieving efficiencies in new operating expenditure than in base operating expenditure?

Chapter 13: Public Private Partnership financing

23. Do respondents believe that we should set an efficiency target on PPP if we can identify that it is currently a more expensive option for customers? If not, why should customers be asked to pay more?

24. Do respondents believe that our approach to looking at the value for money of PPP is appropriate?

25. If we determined that an efficiency target was appropriate, should this be implemented at the start, during, or at the end of the next regulatory control period?

Chapter 14: Setting the allowed level of operating costs

26. What are the views of respondents on our proposals to set a level of allowable operating cost as the target for Scottish Water in each year of the regulatory control period?
27. What are the views of respondents on the scope for improved efficiency at Scottish Water? It would be helpful if stakeholders could express their views either with reference to the performance of the companies in England and Wales or to Scottish Water in isolation, and give reasons.

28. Do respondents have any views regarding Scottish Water's performance beyond 2010?

29. Do respondents believe that it is appropriate for us to set allowable levels of operating expenditure for Scottish Water such that the corporation has an incentive to outperform? If so, what are respondents' views on the split between efficiency targets and the incentive to outperform?

30. Should we seek to set separate levels of allowable operating expenditure for the 'wholesale' sewerage, 'wholesale' water and non-domestic retail components of Scottish Water?

Chapter 15: Regulating levels of service

31. What are respondents' views on the benchmarking approach and the target setting approach?

32. What are respondents' views on our proposed approach?

33. Are there any targets (eg leakage) that are appropriate in pursuing the benchmarking approach?

Chapter 16: Monitoring operating expenditure and levels of service

34. What are respondents' views on our proposed approach to monitoring Scottish Water's performance?

Chapter 5

The scope for capital expenditure efficiency

Introduction

This volume describes how we propose to set the level of expenditure that should be allowed to Scottish Water to meet the investment priorities outlined in the Minister's Guidance at the *Strategic Review of Charges 2006-10*.

Unfortunately we have had to delay publication of this volume from September 2004 until now. We considered that it was not in customers' interests to publish our approach to assessing capital efficiency for the next regulatory control period until outstanding issues relating to the capital expenditure programme from the current regulatory control period had been resolved.

We welcome responses from stakeholders to the specific consultation questions that are set out at the end of each chapter, as well as any other comments they might wish to make. Responses should be sent to:

Katherine Russell
Water Industry Commissioner for Scotland
Ochil House
Springkerse Business Park
Stirling FK7 7XE

or by email to :
SRCmethodology@watercommissioner.co.uk

Responses should arrive by 17 January 2005. We recognise that the period for consultation is short. This is, however, a direct result of the difficulty that we have had, and continue to have, in defining the baseline investment programme for the current regulatory control period. We apologise for any inconvenience which the shorter consultation period may cause.

Capital expenditure in the Scottish water and wastewater industry

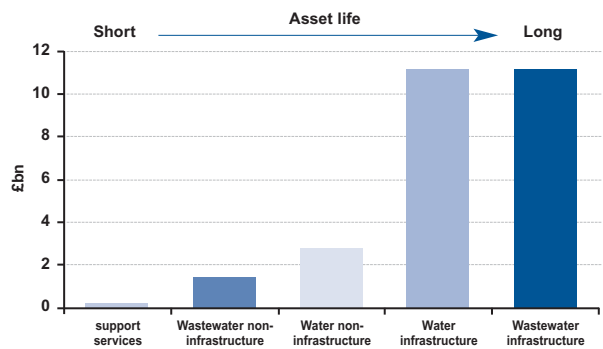
The assets required to deliver a water and wastewater service can be divided into five broad types:

- water infrastructure;
- water non-infrastructure;

- wastewater infrastructure;
- wastewater non-infrastructure; and
- support services.

Figure 1 illustrates the replacement cost and expected life of Scottish Water's assets.

Figure 1: Replacement cost and asset life by type of asset



Scottish Water is responsible for a larger geographic area than any of the water and wastewater companies in England and Wales. However, the asset bases either side of the border appear to have many similarities. This is illustrated in Table 1. The high proportion of the Scottish population that lives in the Central Belt and coastal communities may explain the possibly unexpected result.

Table 1: Comparison of the asset base

	Scottish Water	Ranking	Water and wastewater companies in England and Wales		
			Smallest	Mean	Largest
Length of water mains (km)	46,508	1st	11,226	27,706	45,674
Length of main per property (m)	18.74	5th	9.07	15.94	21.10
Length of sewers (km)	44,854	3rd	8,820	30,573	67,151
Length of sewer per property (m)*	13.34	7th	11.93	13.68	14.85
Number of water treatment works	371	1st	33	102	154
Number of wastewater treatment works**	616	4th	349	630	1,071

* Excludes lateral sewers as they are not part of the sewer network in England and Wales.

**Excludes 1,220 very small public septic tanks installations, which are uncommon in England and Wales.

Historic investment in Scotland

Investment in the water industry in Scotland began to increase significantly after the three former water authorities were established in 1996. This was delivered both by conventional procurement and by PFI.

The level of investment in England and Wales increased significantly after privatisation in 1989. By 1996-97, the privatised companies were investing some £3.5 billion per year.

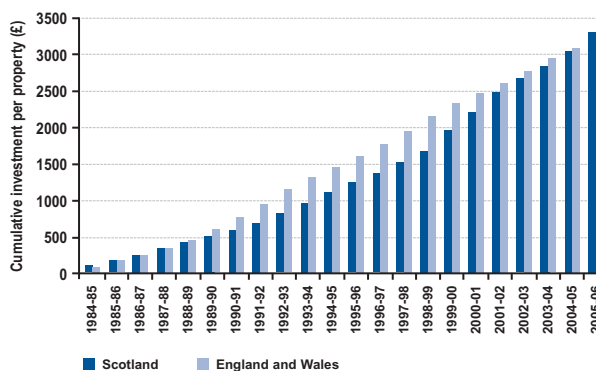
Investment in England and Wales has recently stabilised at around £3 billion a year. The *Strategic Review of Charges 2002-06* foresaw investment in Scotland stabilising at an average level of around £450 million each year.

We can compare the level of investment in Scotland with that in England and Wales using the measure of investment per property. Information about investment in Scotland is available for the years before 1996 from the capital account of local authority returns. This may actually understate the level of investment in Scotland as it will exclude any spending on assets from the revenue account.

Our analysis shows that investment per connected property in Scotland will have matched that in England and Wales over the period 1985-2006. Although investment in England and Wales was higher immediately after privatisation, the situation has reversed in recent years.

By the end of *Quality and Standards II*, the Scottish water industry is set to have invested more in cash terms for each connected property than was invested in England and Wales over a 10-year and a 20-year period.

Figure 2: Cumulative investment per property in Scotland and in England and Wales 1984 -2006⁵⁰



The conclusion from this analysis, therefore, is that if there is a significant backlog of investment in Scotland relative to that in England and Wales, it can only be a result of historical inefficiency, not a lack of investment funds. Customers in Scotland have paid for, and so deserve, an equivalent standard of service to that which customers in England and Wales receive.

Potential overhang from Quality and Standards II

It appears increasingly likely that the *Quality and Standards II* investment programme will not have been delivered in full by April 2006. The post-efficiency value of the programme is £1,808 million. Capital investment inflation is likely to increase the efficient cost of delivering this investment programme to approximately £1,930 million. Scottish Water has also been tasked with delivering a further £110 million of new outputs. This brings the total efficient cost of the investment programme for the current regulatory control period to around £2,040 million.

We have reviewed the quarterly Capital Investment Return that covers the period up to 30 September 2004. This review identified that a proportion of investment spending did not appear to relate to projects from the WIC18⁵¹ baseline. To the end of September, Scottish Water had invested £961 million, of which £693 million related to projects identified as *Quality and Standards II*. There was no identified expenditure relating to the agreed new outputs.

⁵⁰ Adjusted for inflation and for the effect of PFI investment. Efficiency adjustment is not included. The forecast expenditure in Scotland for 2004-05 and 2005-06 is based on figures supplied by Scottish Water.

⁵¹ WIC18 is a regulatory letter that was sent to the three authorities in May 2001. It asked for a detailed baseline for the *Quality and Standards II* investment programme of each authority.

In our agreement with Scottish Water, which determined how much spend-to-save should be included in the original investment programme, we agreed that £47 million of *Quality and Standards I* overhang inherited by Scottish Water could be included. This increased the identifiable baseline investment spending to £740 million.

The current regulatory control period ends in March 2006. This leaves 18 months before *Quality and Standards III* is due to start. If Scottish Water were able efficiently to spend £344 million in the remainder of the current financial year and £590 million in 2005-06, this would imply a total *Quality and Standards II* investment spending of £1,674 million.

We have analysed the small proportion of the programme that has been completed to beneficial use⁵² to date, and concluded that Scottish Water has delivered this element of the investment programme inefficiently. This inefficiency amounts to £10 million.

Our analysis suggests that a total of £1,664 million of *Quality and Standards II* outputs will have been delivered by the end of March 2006. This compares with a revised total investment programme of £2,040 million. Table 2 summarises the analysis.

Table 2: Analysis of likely Quality and Standards II overhang

Item	Quarterly Capital Investment Return analysis (£m)
<i>Quality and Standards II</i> spent to date (30/09/04)	693
Non-Quality and Standards II spent to date (30/09/04)	268
Total spending on investment	961
Check of Non-Quality and Standards II:	
Notified new outputs agreed (30/09/04)	0
Agreed <i>Quality and Standards I</i> carry-over into <i>Quality and Standards II</i> period (post-efficiency)	47
Total	47
Revised <i>Quality and Standards II</i> investment spending	740
Revised Non-Quality and Standards II	221
Total spending	961
Estimated maximum efficient investment spending for remainder of 2004-05	344
First half of 2004-05 investment spending	216
Total maximum estimated investment spending	560
Estimated maximum 2005-06 investment spending	590
Total expected <i>Quality and Standards II</i> investment spending (including new outputs)	1,674
Estimated inefficiency on completed projects	(10)
TOTAL EXPECTED QUALITY AND STANDARDS II OUTPUTS DELIVERED (INCLUDING NEW OUTPUTS) (a)	1,664
Baseline <i>Quality and Standards II</i> investment programme	1,810
Notified new outputs (WIC47)	110
Capital inflation above assumptions at Strategic Review of Charges	120
TOTAL REQUIRED INVESTMENT TO DELIVER OUTPUTS (b)	2,040
UNDELIVERED PORTION (b)-(a)	376

We outlined this analysis in our WIC51 letter to Scottish Water. Scottish Water has since substantially revised its regulatory return. Our review of the new information has not materially changed our view on the likely overhang. The revised information would imply that more of the money has been spent on *Quality and Standards II* projects. However, it appears likely that inefficiency or overhang from *Quality and Standards I* will have more than compensated for the extra money invested on *Quality and Standards II* projects.

We will continue to work with Scottish Water to understand the overhang from *Quality and Standards II* that will impact on the next regulatory control period. The output from this work will be a defined list of projects and status codes for the remainder of *Quality and Standards II*. This will need to be reconciled with the quarterly investment return for the period up to September 2004.

⁵² Beneficial use is the final stage of investment when outputs begin to be delivered.

If we are unable to agree the overhang with Scottish Water, we will use the information available from regulatory returns to set a baseline for the remainder of the current regulatory control period. We will only recognise spending as efficient if it appears on our baseline of projects.

The Minister's Guidance for the next regulatory control period is due at the end of January 2005. We will need to establish our baseline of the remaining *Quality and Standards II* projects if we have not been able to reach agreement with Scottish Water by 28 January 2005.

Investment programme deliverability

Our analysis suggests that there is a limit to the size of a capital programme that can be delivered efficiently. We have examined the capital programmes delivered south of the border and the improvement in capital efficiency that has been achieved in the past few years. We believe that there is a risk that having a capital programme that is too large could adversely impact on efficiency.

The *Quality and Standards II* investment programme was approximately £1.9⁵³ billion over four years. This total investment is equivalent to £833 per household in Scotland.

Five water and sewerage companies in England and Wales are either broadly the same size as Scottish Water or larger. Thames Water, Severn Trent Water and United Utilities are larger; Anglian Water and Yorkshire Water are similar in size to Scottish Water.

The following table compares the size of programmes delivered or defined by the companies with the *Quality and Standards II* programme.

Table 3: Summary of relative size of Quality and Standards II

	Largest four-year programme	Median four-year programme	Largest four-year programme per connected property
Thames	£2,200m	£1,992m	£540
Severn Trent	£2,773m	£2,078m	£782
United Utilities	£2,509m	£2,174m	£849
Anglian	£1,856m	£1,315m	£841
Yorkshire	£1,727m	£1,236m	£838
<i>Quality and Standards II</i>	£1,930m ⁵⁴		£833

This shows that *Quality and Standards II* was a very large investment programme. It was larger than the largest programme ever delivered by Anglian Water and Yorkshire Water (the two companies of similar size to Scottish Water). It is also very large in terms of investment per connected property.

In its first draft business plan, Scottish Water proposed that it should deliver a *Quality and Standards III* investment programme of approximately £2.2 billion during the next regulatory control period. This was in addition to approximately £260 million of *Quality and Standards II* that would not have been spent. This would equate to a total investment programme of some £615 million per year, or £2.46 billion over the four-year regulatory control period. This is equivalent to more than £1,000 per connected property.

The extent of the challenge that Scottish Water sets itself in its first draft business plan is demonstrated in Table 4. This shows the frequency with which the five largest companies south of the border have delivered four-year investment programmes of more than £1.6 billion.

⁵³ The original £1.81 billion investment programme included in the *Strategic Review of Charges 2002-06* increases to £1.93 billion as a result of higher than expected capital outputs inflation.

⁵⁴ See footnote 50.

Table 4: Delivery of programmes of more than £1.6 billion

Size of four-year investment programme	Size of programme per year	Number of occasions	Cumulative %
Over £2.6 billion	£650m	2	2.4
Over £2.5 billion	£625m	4	4.7
Over £2.4 billion	£600m	6	7.1
Over £2.3 billion	£575m	11	12.9
Over £2.2 billion	£550m	15	17.6
Over £2.1 billion	£525m	23	27.1
Over £2.0 billion	£500m	29	34.1
Over £1.9 billion	£475m	41	48.2
Over £1.8 billion	£450m	44	51.8
Over £1.7 billion	£425m	48	56.5
Over £1.6 billion	£400m	54	63.5
Under £1.6 billion	£400m	31	100.0

This reveals that Scottish Water's proposed investment programme is almost without precedent in the recent history of the water and sewerage industry in the UK. The privatised companies have delivered programmes of more than £2.4 billion on only six occasions, or 7.1% of all of the possible four-year periods. None of these larger investment programmes has been delivered recently, nor was it as large as the proposed programme of Scottish Water on a per connected property basis.

How Ofwat assesses capital expenditure efficiency

The methods that Ofwat uses to assess capital expenditure efficiency for the companies south of the border have been developed over a number of years. Ofwat uses these methods as part of its price setting process. We have used Ofwat's methods to monitor Scottish Water's progress towards achieving the efficiency targets set in the *Strategic Review of Charges 2002-06*.

Capital maintenance econometrics

Ofwat's econometric modelling uses statistical regression analysis to establish a relationship between the costs incurred by companies and a defined set of cost drivers. These cost drivers have a significant impact on costs but are outside the control of the management of the company. By controlling the principal external cost drivers in the models, Ofwat can determine relative efficiency with a good degree of accuracy.

The cost drivers that are included within the econometric models are known as 'explanatory factors'. There are nine models and they take different forms. These are summarised in Table 5.

Table 5: Summary of econometric models and explanatory factors

Model	Model type	Explanatory factors
Water resources and treatment	Unit cost	Total connected properties
Water distribution infrastructure	Log linear	Length of main; total connected properties
Water distribution non-infrastructure	Log linear	Pumping station capacity; water service reservoir and storage tower capacity
Water management and general	Log linear	Billed properties; proportion of billed properties that are non-household
Sewerage infrastructure	Log linear	Length of sewer; number of combined sewer overflows; proportion of critical sewers
Sewerage non-infrastructure	Unit cost	Number of pumping stations
Sewage treatment	Log linear	Total load; total number of works
Sludge treatment and disposal	Unit cost	Total weight of dry solids
Sewerage management and general	Unit cost	Billed properties

We will use these models to assess the predicted level of capital maintenance for Scottish Water. This is an important benchmark and will ensure that customers receive value for money both in the short and in the longer term.

Capital works unit costs

We propose to use the Ofwat capital works unit costs, or 'cost base', approach to assess the relative efficiency of Scottish Water in procuring and implementing capital projects. Ofwat uses this technique to inform its assessment of relative efficiency for both capital maintenance and capital enhancement expenditure.

The cost base is a database of costs, termed 'standard costs', for a wide range of standardised projects, or units of work. We can compare the standard costs submitted by Scottish Water and the companies south of the border to assess relative procurement efficiency.

The cost base approach to assessing relative efficiency has been subject to detailed scrutiny by the Monopolies and Mergers Commission and by the Competition Commission. Both found the approach to be fit for purpose.

Ofwat reviews the submissions received from the companies in order to:

- ensure that the standard costs which are submitted comply with the specifications and guidance;
- ensure that the engineering judgement grades (EJG)⁵⁵ have been correctly applied and interpreted;
- confirm that companies have derived their standard cost estimates independently;
- subject all submissions to an independent audit; and
- ensure comparability between companies.

In its 2004 price determination, Ofwat allowed only one company-specific factor – an adjustment for regional variations in construction, labour and tender costs. Ofwat has based its assessment of these adjustments on a study of the building and construction cost indices that was published by the Building Cost Information Service and the Department of Trade and Industry.

Ofwat uses the lowest reported cost as the benchmark standard cost, provided it complies with the following criteria:

- the standard cost used to derive the benchmark closely complied with the standard cost specification;
- at least 3% of the industry (measured in terms of turnover) reported unit costs at or below the benchmark standard cost;
- the standard cost was sufficiently robust to warrant an EJG of B3 or better;
- single company standard costs were generally used to derive the benchmark for items commonly procured from a single source over a range of sizes;
- the relevant benchmark is independently endorsed by consultants to Ofwat, Babbie Group.

Adjusting the Ofwat approach for Scotland

There may be factors that influence investment costs which are not adequately reflected in the analysis techniques that we have described above. Our assessment needs to take account of any relevant factors that are beyond management control but influence costs. We therefore ask Scottish Water, as part of its business plan submissions, to draw to our attention all factors that influence cost. This should include factors that both increase or decrease cost.

We want to ensure that our efficiency targets neither unduly penalise nor reward Scottish Water. Some commentators have argued that it is unfair to draw comparisons between Scottish Water's performance and that of the privatised water and sewerage companies in England and Wales. They cite the following factors:

- Scotland's geography (size, remote islands, long coastline, topography.)
- Its population settlement patterns (remote communities and concentrated, dense urban areas);
- The extent of the assets required to serve customers in Scotland (long mains, small isolated treatment works);
- The quality of the assets inherited by Scottish Water (condition and performance of the mains, sewers, treatment works, pumps etc);
- The nature of the customer base.;
- The fact that Scottish Water is in public ownership (political interest, Scottish Water's duty to Scotland, remit and freedom of management); and
- The short time that Scottish Water has had to mature and improve.

We propose to assess special factors for capital expenditure in the same way as we assess special

⁵⁵ Engineering Judgement Grades - these are 'confidence' scores that are assigned to the information contained in the submission.

factors for operating expenditure. We will consider these and other factors carefully before determining the scope for capital efficiency.

In summary, Scottish Water has to provide evidence in the following areas to justify an adjustment to a special factor:

- What is the justification for the special factor? Scottish Water will need to set out whether the factors are the result of special obligations, the character of all or part of its customer base, or the result of historical development of the water and wastewater systems in its area of supply.
- How do the special factors impact on Scottish Water's costs?
- How has Scottish Water sought to manage the additional costs arising from the special factors and limit their impact?
- Are there other special factors that reduce costs? If so, have these been quantified and offset against the upward cost pressures?

The Scottish Executive's consultation: 'Investing in water services 2006-14'

Scottish Ministers will define the investment priorities for the water industry in Scotland. The Quality and Standards process identifies the priorities of customers, the quality regulators⁵⁶ and other stakeholders. Ministers sought views on these issues in its consultation, *'Investing in water services 2006-14'*.

Quality and Standards III will determine the investment priorities for the period 2006 to 2014. Our *Strategic Review of Charges 2006-10* will only cover the first half of this period.

Total investment is limited by the following factors:

- **Customers' bills:** customers ultimately pay for investment and higher investment will result in higher bills.

- **Ability to deliver the programme efficiently:** Scottish Water has a very large number of assets and individual investment projects tend to be relatively small. There is a limit to the size of investment programme that can be managed effectively by Scottish Water.

- **Capacity of the civil engineering market:** The civil engineering market in Scotland was recently estimated at £1.4 billion per year, with Scottish Water currently accounting for around one-third of this total.

It is important to be able to prioritise competing demands for investment. There will be demands to improve the levels of service to customers, to improve compliance with public health and environmental standards and to connect more properties to the water and sewerage network.

'Investing in water services 2006-14' sets out the Scottish Executive's views on the likely costs [based on Scottish Water's costing of the required investment] of different levels and types of investment. The consultation sought views on investment priorities and on whether or not bills should rise to pay for each type of investment.

The consultation proposed the following principles:

- cost-effectiveness;
- affordability;
- deliverability; and
- sustainability;

Capital maintenance

Capital maintenance is important to the on-going effective management of the assets. Replacing assets in a timely way is essential to maximising the cost effectiveness of the network's performance and maintaining the level of service to customers.

⁵⁶ The Scottish Environment Protection Agency (SEPA) and the Drinking Water Quality Regulator (DWQR).

The *'Investing in water services'* consultation outlined a number of different approaches to assessing the appropriate level of investment in capital maintenance and suggested that a 'serviceability' approach should be used. This involves identifying levels of service to customers then costing how much it would cost to maintain this level of service over the period.

Scottish Water estimated that maintaining current levels of service would cost around £275 million a year. Improving serviceability would cost around £340 million a year.

Growth investment

The consultation also sought views on investment in new development and first-time connections.

Estimates for business and housing developments vary. For example, it is estimated that between 120,000 and 230,000 houses will be built in the period 2006 to 2014. Scottish Water has estimated that the cost of connecting 230,000 houses to the public water and sewerage network is around £1 billion over the eight-year period. This cost will to some extent be met by a new charging regime for connections to the network⁵⁷.

Improving the environment and public health

In recent years we have begun to invest significantly in improving the water environment. The consultation identifies that much remains to be done. There are more than 30 separate legal drivers for investment. Many of these drivers relate to European Union Directives.

Scottish Water has estimated that it will cost around £2.5 billion to meet mandatory standards. A further £500 million would be required to demonstrate progress towards the guideline standards.

It was also identified that significant investment was required to remove harmful substances, such as trihalomethanes and lead, from the water supply. Scottish Water has estimated that it needs to invest around £1.65 billion to reach the regulatory minimum position by 2010.

Improving customer service

The consultation identified three high priority customer issues. These are:

- odour from wastewater treatment works;
- water pressure; and
- sewer flooding.

No estimates of the cost of dealing with odour are included in the consultation. Scottish Water estimated that it could substantially reduce the number of properties at risk of low pressure with an investment of £40 million. Scottish Water also suggested investment in reducing sewer flooding of £240 million.

The investments identified in the *'Investing in water services'* consultation are summarised in Table 6.

Table 6: Summary of costs in 'Investing in water services' consultation

Description	Cost (£ million)
Maintenance	
Water	925
Waste water	1,300
'Higher standards'	500
Extending public networks	
Deep connections in new developments	500
First time water	200
First time waste water	600
Environmental improvements	
Legal minimum	2,500
Progress towards guideline	500
Drinking water and water resources	
Regulatory minimum	1,650
'Reasonable aspirations'	1,750
Other priorities for customers	
Odour	Unknown
Pressure	40
Sewer flooding	240
Total	10,705
Amount per annum (total divided by 8)	1,338

⁵⁷ See Chapter 3 of this publication and Volume 3 of our methodology.

Lessons learnt from establishing the baseline investment programme for Quality and Standards II

One of the disappointments of *Quality and Standards II* has been the difficulties faced by both stakeholders and customers in monitoring Scottish Water's delivery of the investment programme. This has resulted from the lack of clearly defined projects and associated outputs that comprised the baseline programme.

Quality and Standards II defined the investment programme for the period April 2002 to March 2006. In May 2001 we wrote our WIC18 letter to the three authorities. This letter sought to establish a baseline for the investment programme of each authority.

We did not envisage that the authorities would find it difficult to provide the information we required, as they had already provided detailed costs for *Quality and Standards II*. North of Scotland Water Authority and West of Scotland Water Authority were able to provide a relatively detailed investment programme. East of Scotland Water Authority, however, failed to provide the required level of detail. When Scottish Water was created in April 2002, this problem had still not been properly addressed.

A number of workshops were held in March 2003 where the key stakeholders examined the WIC18 programme lists, line by line, and allocated projects into two distinct categories. The 'red' category meant that the project was no longer required and was hence a candidate for replacement with an alternative project; while the 'green' category was for WIC18 projects that were still required.

The WIC18 experience has taught us that a fully defined capital investment programme must be in place at the outset of the next regulatory control period. Our discussions with the Scottish Environment Protection Agency (SEPA) and the Drinking Water Quality Regulator (DWQR) also lead us to conclude that the outputs to be delivered by each project must be clearly defined and quantified at the same time.

We propose that the baseline investment programme for *Quality and Standards III* should be published in full. This would help ensure transparency and accountability in the delivery of agreed benefits to customers and to the environment.

Defining the investment programme

Our requirement for a clear and detailed baseline for the *Quality and Standards III* investment plan is broadly consistent with those that are required by Ofwat for the companies south of the border.

The baseline is a key part of the regulatory contract between Scottish Water and its customers. The investment plan must be consistent with Ministerial Guidance⁵⁸. This Guidance will set out the Scottish Executive's detailed investment priorities.

Scottish Water's proposed investment plan can be split into three main elements:

- capital maintenance;
- quality; and
- supply/demand.

The level of definition that is possible for each of these three elements varies. Some projects can be specified in advance, while others may be more reactive⁵⁹. Capital maintenance projects tend to be more difficult to define than quality investment projects.

We will require a detailed list of all of the quality projects and supply/demand projects. The detailed list should also include all capital maintenance projects that have a value of more than £250,000.

Each investment project should have:

- a unique code;
- a unique name; and

⁵⁸ Initial guidance was provided by the Minister for Environment and Rural Development, Ross Finnie MSP, in a letter to the Chairman of Scottish Water and the Water Industry Commissioner dated 26 May 2004. Further guidance is expected in January 2005.

⁵⁹ Reactive projects are those associated with operational needs which arise at short notice; for example, replacing a piece of plant or section of pipe which has failed unexpectedly or where operational performance has declined over a short period of time.

- a geographical reference (place name and water supply zone/drainage area);
- a defined output.

All capital maintenance projects should identify clearly:

- the work proposed (its size, quantity and type);
- whether the project is planned or reactive;
- the cost; and
- an appropriate output measure.

The timetable for the delivery of projects should include:

- annual projected investment spend for each project – this should include any expenditure either before or after the regulatory control period;
- identification of key project milestones (for example when planning consent is granted); and
- the project's expected completion date.

We will require identical information for any overhang from *Quality and Standards II*.

Investment programme review

All regulators review the draft investment programmes that regulated companies provide. We propose to work closely with the Reporter, SEPA and the DWQR to review the investment programme proposed by Scottish Water. This is a first important step in ensuring that the proposed programme will meet the requirements of stakeholders and provide value for money for customers. It ensures that the scope of the proposals is appropriate to achieve the objectives set out by Ministers, and that the proposed expenditure is being effectively targeted.

It is important that we establish that the proposed programme will deliver the agreed outputs effectively. We need to be sure that our efficiency analysis is appropriate and consistent with our goal of improving value for money to customers. There is obviously no

point in delivering an ineffective investment plan efficiently.

We propose to use the following criteria in our review of the investment programme:

- Is the programme sufficiently defined to allow customers and stakeholders to monitor delivery? In particular, does it meet the level of definition set out in our guidelines?
- If delivered in full, does the proposed programme meet the objectives set out in Ministerial Guidance? If not, what are the omissions? If so, does it exceed the requirements? In particular, do the quality regulators, SEPA and DWQR, agree that the relevant quality objectives will be met by the proposed investment?
- Are there projects in the programme which do not contribute to the required objectives?
- Are there errors in the programme; for example, in the identification of projects and the associated outputs?
- Is the programme properly costed?
- Are the solutions proposed by Scottish Water appropriate?
- Do they represent best practice?
- Are the proposed solutions supported by the DWQR and SEPA?
- Have the projects in the programme been allocated measurable, defined outputs?
- Do the projects have clearly defined delivery dates?
- Are the delivery dates realistic, both in terms of individual project construction times and the overall capacity of the industry to deliver the programme efficiently?

The process of reviewing the investment programme will provide us with an indication of areas where there is

scope to reduce or increase the outputs required from Scottish Water.

The output from the review should be a properly costed, fully defined list of capital investment projects, which, if delivered in full, will meet the objectives set out by Ministers for the regulatory control period.

How we propose to handle capital maintenance investment

It can be difficult to determine the correct level of expenditure on capital maintenance. Too much investment is likely to result in assets being replaced unnecessarily, leading to higher prices and little benefit for customers. Too little investment is likely to mean a gradual decline in performance and customer service.

Approach to capital maintenance in Quality and Standards II

During the *Quality and Standards II* process, an ‘asset stewardship’ approach was used to define the appropriate level of capital maintenance. This approach uses three key parameters to identify the required level of capital maintenance:

- condition;
- performance; and
- age.

Although the asset stewardship approach provides a reasonably sound engineering assessment of the state of the asset base, the approach has a number of weaknesses. Most notably:

- the gradings assigned for condition and performance are subjective and the approach to grading may vary between companies;
- the information which underpins the gradings and the assessment of remaining life may be of varying age and quality;
- there is no assessment of the level of service that the asset provides to customers; and

- there is no assessment of the risks associated with failure of the asset.

In addition, the approach tends to overestimate the requirement for capital maintenance. This is because it overlooks the operator’s capacity to:

- rationalise the assets (by assessing whether or not it is still required);
- adopt strategic solutions, by reorganising the network in order to reduce or remove the asset;
- use new technology; and
- implement cost-effective operational solutions to defer replacement.

At the last Strategic Review of Charges, we accepted the capital maintenance requirement identified in *Quality and Standards II* but we applied an efficiency target to reflect the scope for strategic asset management efficiency.

The serviceability approach

In its 1994 and 1999 price reviews, Ofwat used a serviceability approach when assessing whether the level of capital maintenance investment by the companies was appropriate. This involved monitoring a set of defined asset and customer service performance indicators for each company. If these indicators were broadly constant, or marginally improving, then it was assumed that the historic level of capital maintenance spend was about right. If the indicators showed a decline in performance, this indicated that the company had historically been investing too little in capital maintenance.

At the last Strategic Review of Charges we were not able to use the serviceability approach because at that time we did not have sufficiently good quality information about asset performance and customer service levels.

The companies in England and Wales felt that the serviceability approach did not take sufficient account of the risk of asset failure in the future. Ofwat proposed a

collaborative approach to addressing these concerns. The industry commissioned UK Water Industry Research (UKWIR) to devise a more strategic, 'top-down' approach to assessing capital maintenance. The result was the 'Common framework for capital maintenance planning'.

Ofwat set out a four-stage approach – consistent with the UKWIR Common Framework Approach – to assess the companies' capital maintenance requirements in the 2005-10 regulatory control period. The four stages are as follows:

Stage A Maintaining serviceability to customers to date

This involves understanding past performance, trends from the serviceability indicators, and company actions necessary to address serviceability issues. This 'backward looking' assessment is mainly informed by the serviceability indicators.

Stage B Is the future period different?

This involves understanding what would be different about the next regulatory control period that would necessitate changes in the typical levels of activity that have been sufficient in the past. This element is informed by the company's assessment of its economic level of capital maintenance. This should be based on the UKWIR approach and should be both forward-looking and risk-based.

Stage C Scope for improvements in efficiency

This involves assessing the relative efficiency of each company in terms of its approach to capital maintenance and capital works, its capital/operating expenditure balance and the potential for each company to improve its efficiency over the next price review period. This uses Ofwat's established approaches for determining relative efficiency and assessing each company's scope for further efficiency improvements.

Stage D Impact of the enhancement programmes

This requires an understanding of the implications of each company's quality investment programme on the base capital maintenance programme. This is informed by an assessment of whether the quality programme defers or removes the requirement for capital maintenance expenditure.

Our proposed approach to capital maintenance in the Strategic Review of Charges 2006-10

In assessing Scottish Water's capital maintenance requirements in the *Strategic Review of Charges 2006-10*, we will take account of:

- Ministerial Guidance on the overall objectives of the investment programme;
- the capital maintenance requirement identified in the *Quality and Standards III* process;
- the capital maintenance requirement identified in Scottish Water's first and second draft business plans; and
- the Reporter's assessment of Scottish Water's capital maintenance proposals.

We will also review Ofwat's comments on the companies' plans for capital maintenance in its final determinations⁶⁰.

Our approach to assessing the requirement for capital maintenance can be divided into three stages:

Stage 1 Review capital maintenance spending and the condition and performance of the asset base

We will update our analysis of the historic levels of funding for the industry in Scotland and draw comparisons with England and Wales.

⁶⁰ *Future water and sewerage charges 2005-10* – Final determinations – December 2004.

Stage 2 Assess Scottish Water's capital maintenance proposals contained in its first and second draft business plans

We will analyse Scottish Water's capital maintenance proposals to establish:

- whether the proposals match the Ministerial Guidance;
- whether Scottish Water has followed best practice – we will analyse whether it has adopted techniques consistent with the UKWIR common framework approach and best practice asset management;
- the validity of assumptions underpinning Scottish Water's proposals;
- the accuracy of Scottish Water's costing process; and
- the extent of overlap between the capital maintenance proposals and other elements of the investment programme.

Stage 3 The scope for efficiency in delivering the capital maintenance programme

Our proposed methodology for determining the scope for efficiency in the delivery of capital maintenance will include the following stages:

- an assessment of the level of capital maintenance expenditure required by Scottish Water, given its current asset base. This assessment will be carried out using Ofwat's capital maintenance econometric models;
- an adjustment to the required level of capital maintenance expenditure to take account of any circumstances specific to Scotland that could affect Scottish Water's costs; and
- an assessment of the scope for efficiency. We propose to use the cost base approach to determine the scope for efficiency and draw on the evidence gathered by Ofwat on the scope for continuing improvement. We propose to use the scope for

efficiency either to adjust upwards the results of the econometric models or to reduce the cost of the capital maintenance programme proposed by Scottish Water in its second draft business plan.

How we propose to handle investment in improving the level of service

Investment in improving the water quality and environment has, in recent years, been the largest driver of capital investment in the water industry in Britain. This is likely to continue for the foreseeable future. Quality investment is usually targeted at one or more of the following:

- environmental improvements, such as additional treatment of wastewater;
- improved drinking water quality, such as a reduction in the number of samples contains harmful bacteria; and
- increased levels of service for customers, such as reduced levels of sewer flooding.

If customers are to receive value for money it is vital that this large quality investment programme is:

- properly defined;
- accurately costed; and
- effectively and efficiently delivered.

Our approach to Scottish Water's quality investment programme

In assessing Scottish Water's quality investment proposals in the *Strategic Review of Charges 2006-10* we will take account of:

- Ministerial Guidance on the overall objectives of the investment programme, with particular reference to quality objectives;
- the quality investment requirements identified in the *Quality and Standards III* process;

- the quality investment requirements identified in Scottish Water's initial and final business plan submissions; and
- the Reporter's assessment of Scottish Water's quality investment programme.
- whether the additional operating costs identified from the quality programme are additional, reasonable and have been applied consistently; and
- whether Scottish Water has costed the quality programme in an incremental way, taking full account of any optimisation and synergy benefits;

We will require a detailed investment plan which defines:

- the projects that comprise the programme, by asset;
- the outputs that each project will deliver;
- the expected costs for each project; and
- expected delivery dates.

Our business plan guidance specifies the format of this investment plan.

The Reporter's assessment of Scottish Water's quality investment proposals will form a key part of our analysis. We have provided detailed guidance to the Reporter on the particular areas we wish his audit of the quality programme to address. These include an assessment of:

- whether Scottish Water has provided a consistent interpretation of legal obligations and the Ministerial Guidance;
- whether Scottish Water has included all of the agreed requirements of the quality regulators – we have also asked the Reporter to comment on Scottish Water's challenge of quality obligations placed on it by the quality regulators as part of *Quality and Standards III*;
- how Scottish Water has interpreted the Water Framework Directive and other key legislation which impact significantly on costs;
- the design criteria used by Scottish Water and whether these are consistent with the criteria used to develop the standards;
- Scottish Water's costing process;

- cost estimates for defined projects.

We will also assess the scope for efficiency in delivering the quality programme. This assessment of the scope for efficiency will take place in two parts:

- an assessment of the current capital expenditure efficiency gap; and
- an assessment of the on-going scope for improvement in capital expenditure efficiency.

We will use the Ofwat cost base approach to determine the current gap in efficiency and will draw on the work undertaken by Ofwat to assess the scope for on-going improvement.

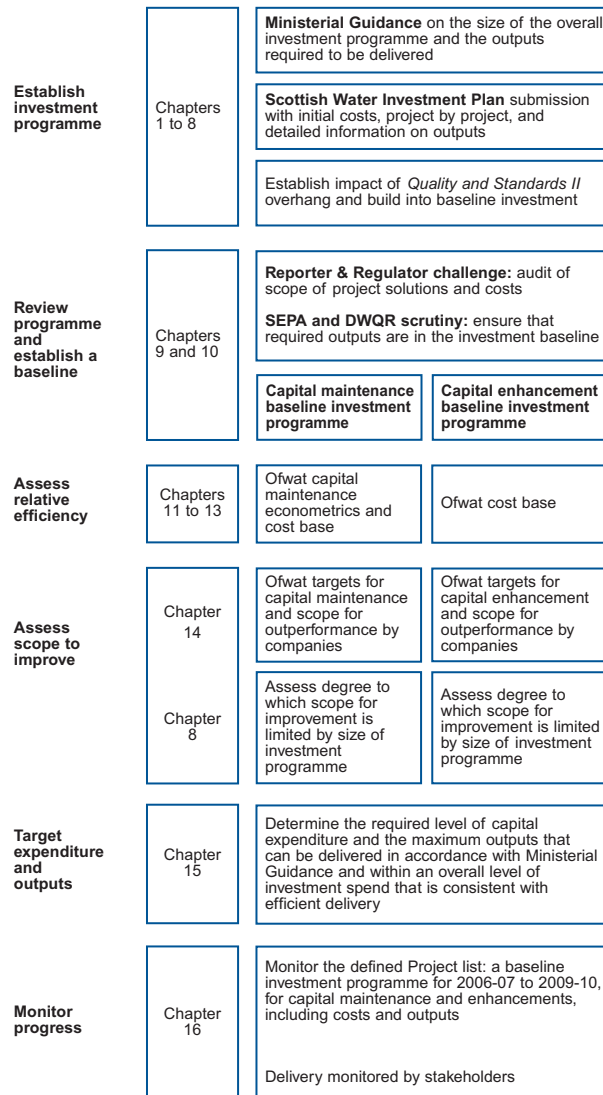
An overview of how we propose to set the appropriate level of capital expenditure to deliver the priorities outlined in the Minister's Guidance

We need to take account of a range of issues that will affect Scottish Water's ability to deliver its capital investment programme efficiently. These 'critical factors' are:

- the proportion of *Quality and Standards II* that will not have been delivered by March 2006;
- historical evidence on the size of investment programmes that are deliverable; and
- the incentive for Scottish Water to improve its performance.

Our overall approach is set out in Figure 3. This figure also highlights the appropriate chapter references in this volume.

Figure 3: Framework for capital investment targets



We propose to adopt a different approach to setting targets for capital efficiency in capital maintenance and in quality enhancement expenditure. However, in both cases, outperformance of targets will increase the resources that are available to add outputs to the baseline investment programme for the regulatory control period.

We set out our step-by-step process for each investment category below:

For both capital maintenance and capital enhancement

1. Establish a fully defined investment programme

Following Ministerial Guidance, Scottish Water will submit its investment plan in the agreed format for the second draft business plan. This format provides for a detailed list of projects and their associated outputs. It will also include a separate list that outlines in similar detail the proportion associated with *Quality and Standards II* projects that will not have been delivered by the end of March 2006. If we have been unable to reach agreement on the potential overhang by 28 January 2005 we will set an appropriate baseline.

2. Review the programme and establish a baseline

Scottish Water's investment plan will be scrutinised in detail by the Reporter, the quality regulators⁶¹ and this office. We will determine whether the programme meets the objectives set out by Ministers. The output from this process will be a detailed baseline programme, which will list the projects required to deliver the investment requirements for capital maintenance and quality enhancement priorities.

For capital enhancement

3. Assess current efficiency gap

We will use Ofwat's cost base approach to determine the size of the procurement efficiency gap between Scottish Water and the companies in England and Wales.

4. Assess scope for further improvement

We will consider the scope for further improvement based on the targets set by Ofwat.

5. Establish the total allowable expenditure for capital enhancement

We will use the results of Steps 4 and 5 to establish the total allowable expenditure for quality

⁶¹ SEPA and DWQR.

enhancement for each year of the next regulatory period.

For capital maintenance

3. Estimate the annual efficient level of expenditure for Scottish Water, consistent with the companies' recent performance

We will use the capital maintenance econometric models developed by Ofwat to estimate the cost of maintaining serviceability of the current asset base at average levels of efficiency.

4. Adjust the results to take account of special factors

We will consider any representations from Scottish Water that would justify additional funding for specific capital maintenance objectives.

5. Check the adjusted results of the econometric models

We will carry out a series of high-level comparisons to check that the adjusted results of the models do not underestimate Scottish Water's capital maintenance requirements.

6. Use the cost base approach to assess the current gap in capital expenditure efficiency

We will use the cost base approach described in Chapter 11 to determine Scottish Water's current capital efficiency position.

7. Assess the scope for further improvement

We propose to take account of Ofwat's expectations for improvement in capital efficiency when we set targets. Ofwat's has recently published its final determinations⁶² and we will draw on the evidence accepted by Ofwat to inform our analysis of the further scope for improvement. This will inform the targets that we set for each year.

8. Use the cost base results to set an appropriate level of capital maintenance spending

There are two ways in which we can use the results of the cost base analysis. Our approach will depend on the level of detail that Scottish Water is able to provide on its proposed capital maintenance investment programme.

If we consider that the programme is sufficiently detailed, we would propose to apply an efficiency target (calculated by analysis of the cost base) to the capital maintenance programme planned by Scottish Water.

If we conclude that the programme is insufficiently detailed, we would use the results of the cost base to increase the adjusted allowance for capital maintenance that is suggested by Ofwat's econometric models.

9. Set total level of capital expenditure and final baseline of projects with associated outputs

We will set a total allowance for capital expenditure and a detailed list of projects with associated outputs. This will be the baseline against which we would expect stakeholders and customers to monitor and judge Scottish Water's performance.

Questions for consultation

Chapter 2: The Scottish Executive's consultation: Investing in water services 2006-14

1. Do respondents agree that the final investment programme should be defined in detail at an asset level?
2. Do respondents agree that this investment programme should be placed in the public domain?

Chapter 3: Capital maintenance

3. Do respondents agree that the UKWIR common

⁶² *Future water and sewerage charges 2005-10* – Final determinations.

framework approach for capital maintenance provides a suitable mechanism for establishing Scottish Water's capital maintenance requirements.

4. Do respondents agree that our three-stage approach will allow us to establish whether Scottish Water's capital maintenance proposals are justified, well costed and meet best practice.

Chapter 4: Implications of the quality programme

5. Do respondents agree with our proposed approach to assessing Scottish Water's quality investment proposals?
6. Are there other factors that we should take into account to ensure customers receive value for money?

Chapter 5: Investment to balance supply/demand

7. Do respondents agree with our proposed framework for assessing Scottish Water's water resource and sewerage and sewage treatment planning?
8. Are there other factors that we should take into account to ensure customers receive value for money?

Chapter 6: Capital expenditure in the Scottish water and wastewater industry

9. Do respondents think that the scope for improvement is different between capital maintenance and capital enhancement and between water and sewerage?

Chapter 7: Lessons learned from establishing the baseline investment programme for Quality and Standards II

10. Do respondents agree that, based on experience from *Quality and Standards II*, a baseline investment programme detailing, at a project level, the deliverables from Scottish Water's capital expenditure is an essential pre-requisite for the *Strategic Review of Charges 2006-10*?

11. Do respondents think the investment programme should be published? If so, should it be published in full or should regional lists be provided?

12. Do respondents agree that an 'early start' programme for *Quality and Standards III* is not appropriate unless appropriate definition of the *Quality and Standards II* and *III* programmes is available?

Chapter 8: Investment programme deliverability

13. How do respondents believe we should treat the potential overhang from *Quality and Standards II*?
14. Should we learn from this experience in setting the investment programme for the next regulatory control period?

15. What factors should we take into account in establishing the deliverability of the investment programme?

16. Should we adjust the efficiency target if the proposed investment programme is very large?

Chapter 9: Defining the investment programme

17. Is the proposed degree of definition for the baseline investment programme sufficient?

18. If not, what other information should be captured, and why?

19. Would respondents agree with the rationale given in this chapter for the extent of definition of the baseline investment programme? In particular, is the reporting burden on Scottish Water appropriate?

Chapter 10: Investment programme review

20. Do respondents agree with our proposed use of the Reporter to carry out the process of verifying Scottish Water's capital investment proposals? If not, which other party do you think should be used for this exercise and why?

21. Do respondents have comments on our proposed verification process?
22. Does it meet the needs of customers and stakeholders?
23. Are the proposed areas of assessment sufficient to ensure that the programme is deliverable, takes full account of potential synergies and will meet the objectives set out by Ministers?

Chapter 11: How Ofwat assesses capital expenditure efficiency

24. What are respondents' views on Ofwat's methods for assessing capital expenditure efficiency?
25. What other approaches to the assessment of the scope for capital efficiency would respondents suggest? How would these work?

Chapter 12: Other ways to assess capital expenditure efficiency

26. Are there any lessons that we should learn from the experience of other regulators?

Chapter 13: Our proposed approach to assessing capital investment efficiency

27. Do respondents agree that there are benefits in using Ofwat's benchmarking techniques to assess the scope for Scottish Water to improve its capital efficiency?
28. What are respondents views on our proposed use of Ofwat's econometric models and cost base technique as the basis for establishing an efficient level of capital maintenance spend for Scottish Water? In particular, do our proposed adjustments to the econometric models appear appropriate? Are there other factors we should take into account?
29. What are respondents views on our proposed of Cost Base as the basis for establishing an efficient level of capital enhancement spend?

30. Are our proposed mechanisms for taking account of 'special factors' appropriate?

Chapter 14: Scope for and pace for improvement

31. Do respondents agree with our proposed approach to establishing the scope for improvement in capital efficiency?
32. Do respondents consider that we should treat capital maintenance and capital enhancement expenditure separately?
33. Do respondents agree that our proposals for introducing an incentive mechanism for outperformance will be in the interests of customers and stakeholders? Does the proposed mechanism provide appropriate incentives for outperformance, and does it share the benefits fairly between Scottish Water and customers? If not, which other mechanism would be preferable?
34. Do respondents agree that any future failure to meet efficiency targets should be funded by grant-in-aid from the Scottish Executive?

Chapter 15: Setting targets for efficiency in capital expenditure

35. Do respondents think that our proposed methodology for setting targets is robust?
36. Do respondents agree that we should take account of the 'critical factors' we have listed (*Quality and Standards II* overhang, limitations on the size of the programme and incentives to outperform) in setting investment targets for Scottish Water? Are there are other factors that we should take into account?

Chapter 16: Monitoring capital delivery

37. Do respondents think that the scope for improvement is different between capital maintenance and capital enhancement and between water and sewerage?

Appendix 1:

Volume 1 - Foreword

My role is to promote the interests of customers. In 2001, I set challenging efficiency targets for Scottish Water. In 2003 I challenged Scottish Water to build on its solid start. I am now increasingly confident that the next two years should see further significant improvement in the performance of the water industry in Scotland. By 2006, I expect that the operating costs of the water industry in Scotland will have been reduced by some £145 million annually in real terms. Customers' bills will consequently be around 15% lower than they would otherwise have been.

Rigorous, objective regulation is therefore beginning to deliver real value to customers. It is important that we build on the improving performance of the water industry in Scotland. This will ensure that value for money to customers will continue to improve and will be sustainable in the medium to long term.

I welcome the announcement by Ministers that the current regulatory regime should be further strengthened. These proposals are consistent with normal regulatory practice in other utilities and in the water industry in England and Wales. In particular, I believe that the introduction of a Commission will help to depersonalise regulation. I also believe that giving the power to the Commission to decide, rather than advise, on prices should improve the transparency of the role of regulation. The proposed rights of appeal that will be available for Scottish Water should be similarly effective in improving transparency.

Scottish Ministers have asked me to prepare the second full Strategic Review of Charges. This Strategic Review will cover the period 2006-10. In preparing the second full Strategic Review of Charges, I have the benefit of some four years of detailed asset, cost and customer information. I will also seek to learn from the experience of the last Strategic Review and the comments that I have received from individual customers and stakeholder organisations. If the Parliament approves the changes proposed by Ministers, it is likely that the final outcome of this Strategic Review will be the first

determination of prices for the water industry in Scotland by the new Water Industry Commission for Scotland.

My focus at this Strategic Review is to ensure that I establish a robust and transparent process and set prices that are no higher than necessary. I appreciate the need to explain to all stakeholders clearly what my Office is doing, and that is why I am keen to facilitate debate about the challenges facing the water industry in Scotland. For example, I have arranged a number of stakeholder information days, and would seek to encourage all interested parties to use these opportunities to have their say.

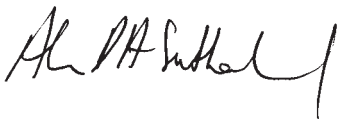
I am committed to the Better Regulation Taskforce Principles of accountability, transparency, proportionality, consistency and targeting. As such, I intend to publish the key information submissions that I receive from Scottish Water, as well as the tools that I will use to complete my analysis, including my financial and tariff basket models.

An important first step in facilitating debate is the publication of a detailed work-plan for the next two years. This plan contains details of all of the key milestones in the Strategic Review of Charges process, including the opportunities for stakeholders to contribute to the debate. I also hope that publishing this detailed timetable of activities will help Scottish Water by giving them advance notice of the inputs and information that I will require from them.

I will shortly be publishing a detailed description of the methodology that I propose to adopt for the Strategic Review of Charges. This methodology will explain the factors that I will take into account in determining efficiency targets, investment levels and customer service standards for Scottish Water in the next regulatory period. I would welcome comments from stakeholders both about those elements of the methodology where I propose to use current best regulatory practice and those areas where I believe there are a range of potential approaches.

Notwithstanding the cost reductions already achieved by Scottish Water, there will still be considerable scope for further improvement after 2006. My aim is to ensure that customers get value for money today without compromising future prices or the service levels that future generations will receive. To that end, I intend to set further operating and capital cost efficiency targets for Scottish Water. These will be challenging but achievable and will ensure that prices paid by customers will be as high as they need to be to ensure a sustainable industry – but no higher than they need to be.

In publishing this forward work programme, I am taking a first step in what I hope will be a fully transparent and detailed process, leading up to publication of final prices for water and waste water from April 2006. I hope that this document will help clarify my approach, so that all parties have a clear understanding of how I intend to set caps on the prices for water and sewerage services that will be paid by customers from 2006.



Alan D A Sutherland

Water Industry Commissioner for Scotland

July 2004

Appendix 2: Volume 2 - Foreword

My role is to promote the interests of customers. In my first full Strategic Review of Charges in 2001 I outlined a number of challenges that faced the water industry in Scotland. Meeting these challenges required difficult decisions.

The creation of Scottish Water has brought benefits to customers throughout Scotland. Customers in all parts of Scotland are now paying less than they would have paid if Scottish Water had not been established. Years of worsening efficiency in the Scottish water industry have been halted, and the rate at which efficiencies are being made is beginning to improve significantly.

In 2001, I said that if the industry meets the challenges it faced, then by 2006 customers could expect that their bills would not have to increase in real terms in order for them to enjoy an environmentally and financially sustainable service. Scottish Water has made a good start in meeting the challenges that I set in my Strategic Review. I am therefore optimistic about the prospects for tariffs, although it is still too early to say what individual customers may have to pay. This will become clearer after the Minister provides me with guidance on investment priorities and the principles of charging. This guidance will reflect the response to the Scottish Executive's two consultations: '*Paying for water services 2006-10*' and '*Investing in water services 2006-10*'.

Notwithstanding its progress to date, Scottish Water has more to do if it is to meet the service and cost levels of the industry in England and Wales. I therefore intend to set further operating and capital efficiency targets for Scottish Water. These will be challenging but achievable and could further limit the prices faced by customers. Customers will expect to see similar progress in the level of customer service.

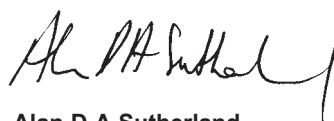
I will shortly be publishing a detailed description of the methodology that I propose to adopt for the *Strategic Review of Charges 2006-10*. This methodology will explain the factors that I will take into account in determining efficiency targets, investment levels and customer service standards for the next regulatory period. I will be particularly interested in whether stakeholders believe that we should set targets for improvements in customer service. I would also welcome comments from stakeholders both about those elements of the methodology where I propose to use current regulatory best practice and those areas where there are a number of potential approaches.

This is the second publication about our work in regulating the Scottish water industry. It covers the background to and the framework for the *Strategic Review of Charges 2006-10*. It is important to understand the background to the last Review, in order to clarify both the changes to the process that we are introducing and the initiatives to strengthen the regulatory framework that are proposed by Scottish Ministers.

I welcome the Minister's proposals that the current regulatory regime should be strengthened. These proposals are consistent with normal regulatory practice in other utilities and in the water industry south of the border. In particular, I believe that the introduction of a Commission will help to depersonalise regulation. I also believe that giving the Commission the power to decide, rather than to advise, on prices should improve the transparency of the role of regulation. The proposed rights of appeal that will be available for Scottish Water should also improve transparency.

A strengthened regulatory regime brings increased responsibility. Scottish Ministers have asked me to prepare this second full Strategic Review of Charges on the basis that the final outcome could be the first determination of prices for the water industry in Scotland by the new Water Industry Commission for Scotland. In order to ensure that the outcome is consistent with regulatory best practice, I will prepare this Review according to the Better Regulation Task Force Principles of accountability, transparency, proportionality, consistency and targeting. As such I intend to publish the key information submissions that I receive from Scottish Water, as well as the tools that I will use to complete my analysis, including my financial and tariff basket models.

I am keen to facilitate debate about the challenges that still face the water industry in Scotland. My office has planned a number of stakeholder information days over the next 18 months. I encourage stakeholders to come and to express their views. These views will help to inform the Strategic Review of Charges.



Alan D A Sutherland
Water Industry Commissioner for Scotland
August 2004

Appendix 3: Volume 3 - Foreword

My role is to promote the interests of customers of Scottish Water. In 2001, I set challenging efficiency targets for Scottish Water. In 2003, I challenged Scottish Water to build on the solid start that it had made. I am now increasingly confident that over the next two years we will see further significant improvements in the performance of the Scottish water industry.

By 2006, I expect Scottish Water to have been able to reduce its inherited level of operating costs by some £145 million annually in real terms. Customers' bills will consequently be around 15% lower (over £40 a year for the average household) than they would otherwise have been.

Scottish Water has also made important progress in gaining a better understanding of its assets and costs. This should ensure that the efficiency of the industry in Scotland relative to that of the companies south of the border continues to improve.

Rigorous, objective regulation is therefore beginning to deliver real value to customers. However, it is important that we continue to build on this early success. I therefore welcome the Ministers' proposals that the current regulatory regime should be strengthened. These proposals are consistent with normal regulatory practice in other utilities and in the water industry south of the border. In particular, I believe that the introduction of the proposed Water Industry Commission for Scotland will help to depersonalise regulation. I also believe that giving the Commission the power to decide, rather than to advise, on prices should help to make regulation more transparent, and should improve people's understanding of the impact on their bills of decisions by Ministers and the regulator.

The proposed right of appeal to the Competition Commission that will be available for Scottish Water should also reassure stakeholders that the targets set in the *Strategic Review of Charges 2006-10* are challenging but achievable. I will shortly publish our proposals on how we will set targets for and monitor improvement in operating cost efficiency. This is in the interests of both current and future customers.

Scottish Ministers have asked me to prepare this second full Strategic Review of Charges on the basis that the final outcome could be the first determination of prices for the water industry in Scotland by the new Water Industry Commission for Scotland. In order to ensure that the outcome is consistent with regulatory best practice, I am preparing this Review according to the Better Regulation Task Force Principles of accountability, transparency, proportionality, consistency and targeting. As such, I intend to publish the key information submissions that I receive from Scottish Water, as well as the tools that I will use to complete my analysis, including my financial and tariff basket models.

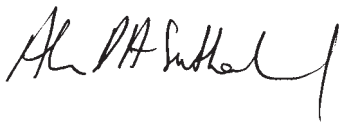
Notwithstanding the cost reductions already achieved by Scottish Water, there will still be considerable scope for further improvement after 2006. I want to ensure that customers get value for money today without compromising future prices or the service levels that future generations receive. To that end, I intend to set further operating and capital cost efficiency targets for Scottish Water. These will be challenging but achievable and will ensure that prices paid by customers are as high as is necessary to ensure a sustainable industry – but no higher than they need to be.

This is the third volume concerning our work in regulating the Scottish water industry. It describes our proposed approach to setting prices in the *Strategic Review of Charges 2006-10*. I propose to use the regulatory capital value method of price setting; this will ensure that stakeholders can more easily compare the financing of the industry in Scotland with that south of the border. It will also be easier to monitor Scottish Water's progress in delivering its capital programme and improving its operating cost efficiency.

Proposals by the Scottish Executive to introduce a licensing framework will bring benefits to all customers. I would expect that separating Scottish Water's retail and wholesale activities will increase the transparency of cost allocation within the business and identify further significant opportunities for efficiency. It is also likely that the customer service offered by the retail arm of Scottish Water is likely to improve in response to market pressures. This volume also discusses our proposed approach to the setting of a wholesale price.

The wholesale price needs to be set at a level that favours neither the retail nor the wholesale business of Scottish Water. I would welcome the views of stakeholders about how this can be best achieved.

I have included a number of questions for consultation. Responses from stakeholders will be important if I am to ensure that the *Strategic Review of Charges 2006-10* establishes proportionate and consistent targets for the water industry in Scotland. I am keen to facilitate debate about our proposed approach to the Review and, more generally, the challenges that still face the water industry in Scotland. I am therefore holding a number of stakeholder information days over the next 18 months. I encourage stakeholders to come to express their views. These views will help to inform the Strategic Review of Charges and will ensure that the process achieves the best possible outcome for customers.



Alan D A Sutherland
Water Industry Commissioner for Scotland
September 2004

Appendix 4: Volume 4 - Foreword

I am committed to the Better Regulation Task Force principles of transparency, accountability, consistency, proportionality and targeting. In the previous volume of our proposed methodology for the *Strategic Review of Charges 2006-10*, I set out a new approach to price setting. The use of a Regulatory Capital Value will facilitate comparison of the financial sustainability of the water industry in Scotland with that of the industry south of the border. It will also highlight the direct impact that the level of operating costs incurred by Scottish Water will have on customers' bills. In this volume, we explain how we propose to scrutinise these costs to ensure that they are no higher than they need to be.

I had also planned to outline our proposed approach to establishing the scope for efficiency in the delivery of the capital programme in this volume. Unfortunately, there are still a number of outstanding issues concerning the definition and delivery of the *Quality and Standards II* capital programme. I have concluded, reluctantly, that it would not be in the customer interest to publish our proposals for determining the scope for capital efficiency until these issues are resolved. I have extended the deadline for responses to the issues raised in this current volume to 5 November 2004.

In the *Strategic Review of Charges 2002-06*, I set challenging but achievable efficiency targets for operating costs and capital expenditure. In 2003, I welcomed the solid start made by Scottish Water in improving its operating cost efficiency, but cautioned that more still needed to be done. I am pleased to say that Scottish Water appears to be rising to the challenge and it is likely that it will achieve the target of reducing operating costs to £265 million on a like-for-like basis by the end of the current regulatory control period. This will represent a reduction of some £145 million in real terms over four years. This improvement in Scottish Water's efficiency is to be welcomed; as a result, customers' bills will be some 15% less [more than £40 less for the average household] than they would otherwise have been.

It is, however, important to put this undoubted success in its proper context. In last year's Costs and Performance

Report, we explained that if Scottish Water achieved the target for reducing operating costs, and the companies south of the border did not outperform the targets set by Ofwat, then operating cost inefficiency would still cost the average household some £23 per year, or around 8% of its annual bill.

Companies also have an incentive to outperform the targets set by Ofwat in order to reward their shareholders. The efficiency gap is therefore likely to grow unless we set further targets. In August this year, Ofwat published its draft determination of prices for the companies south of the border. This draft determination takes account of the expected performance of the companies. Ofwat expects the average company to continue to improve at a rate of around 3% a year. This clearly implies that Scottish Water still has considerable scope to improve its operating cost efficiency. I do not believe that customers ought to have to pay the cost of such inefficiency.

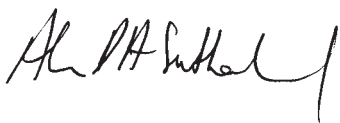
In this volume we explain in detail how we propose to assess the scope for efficiency in Scottish Water's operating costs. We propose to develop the comparisons that we have used during the last four years, using the Ofwat econometric models and an independent alternative model.

I am aware that some commentators have expressed reservations about our use of the econometric models developed by Ofwat. They assert that Scottish Water faces unique challenges and that the models do not take account of these. In this volume we have outlined how we propose to review and, if appropriate, take any such factors into account in our assessment of the scope for efficiency.

This volume also addresses important issues about levels of customer service. I am keen to understand whether stakeholders believe that we should set targets for the level of service that should be provided to customers, as well as the efficiency targets.

My focus at this Strategic Review of Charges is to ensure that I establish a robust and transparent process

and set prices that are no higher than necessary. I appreciate the need to explain clearly what my Office is doing, and that is why I am keen to facilitate debate about the challenges facing the water industry in Scotland and my proposals for the coming review. As part of that commitment, this volume explains in detail how to use the econometric models and where to find the input information. I have also arranged a number of stakeholder information days, and would encourage all interested parties to use these opportunities to have their say or to ask questions. These views will help to inform the Strategic Review of Charges and we will take full account of representations that are made to us in setting an efficiency target for operating expenditure for Scottish Water.



Alan D A Sutherland
Water Industry Commissioner for Scotland
October 2004

Appendix 5: Volume 5 - Foreword

Unfortunately, it has been necessary for me to delay until now the publication of this volume of my proposed methodology for the *Strategic Review of Charges 2006-10*. This was because no baseline had been defined for the capital programme that was funded in the last Strategic Review.

I now have such a defined programme. There are still some important issues outstanding; these relate to the extent of this programme that will remain undelivered at the start of the next regulatory control period. However, I am hopeful that these issues can be resolved in the next few weeks.

In this volume I explain in detail my proposed approach to assessing the scope for capital expenditure efficiency. I propose to draw largely on the approach used by Ofwat. Importantly, I have provided Scottish Water with detailed guidance for its second draft business plan on the information that I will require on the proposed capital programme. I plan to publish this capital programme so that customers and other stakeholders can understand the investment that is planned for their area. This is in line with our commitment to the Better Regulation Task Force principles of transparency, accountability, consistency, proportionality and targeting.

I have now had the opportunity to consider Scottish Water's first draft business plan in some detail. This plan suggests that a price increase of 5% in excess of inflation over the four-year regulatory control period is required. The plan also forecasts a total capital programme of over £2.4 billion. My review of the plan suggests that prices do not need to increase in real terms in the foreseeable future. There are two principal reasons why I believe that price increases can be held below the rate of inflation. The first is that Scottish Water's first draft business plan understates the scope for improvement in efficiency.

The second is the level of proposed capital expenditure. I have analysed the capital programmes of the companies south of the border and it is clear that the current *Quality and Standards II* investment programme is very large (larger indeed than that delivered by any similar sized company south of the border). Although Scottish Water has taken important steps to improve its understanding of its assets, such a

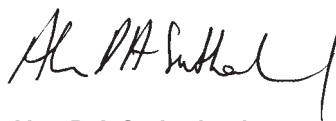
significant increase in the capital programme for the next regulatory control period is likely to represent a major challenge.

Paradoxically, increasing the size of the capital programme may actually result in fewer outputs being delivered. This would not benefit customers, the environment or public health. My analysis shows that the companies south of the border have improved their efficiency considerably at a time when they have been required to deliver slightly smaller capital programmes.

I expect to receive Guidance from the Scottish Ministers in January 2005. This Guidance will outline their investment priorities after considering the response to the *Quality and Standards III* consultation. This Guidance will underpin my draft determination of the price caps that should apply to Scottish Water for the next regulatory control period.

My focus at this Strategic Review of Charges is to ensure that I establish a robust and transparent process and set prices that are no higher than necessary.

I appreciate the need to explain what my Office is doing, and that is why I am keen to facilitate debate about the challenges facing the water industry in Scotland and my proposals for the coming Review. It is important that this debate reflects the facts; it is also important for stakeholders to acknowledge that improvements can only come when we recognise the challenges we face. I have arranged a number of stakeholder information days and would encourage all interested parties to use these opportunities to ask questions and to have their say. Their views will help to inform the *Strategic Review of Charges 2006-10* and we will take full account of representations that are made to us in setting an efficiency target for capital expenditure for Scottish Water.



Alan D A Sutherland
Water Industry Commissioner for Scotland
December 2004

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