Strategic review of charges 2010-14: stakeholder workshops 2009

Discussion paper 6: Capital Maintenance

Welcome to our sixth stakeholder workshop of 2009 on the strategic review of Scottish Water's charges for 2010-14.

Later this year we will determine limits on:

- the amount Scottish Water can charge household customers;
- the 'default tariffs' that suppliers in the newly competitive market must offer business customers; and
- the maximum wholesale price Scottish Water can charge retail suppliers.

This workshop is the sixth of eight designed to discuss the high level areas that will inform the price setting process. It focuses on capital maintenance, which is the renewal or refurbishment of capital assets in order to provide continuing service to customers and the environment, consistent with current regulatory obligations. In particular, we will discuss our proposed approach to establish the appropriate level of capital maintenance investment needed during the 2010-14 period.

This paper provides some context to the issues we will be discussing at the workshop. We welcome your views and any questions you may have.

Background to capital maintenance

What is capital maintenance?

In order to deliver water and wastewater service, Scottish Water relies on a very large network of reservoirs, treatment works, pipes and other associated network assets. These assets can be categorised into:

- Water infrastructure – the underground network of pipes, pumps and valves through which drinking is supplied to customers (this also includes dams, impound reservoirs and raw water aqueducts).

- Water non-infrastructure – water treatment works, pumping stations, service reservoirs and water towers.

- Wastewater infrastructure – mainly comprises sewers that collect sewage and storm water and transport it to where it can be treated.

- Wastewater non-infrastructure – wastewater treatment works, sewage pumping stations and sludge treatment facilities.

- Support services – assets that are essential to the effective day-to-day management of the business including vehicles, information systems, offices, depots and stores.

Each component part of Scottish Water's total stock of assets will have been built at different times, will have different asset lives and varying performance characteristics. They will all deteriorate with age and use. All assets that reach the end of their useful lives need to be repaired, replaced or refurbished in order to provide a continuing service (or to maintain 'serviceability'). It is this work that is classed as 'capital maintenance.'

Historically, capital maintenance represents around 40% to 50% of Scottish Water's capital programme. This ratio is typical of companies in England and Wales. There is also the prospect of increasing capital maintenance as more assets are built to fulfil higher standards of water quality and wastewater treatment. Our role is to ensure that the capital maintenance allocation for 2010-14 is sufficient to allow Scottish Water to fulfil its regulatory duties at the lowest reasonable overall cost to customers.

Approaches to defining capital maintenance requirements

In establishing capital maintenance requirements, it is normal to consider both 'top-down' and 'bottom-up' approaches.

A 'bottom-up' approach to assessing capital maintenance requirements involves understanding at a detailed level the activities required on all of the assets in order to keep service 'stable'. These activities can be classed as 'reactive' or 'planned'. With reactive maintenance, work is done only in response to an asset failing. Planned maintenance is undertaken proactively by intervening in time to prevent an asset failing.

A preventative approach requires predictions about the failure of assets in order to accurately plan the investment needed. A planned, preventative approach is encouraged because lengthy outages in service are less likely to arise. Even so, we recognise that an element of capital maintenance will always be reactive in nature. In previous regulatory control periods we have financed Scottish Water to work on improving its ability to plan its maintenance through better asset intelligence.

For the Strategic Review of Charges 2010-14, we intend to examine in detail Scottish Water's 'bottom-up' assessment of capital maintenance activities. We will then compare this analysis with the results from a range of 'top-down' approaches. These 'top down' approaches are likely to include the use of Ofwat's 'econometric models', comparisons of levels of activity between Scottish Water and the England and Wales companies and consideration of the application of the 'cost base' efficiency approach to Scottish Water's proposed expenditure. We are able to compare this 'top down' assessment with the detailed 'bottom up' view of Scottish Water's capital maintenance requirements to establish the efficient cost of the programme.

Considerations for the draft determination

In reaching our initial conclusions about the appropriate amount allowed for capital maintenance we will need to consider the following:

What is the appropriate, baseline level of serviceability?

We will establish the base level of serviceability to customers and the cost of the base level. The draft Ministerial Objectives for the 2010-14 period define that Scottish Water shall , "as a minimum ensure that standards of services provided to customers across all areas of Scotland are maintained at the levels required to be achieved at March 2010".

We also propose to use Ofwat's econometric modelling techniques to establish an initial estimate of the appropriate allowance for capital maintenance, consistent with the 2007-08 base year. This technique uses statistical regression analysis to establish a relationship between the costs incurred by companies south of the border and a defined set of cost drivers. These are then applied to Scottish Water. We will then take account of any special factors that are unique to Scotland.

Is there scope for further efficiency?

In the Strategic Review of Charges 2006-10, we allowed for around £84 million of additional capital maintenance expenditure to take account of the relative inefficiency in Scottish Water compared with the efficient benchmark we derived from Ofwat's econometric models. This allowance took account of the requirement for Scottish Water to improve its efficiency of capital delivery gradually over time.

We expect Scottish Water to outperform our assumptions for 2006-10. However, the water and sewerage companies in England and Wales look set to further improve their efficiency during the 2006-10 period. As a result, it is likely that Scottish Water will remain less efficient than the benchmark water and sewerage company in England and Wales for capital maintenance. We will therefore need to assess the level of this inefficiency and make an appropriate adjustment to the capital maintenance allowance. .

What account is needed to accommodate for any one-off changes in maintenance?

Scottish Water's 'bottom up' assessment of its capital maintenance may identify instances where future expected expenditure is different from historic levels. In general, we would expect such examples to be limited as there appears to be little reason to expect step-changes in capital maintenance requirements. Exceptions may occur where there are significant one-off projects or if new legislation requires changes in maintenance practices.

What improvement to asset intelligence is needed, going forward?

Historically, the creation of all companies' capital maintenance programmes was compiled on a 'bottom-up' basis with limited, often subjective information. The approach did not take into account the ability of an asset to provide appropriate and justified levels of service or the risk to customers of service failures. In England and Wales this led to some criticisms and in response Ofwat developed a new common framework for capital maintenance. The framework provides an agreed approach for estimating future capital maintenance requirements. It encourages water and sewerage providers to develop their own methodologies to estimating capital maintenance requirements with more robust, evidence-based approaches.

We recognise that there is currently insufficient information available in Scotland to fully implement the common framework approach. Notwithstanding this, Scottish Water is making efforts to improve its information quality and asset intelligence. In the 2006-10 review we financed Scottish Water to improve its information in a number of areas including information collection and systems. We will be considering what further improvements will be needed.