Appendix 1: Level of investment

Issues for the statement

I believe that the statement should address the following issues:

- the extent of investment that Scottish Ministers consider is desirable, given the need to ensure that the investment can be delivered and that it represents value for money;
- the required improvement in the level of service provided to customers (this includes issues such as water pressure, sewer flooding, odour, etc) by Scottish Water's current assets [capital maintenance investment];
- the outputs required from investment to improve water quality [quality investment];
- the outputs required from investment to improve the environment [quality investment];
- how current perceived or actual constraints on development (both for housing and business) should be addressed [growth investment] in terms of regional priorities; and
- whether, and, if so with what priority, requests for first time connection to the public water and sewerage system [growth investment] should be met.

Background

Following the agreement on the Ten Principles in 2003, I appointed a Reporter to review the information that is supplied to me by Scottish Water. The Reporter is Mr David Arnell of Black and Veatch Consulting Ltd.

At my request, the Reporter has reviewed the costing of the capital programme as outlined in 'Investing in Water Services 2006-14'.

He concluded that there are flaws in Scottish Water's cost estimates for the first draft business plan, which give rise to a material overestimation. The impact appears to be greatest on the quality elements of the programme.

I have asked Scottish Water to provide an action plan to address the Reporter's detailed findings as a matter of urgency.

It appears increasingly likely that the Quality and Standards II investment programme will not have been delivered in full by April 2006. Our analysis of the first Quality and Standards II projects to have been completed also suggests that the capital efficiency targets set in the Strategic Review of Charges 2002-06 may not be met.

If Quality and Standards II has not been delivered in full (either because budgets have not been spent in full or because investment has been delivered less efficiently than the targets set in the Strategic Review of Charges 2002-06), the remaining outputs from this investment programme will have to be delivered during the period of the Strategic Review of Charges 2006-10. This will inevitably mean that less of the proposed Quality and Standards III investment programme can be delivered before 2010.

Size of the investment programme

The Quality and Standards II investment programme was approximately £1.9[1] billion over four years, which is a very large investment programme. It appears likely that around 15% of this programme will not have been delivered before April 2006.

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.

It is instructive to examine the investment programmes that these companies have delivered over consecutive four-year periods. There are 17 such four-year periods for which investment has been delivered (or defined) since privatisation of the industry south of the border in 1989. To ensure that comparisons are made on a like-for-like basis, we have adjusted the size of the programme to take account of inflation. This analysis demonstrates that there is a clear maximum to the size of capital programme that can be delivered efficiently.

The following table compares the size of programmes delivered or defined by the companies with that proposed in Scottish Water's first draft business plan.

	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
Quality and Standards II	£1,930m[2]		£833
Scottish Water's first draft business plan	Planned total investment: £2,432m		Planned investment per connected property: £1,050

The table 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 a similar size to Scottish Water). It is also very large in terms of investment per connected property.

The table also illustrates that only two of these companies have ever delivered larger programmes than that now proposed by Scottish Water. It is also useful to note that none of these companies has ever delivered a larger four-year investment programme on a per connected property basis than the £1.9 billion[3] that was targeted for Scottish Water during Quality and Standards II.

The following table shows the frequency with which these companies have delivered four-year investment programmes of more than £1.6 billion.

[1] 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.
[2] See footnote 1.
[3] See footnote 1.

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

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. Indeed, the investment required by Quality and Standards II has been delivered in only around a third of all of the possible four-year periods.

If the investment programme is set at a level that is too ambitious, there is a significant risk that it will not be delivered in full or that it will be delivered inefficiently. In the first case, Scottish Water would not require the full public expenditure that Ministers make available. In the latter case, there is a chance either that some outputs are not delivered or that further public expenditure is required in order to ensure that the outputs required are delivered in full.
Ofwat has reported that the companies south of the border have achieved significant improvements in their capital expenditure efficiency over the last ten years. It is interesting to note that these improvements have been achieved at a time when the companies have been required to deliver slightly smaller, though still significant, investment programmes.

Approach to price setting

Two factors related to investment influence the level of prices and government borrowing. These are the post-efficiency level of investment and the mix between capital maintenance investment and investment in quality and growth in the network.

Our work in setting an efficiency target will depend in large measure on the mix of investment that Quality and Standards III requires. There are also doubts surrounding the initial costing of Quality and Standards III. It is therefore quite difficult at this time to estimate accurately the outputs that are likely to be deliverable during the next regulatory control period.

Given these uncertainties, I would ask Ministers to:

- provide their views on the investment programme that they consider is essential for the four years of the next regulatory control period – this should include any element of Quality and Standards II that may not have been delivered;

- highlight any investment that must be delivered before 2010, so that I can take this into account in establishing the most economically efficient way to phase the investment;

- provide an extensive list, clearly prioritised, of other desirable outputs so that I can add these outputs to the essential list if the deliverability constraint has not been reached – prioritisation of the additional desirable outputs will need to be at detailed level as it is likely that the deliverability constraint will be triggered.

Establishing a baseline capital investment programme

Establishing a baseline investment programme for Quality and Standards II has proved to be a very protracted and time-consuming process. Detailed definition of the baseline investment programme would bring major benefits for stakeholders and customers, and its lack to date has caused difficulties. Definitions need to include both the physical projects to be delivered and the outputs the projects are required to achieve.

Based on our experience of the WIC 18 process[4] , we have outlined for stakeholders our requirement for a fully defined capital investment programme for the Strategic Review of Charges 2006-10. At the outset of the Quality and Standards III process, I set out my requirements for transparency and auditability of the final agreed investment programme[5]. Throughout the Quality and Standards III process we have continued to promote these principles. Our discussions with SEPA and DWQR also lead us to conclude that the outputs to be delivered by each project must be clearly defined and quantified at the outset of the process.

It is important to emphasise that, as well as providing a mechanism for monitoring Scottish Water's performance, a detailed baseline brings other benefits for customers. Capital projects such as treatment plant upgrades or pipe renewal can have major impacts on customers and local communities. Customers are entitled to know about projects that will affect their locality. The existence of a detailed baseline programme will also ensure that Scottish Water is only held to account for delivering the agreed programme.

Changes to the baseline programme

A key lesson to be drawn from Quality and Standards II is that any investment programme will develop through time, as a result of changing priorities, revised policies and practices, new technologies and new information. Similarly, detailed analysis of requirements may reveal more effective and efficient solutions than were originally proposed. There is therefore a need for a mechanism that allows stakeholders to substitute projects into the investment programme, through a carefully monitored process, in exchange for other equivalent projects.

The process of substitution that was developed for Quality and Standards II is likely to form the basis of a suitable mechanism as we move forward into Quality and Standards III. Further consideration needs to be given about the way in which

---

[4] WIC 18 was a regulatory letter issued to the three authorities in May 2001. It sought a clear definition of the Quality and Standards II capital programme
[5] These requirements were set out in a presentation to the inaugural meeting of the Quality and Standards III project board on 31 January 2003.

changes to the programme are communicated to customers. Issues will arise if schemes are taken out of the programme after the baseline investment programme has been published (as is our intention) and expectations about delivery of individual schemes have been raised. There could also be financial implications of changes to projects after the programme has been determined, for example for developers who base their development plans on infrastructure proposals contained within the baseline investment plan. Although these issues are likely to be manageable we will need to consult further with the stakeholder group about how best to proceed.

Our approach to determining a post-efficiency investment programme

Our approach will closely mirror the approach adopted by Ofwat in England and Wales. It will consist of four steps.

Step 1 is to ensure that Scottish Water provides us with a sufficiently detailed investment programme. Accurate costs will need to be estimated for each project and these will need to be consistent with the cost base examples that Scottish Water provides to us each year. The Reporter will play an important role in reviewing the cost estimates and their consistency with the cost base.

Step 2 will be to ensure that all of the projects that are included on the list have appropriately defined outputs and represent value for money. This will enable the quality regulators to choose to amend priorities slightly once projected costs for different projects become available.

Step 3 will be to calculate the efficiency target for the proposed capital investment programme.

Step 4 will be to add or remove projects based on their priority so that the investment programme is consistent with the maximum that the Minister concludes is deliverable. In practice, Step 4 will require further iterations of Steps 2 and 3 in order to define a final investment programme.