

## **Strategic Review of Charges 2010-14: stakeholder workshops 2009**

### **Discussion paper 5: Supply and Demand Balance**

Welcome to our fifth 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 fifth of eight designed to discuss the high level areas that will inform the price setting process. It focuses on how maintaining supply and demand influences the programme that Scottish Water will be required to deliver over the 2010-14 regulatory period.

This paper provides some context to the issues we will be discussing in order to assist us in setting the finances associated with the investment programme. We welcome your views and any questions you may have.

#### **Background to investment for balancing demand and supply needs**

It is important to the service that customers receive, and the wider water environment, that Scottish Water invests appropriately in its assets. However, as Scottish Water's capital expenditure accounts for almost half its annual expenditure, it can have a significant impact on customers' bills.

Scottish Water targets its investment at delivering a series of objectives set by Scottish Ministers. We have a duty to set price limits at a level sufficient to finance the delivery of these objectives at the lowest overall reasonable cost. We therefore scrutinise Scottish Water's investment proposals very carefully. The investment proposals are set out in draft business plans and then in an agreed delivery plan.

Scottish Water is required to make sure that sufficient water is supplied for customers' use now and into the future. It is also required to ensure that wastewater collection and treatment meets present and future needs. It must fulfil customers' needs whilst protecting the environment.

The total amount of water needed by household and non-household customers plus the amount of water Scottish Water forecasts it will require for operational uses and lose through leakage from the network is called *demand*. The amount of water that is

available for use from surface water (rivers and reservoirs) and groundwater sources (aquifers) is referred to as *supply*. Supply is constrained by factors such as the capacity of collection and storage systems, environmental limits on the amount of water that can be abstracted (e.g. through the Water Framework Directive) and other considerations such as the impact of climate change which can affect the amount of water available for drinking water use.

Scottish Water aims to make sure that water supply meets demand; it maintains this balance by investing in demand and/or supply side solutions.

There is a similar requirement to balance wastewater supply and demand. Demand for sewerage services (collection and treatment) is governed by the number of people and businesses connected plus the impact of other sources of wastewater on the network e.g. from surface water or groundwater seeping into the network. On the wastewater side, supply is defined by the treatment and discharge capacity of the network which itself is also affected by external factors, such as changes in environmental legislation, reviews of discharge limits and other impacts e.g. through climate change.

In each operational area any imbalance between demand and supply either results in a surplus or shortfall (deficit). The scale of this gap both in present and future terms will inform the investment needed to restore the imbalance. This will range from solutions involving infrastructure (pipes) and non-infrastructure (water treatment works, pumping stations etc).

Accurately predicting future water and wastewater supply and demand is difficult and there are a number of uncertainties to consider, including:

- the consistency in approach to setting agreed levels of service with companies in England and Wales;
- the accuracy of information such as population growth;
- levels of leakage;
- understanding infiltration; and
- the likelihood and impact of other constraints on supply and demand.

We will need to better understand the impact of these uncertainties when reaching our initial conclusions for our draft determination and against the backdrop of what was previously allowed for in previous periods. We welcome comments from all stakeholders on these issues at the workshop.

## Considerations for the draft determination

In reaching our initial conclusions we will need to consider the following:

**Defining an appropriate level of service:** It is normal for companies to set out the standards of water service in relation to resilience to water shortages. These relate to the characteristics of water availability. Scotland is generally considered to be water 'rich' but there are some areas where, in recent years, water availability has been low and there has at least been the possibility of water shortages. Setting a level of service standard that is too high could lead to the conclusion that a number of areas are in water deficit (potential water demand is greater than supply) when in fact the likelihood of any water shortage is very low. Addressing this situation would trigger unnecessary investment. We will consider if the standards proposed by Scottish Water are consistent with those in England and Wales and are appropriate.

**Understanding growth:** At the time of the last Strategic Review of Charges in 2005, a major concern for developers was the impact of constraints on domestic and commercial development linked to the availability of water and wastewater capacity. Funding was provided for Scottish Water to address this situation and good progress has been made in removing these development constraints to the point that this is no longer considered to be a significant issue by developers in the present period. Going forward, Scottish Water has made an assessment of the investment required to ensure new development can be accommodated on the network. In our assessment we will consider the evidence supporting Scottish Water's growth predictions and their impact on investment.

**Reducing leakage:** Leakage is the water lost from the network during the process of collecting, treating, distributing and supplying the water to customers. Leakage from Scottish Water's network has historically been too high and, despite significant improvements in recent years, there is further work to do. The Commission has set clear targets on Scottish Water to reduce leakage each year and we require Scottish Water to be at its 'Economic Level of Leakage' (ELL) by the end of the 2010-14 regulatory period. This economic level is that point at which it costs more to find and fix the leaks than the value of the water that is lost.

Scottish Water is still well above its economic level of leakage and is working hard to detect and repair leaks more quickly. Scottish Water has indicated that it needs additional finance to broaden its leakage reduction campaign and to develop the tools needed to target and sustain leakage levels. We will continue to challenge Scottish Water so that we better understand the ELL appropriate for Scotland. We shall also continue to ensure that these demand-side approaches are sufficiently exhausted before committing to supply-side options (such as resource development).

**Understanding infiltration:** Infiltration occurs when water enters the sewer network and reduces the network capacity; it can lead to premature sewer surcharging, flooding and pollution. It is important that Scottish Water tackles infiltration in a systematic way as this can off-set the requirement for large and expensive upgrades to the wastewater network. An example is the programme of works proposed to tackle Unsatisfactory Intermittent Discharges (UIDs) where tackling infiltration may reduce the frequency with which these discharges occur.

**Impacts of climate change on supply/demand balance:** The impacts of climate change may reduce (or increase) water availability. On the wastewater side higher intensity rainfall may influence the performance of existing sewer systems particularly where there are increased permeable paving. At a local level the predicted effects are, at best, difficult to forecast. Nonetheless, we recognise that these factors may potentially influence the supply/demand balance for both water and wastewater service. We shall therefore continue to seek clarity from Scottish Water on what the specific impacts of climate change may be and we will support sustainable approaches to both mitigating against these effects (e.g. through low carbon solutions) and adapt the network to take account of likely impacts.