MEETING OF THE MEMBERS OF THE EXTERNAL OVERVIEW & SCRUTINY COMMISSION 29 NOVEMBER 2012

Present:	Councillors Maskell (Chair), Duveen, Hoskin, Stanford-Beale, Whitham and Williams

Also in attendance:

Councillor Ayub	Reading Borough Council (RBC)
Richard Aylard	External Affairs and Sustainability Director, Thames Water
Robert Keen	Asset Planning, Thames Water
Chris Fitzgerald	Business Resilience, Thames Water
Huw Thomas	Local and Government Liaison, Thames Water
Professor Nigel Arnell	Director, Walker Institute for Climate System Research, University of Reading
John Booth	Reading Friends of the Earth/Reading Climate Change Partnership
Tony Cowling	GREN/Transition Town Reading
Carl Emerson-Dam	E-D Consulting Limited
John Laverty	Regional Director, Institute of Civil Engineers
Roger Sym	Climate Change Strategy Group
Dr Christine McCulloch	Oxford University Water Security Network
Ben Burfoot	Sustainability Manager, RBC
Kiaran Roughan	Planning Policy Manager, RBC
Brett Dyson	Emergency Planning Officer, RBC
Simon Hill	Principal Committee Administrator (Scrutiny), RBC
Richard Woodford	Principal Committee Administrator (Scrutiny), RBC

Apologies:

Councillor T Jones (Chair of scrutiny review)	Reading Borough Council
Councillor McElligott	Reading Borough Council
Councillor Stevens	Reading Borough Council
Councillor Vickers	Reading Borough Council
Councillor Hopper	Reading Borough Council
Water Resources team	Environment Agency

1. WELCOME, INTRODUCTIONS AND PURPOSE OF THE MEETING

Councillor Maskell welcomed everyone to the meeting and explained that the meeting was an informal meeting of the members of the External Overview and Scrutiny Commission and was an evidence gathering session for the scrutiny review of Water Security.

The aims of the review were to examine:

- The extent to which the local infrastructure for the supply and storage of potable water was sufficient for current and projected future demand;
- The extent to which the local waste water system was sufficient for current and projected future demand;

- How the Council and partners could help reduce demand and promote water efficiency.

Written evidence from the following organisations had been circulated prior to the meeting:

- Thames Water
- Environment Agency
- Walker Institute for Climate System Research, University of Reading
- Reading Friends of the Earth ('Built and Natural Environment' theme lead on the Reading Climate Change Partnership Board)
- Peter Brett Associates (business representative on the Reading Climate Change Partnership Board)
- Kyocera Mita (business representative on the Reading Climate Change Partnership Board)
- A member of the Group Against Reservoir Development

2. WATER SECURITY – SETTING THE SCENE

The members of the Commission received presentations from Richard Aylard, External Affairs and Sustainability Director - Thames Water, and Professor Nigel Arnett, Director, Walker Institute for Climate System Research, University of Reading.

Thames Water

Thames Water covered an area of 5000 square miles and provided sewage services to 13 million people and had a duty to maintain the security of water supply to 8.9 million drinking water customers in London and the Thames Valley; supplying an average of 2,600 million litres of water per day and had 100 water treatment plants in the area.

a) Water Supply

Reading was situated in the Kennet Valley Water Resource Zone (WRZ) and the main water source was surface water from the river Kennet that was treated at the Fobney Island Water Treatment Plant, in the south of the Borough. Smaller amounts of water were extracted at Pangbourne and Playhatch. In the WRZ 380k customers were supplied with an average of 145 litres of water per head per day.

It was Thames Water's duty to produce a Water Resource Management Plan (WRMP) every five years, which set out how the company planned to provide water to meet customers' needs while protecting the environment. The plan matched a 25-year demand forecast describing how much water customers would need in the future, considering factors such as climate change and population growth, with a 25-year supply forecast describing how much water was available for use now and how this might change in the future, considering the impacts of climate change and potential reductions in the volume of water they were allowed to take from rivers and boreholes. The plan also considered the options for reducing demand to match growth. Over the 25 year period the WRZ was showing a small surplus, and work in the future would therefore be around managing demand.

Leakage reduction remained as Thames Water's highest priority and their company-wide target for fixing leaks had been met for six consecutive years. Between a quarter and a third of leaks were from customers' own pipes, and work was carried out with customers to fix leaks in their properties and repairs were subsidised. The target to fix visible leaks from Thames Water pipes was five days, but this target could not always be achieved as the water supply often had to be cut, and traffic sometimes had to be diverted. There was a good working relationship between the company and the Council's traffic management team. Leakage now averaged approx 44m litres per day – down from around 48m litres per day in 2010/11.

b) Waste water

The Reading waste water catchment area had mainly separate foul and surface water sewers, comprising of 559 km of foul sewers and 470 km of surface water sewers. All foul flows drained via three main pumping stations to the Reading Sewage Treatment Works (STW) located off the A33 in the south of the Borough. The Works generated 50% of its required energy on site from sludge and had treatment capacity that had been designed to serve a population of approximately 300k. The current population it served was approximately 205k, so there was sufficient capacity up to 2020.

Flooding from sewers was a significant problem in Reading and analysis had shown that this was clustered around Queens Road, The Grove, Longworth Avenue, Overdown Road, Keswick Close, Chapel Hill and Stone Street. A number of schemes had recently been completed or were underway to address the issue. There was good liaison with the Council on sewer flooding issues.

c) Reducing demand and promoting efficiency

The Council and its partners could help promote Thames Water's water efficiency offer that was available to all Thames Water supply customers to encourage people to save water by using the company's free water saving devices. A water efficiency project was being carried out in schools and Automatic Meter Reading (AMR) equipment was being trialled to help better understand water usage and to identify leaks. AMR had been installed in some of Thames Water's own properties and at the University of Reading; an AMR project in Swindon had produced a saving of around £100k per year and Thames Water were keen to extend the scheme to other public buildings. Water efficiency work was also being carried out with Thames Valley University, Thames Valley Police and hospitals.

Thames Water had a continuing programme where customers could opt for the installation of a water meter; this was the company's preferred method of charging customers for water as it was seen as the fairest way to pay for water. In summer 2012 the company had been granted legal powers to introduce compulsory metering by the Secretary of State for the Environment. During the first five year period (2010 – 2015) it was proposed to install up to 70k compulsory meters in the Thames Water supply area in the London and Swindon and Oxfordshire WRZs where there was greatest water stress. When meters were fitted customers would also be given free water saving devices and would not be billed via their meter for the first two years. It was expected compulsory metering in the Kennet Valley WRZ would be introduced from 2020.

Water prices were set by The Water Services Regulation Authority (Ofwat) who set the price, investment and service package that customers received. Each water company proposed to Ofwat a five-year plan of work to maintain and improve their services. The next Price Review in 2014 would set a Business Plan and price limits for the period 2015-2020 that determined the investment that could be made and the maximum level of bills that could be charged.

Professor Nigel Arnell

Professor Nigel Arnell, Director, Walker Institute for Climate System Research, University of Reading, gave a presentation on the implications of climate change for water security and water management in Reading.

Over recent years there had been a change in Reading's climate: the average temperature in Reading in the period 2001 -2010 was 0.9^{o}C higher than the average over the period 1971–1990 and by 2050 the temperature might increase by another 2^{o}C under plausible climate scenarios. There had been no detectable trend in rainfall in Reading over the last few decades, and current projections were that on average by 2050 winters would become slightly wetter in Reading and on average summers would become drier. However, this average trend was likely to include years of sequences with dry winters and/or wet summers and there was evidence that the frequency and intensity of rainfall events would become more common, even during drier conditions.

With increased volatility of rainfall there would be changes in the distribution of river flows through the year and the amount of groundwater recharge, so climate change had the potential to alter the reliability of water supplies to Reading particularly in late summer; the ability to discharge effluent would also be effected.

Overall, the implications for water security would be affected by the reliability of water supplies, distribution systems, supply and treatment facilities and the frequency of storm and foul water flooding. Taken together there would be serious implications for how water was managed in Reading in the future.

3. DISCUSSION AND COMMENTS/QUESTIONS

The meeting discussed the presentations and a number of points were raised including the following:

- People needed to be prepared for a different future as far as water consumption was concerned, they needed to be aware of the amount of water they used and realise that the UK was not a wet country, in fact rainfall in London was lower per capita than Sydney, Rome, Dallas and Istanbul;

- Thames Water's Water Resource Management Plan showed how the water company forecast supply and demand over the next 25 years; it took account of population growth and increasing development and was set against the ongoing programme to reduce leakage. Water resources were planned around agreed levels of service and the plans were based on the assumption that a

hosepipe ban should only be imposed, on average, one year in 20, and that it would never be necessary to impose emergency measures, such as water rationing. However, historical data from the past 100 years was used for predicting the frequency and severity of droughts, and it was recognised that the impact of climate change might affect the accuracy of the forecasts;

- It would be possible to impose a hosepipe ban only in the areas most affected by a drought, but as all customers paid the same it had been decided that any restrictions should cover the whole Thames Water area. The company was required to produce a Drought Plan that set out the short-term operational steps it would take before, during and after a drought and would carry out a media campaign asking people to use water wisely. A media campaign had been carried out during the hot spell in July 2012 and as a result water consumption had dropped to 100 litres per head per day;

- During recent periods of drought the water industry had looked at ways to encourage customers to save water and had come up with six tips that had included taking shorter showers, not using running water when washing and peeling vegetables, washing cars with a bucket of water and not watering grass. Overall, the aim was to encourage people to think about water usage;

- Because there was a good balance of water supply and demand in the Kennet Valley WRZ there were no particular local benefits of reducing consumption in Reading, unlike in areas of greater water stress such as Swindon/Oxford and London. However it was still necessary to reduce consumption in the long term;

- Options for increasing the amount of water resources available were water transfer schemes, new reservoirs, or schemes re-using treated water by pumping it back upstream from where it had originally been extracted;

- With regard to transferring water from one region to another although this was feasible water was very heavy to move and a 'national grid' would require a huge new fixed network to be built that might only be used infrequently. In recent years there had also been droughts in areas of the country that were considered to have ample rainfall and would potentially be areas where water would be moved from. Moving water from the Severn to the Thames Water region would also create issues with the need to maintain the system and a constant 'sweetening flow'; mixing water from different regions was also not considered good practice;

- Suitable sites to build new reservoirs were limited - typically these were areas of poor quality land with few houses and clay-based soil so that the stored water did not drain underground. The only site in the Thames Water area that was potentially suitable for building a new reservoir was in the Abingdon area of Oxfordshire;

- Thames Water had a Artificial Borehole Recharge scheme in North London. This water resource incorporated a number of boreholes and was used as a contingency during summer months. Artificial re-charge of the aquifer was made with treated water during the winter months , allowing abstraction of

water in summer months if required. The water needed to be treated again before supplying to the customer and was from a confined aquifer, so did not drain away underground.

- Regarding the resilience of the water supply system Thames Water had identified areas of risk and targeted investment to those areas. The biggest challenge were assets underground and there was an ongoing programme of mains renewal to reduce leakage and secure the supply of water;

- In the case of emergencies Thames Water had a set of agreed response procedures in place (several agreed with DEFRA) to protect the supply of water. Electronic and physical security arrangements were in place to protect high risk assets. Major incidents that interrupted supply had to be investigated and reported to the regulator;

- The majority of pollution incidents (12 recorded incidents in the Borough over the previous year) were from sewer blockages, caused mainly by people abusing the system by putting material such as wet wipes and Fat, Oil and Greases (FOG) into the waste water system. These did not breakdown and combined to create a blockage. Thames Water took responsibility for these incidents but recognised that there was a need to educate people to change their behaviour to not put the wrong things into the system;

- After fitting a water meter household demand typically dropped by around 10%, and around the world demand had been shown to drop by anything from 5-15%. It had also been suggested that the greatest saving would be in the first year as a 10% drop in demand equated to a saving in a customer's bill of only £30 per year;

- Blanket advertising of water meters had not been effective and Thames Water identified those customers who it considered would benefit from the installation of a water meter, and informed them how much it had been estimated they would save following the installation of the meter. If an application was received for the optional fitting of a meter the property would be checked, as not all properties could be fitted with a meter, for example, houses in multiple occupancy and flats. These properties could request an assessed household charge based on the average use of metered properties. The long term aim was to have 80% of properties fitted with meters, and in the case of flats metering of the block would help to identify leaks. Overall, metering provided the company with a huge amount of information about the network;

- There were differing opinions on the effectiveness of rainwater attenuation, which was recommended by government and water companies as a measure that would reduce the number of incidents of surface water flooding or at least delay them to allow more time to respond. It was most effective when it was part of a wider sustainable urban drainage system. As more systems were put in place it was hoped that economies of scale would apply and therefore costs would come down;

- It was very expensive to retro-fit a single property for grey water harvesting and dangerous from a health and safety point of view. Schemes could work on new housing developments where water could be collected from all properties and used, for example, to water gardens. Thames Water were promoting schemes with developers, although the cost was obviously a disincentive. A grey water scheme had been successfully used at the Olympic Park;

- Rainwater harvesting (e.g. with a water butt) was an economic water efficiency measure, although captured supply would be used up very quickly in a drought unless larger storage such as underground tanks were installed;

- Thames Water could provide a speaker programme for schools and organisations and had also offered the Council a water efficiency project for schools in the Borough;

- Looking to the future the most cost-effective ways of reducing water consumption needed to be identified, and a balance maintained between reducing leakages and the high cost of replacing old water mains, which was around £350 per metre. The two biggest challenges for the next five to ten years would be maintaining the high standard of drinking water quality and getting people to think more about water usage and not abusing the waste water system, with the aim of changing their behaviour.

4. NEXT STEPS/WAY FORWARD

Councillor Maskell thanked all those who had given presentations and all those who had provided evidence to the meeting. He proposed that there should be a further meeting of the councillor task and finish group to consider the evidence that had been gathered at the meeting and develop further questions. He also suggested that if there were any other questions that people would like to ask following the meeting that they should be forwarded to Councillor T Jones the Chair of the task and finish group.

AGREED:

(1) That all those who had presented evidence to the Commission be thanked;

(2) That a further meeting of the task and finish group looking at water security be held to consider the evidence gathered and to develop further questions;

(3) That questions people may have following the meeting be forwarded to Councillor T Jones.

(The meeting started at 6.35 pm and closed at 8.00 pm)