
From: Cabinet Member – Environment, Highways & Waste
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To: Environment, Highways & Waste Cabinet Committee

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Subject: Water Resources Planning

Classification: Unrestricted

Summary: This report outlines the Kent Water Summit that was held in June 2012 and describes the recommendations and subsequent follow-up actions from that event. It also explains the development and findings of the Kent Water Resilience Framework. Drawing on the recommendations and findings of these, the report goes on to describe the processes through which KCC is able to influence the local water companies in the development of their Water Resources Management Plans (WRMPs) and proposes three areas of work that KCC should particularly stress in its ongoing interaction with water companies and within pending consultations on the draft WRMPs.

Recommendations: Members are asked to:

Note the programmes of work described in this report and the resulting recommendations and findings.

Support the particular emphasis on water demand management, wastewater re-use and catchment management within KCC's ongoing engagement with water companies and within pending consultation processes.

1. Introduction

This report sets out KCC's work regarding water resources management. It explains the outcomes of the Kent Water Summit held in June 2012, the development of the Kent Water Resilience Framework and processes through which KCC is able to influence the local water companies. The purpose of the report is to bring this work to the attention of the Committee and to seek support for its future direction.

2. Financial Implications

No financial implications are currently foreseen.

3 Bold Steps for Kent and Policy Framework

The work described in this report links to the following priorities of Bold Steps for Kent:

- 'Driving Economic Prosperity' – especially regarding the delivery of key infrastructure to support managed growth;
- 'Delivering the Kent Environment Strategy' – in particular through working towards a low carbon economy that is prepared for, and resilient to, climate change.

It also relates to the Minerals and Waste Local Plan and is consistent with the Waste Topic Report No. 7 on Wastewater in connection with policy and options regarding indirect wastewater reuse (Section 4.3).

4. The Report

During 2012, KCC has been leading two initiatives concerned with improved water management – the Kent Water Summit and the Kent Water Resilience Framework. Both these initiatives have produced important outputs and there are now opportunities over the coming months to ensure that these are impressed upon the Kent water companies as they prepare their long term plans for managing water resources.

a. The Kent Water Summit

KCC held a water summit on 26th June 2012 to:

- update on drought situation affecting the county at that time and to align drought communications and action;
- raise awareness on the condition of water in Kent;
- present new information on water for agriculture and horticulture;
- review and challenge current work programmes; and
- build consensus on key, long-term, water-related risks and opportunities.

The summit attracted over 90 representatives from a wide range of organisations including:

- Public sector organisations including KCC, district councils, parish councils, EA and Natural England;
- Three local water companies – Southern Water, South East Water and Veolia Water SE (now called Affinity Water);
- Major business water users including horticulturalists and breweries;
- Environmental groups such as the Kent Wildlife Trust and RSPB;
- Countryside management groups and partnerships;
- Interest groups and campaign organisations including CPRE;
- Universities and the East Malling Research Centre;
- Community groups;
- Consultants; and
- Kent companies specialising in water technology solutions.

Key note speeches were delivered by Bryan Sweetland, Cabinet Member for Environment, Highways and Waste and Andrew Wickham, Deputy Cabinet Member for Regeneration and Economic Development. These stressed the key role that water plays in both the environment and economy of Kent.

Break-out groups discussed a wide range of issues covering planning, infrastructure, farming, environment, business and community and the discussion was synthesised into the following recommendations:

1. More rapid introduction of domestic water metering to conserve water.
2. Greater understanding of the true value of water through a public awareness campaign.
3. Wastewater reuse to be considered more seriously as a potential solution to improving water supplies.
4. Increased efficiency in both domestic and agricultural water use.
5. Further expansion of facilities for on-farm water storage.
6. Greater leadership and enhanced co-operation to deliver technological innovation in water conservation.
7. A drive to cut out all forms of water wastage.

Good progress has been made in following up these recommendations but several also need to be promoted through KCC's influence in the water industry planning process.

b. The Kent Water Resilience Framework (WRF)

The WRF is an activity within the Kent Environment Strategy (KES) and contributes to delivery of Action CC 6.1 'To develop and deliver risk-based action plans for the top 'climate risk' priorities in Kent'. It is being developed in partnership with the Environment Agency.

There are several steps within the WRF:

- Step 1 is the development of a clear baseline document that brings together data from a number of sources and sets out the current situation. It is titled '*The State of Water in Kent*' and was published in June 2012 by the EA.
- Step 2 is an analysis of the risks and opportunities that are expected to arise from long term changes in climate, population and land use within the county and is entitled '*Risks and Opportunities for Water Systems: An analysis of long term risks and opportunities for water systems in Kent*'. This has been produced by KCC, it is currently available in draft and will be published shortly. This document highlights a total of 19 risks and opportunities that require further attention.
- Step 3 is to develop partnership action to address those risks or opportunities that are expected to affect Kent as a whole. This has already been commenced with the establishment of a new task group (chaired by Andrew Wickham, Deputy Cabinet Member for Regeneration and Economic Development) to address water availability for agriculture and horticulture.

- Step 4 will address those risks and opportunities that are expected to be location specific. It will involve the development of a prioritised list of locations across Kent where the risks or opportunities are expected to be highest and it will produce a set of maps and a report. The specification for this work is currently being drafted.
- Step 5 will involve engaging with businesses and communities within the prioritised locations to support them in developing appropriate responses.

A number of the risks and opportunities (listed below) that have been identified in Step 2 relate primarily to agricultural land management and point to the need to develop long term management regimes on a river catchment basis. Water companies would be important partners in that process.

- New agricultural and horticultural crops
- Increased cropping intensity
- Improved crop yields
- Increasing water demand
- The incidence and severity of droughts
- Water availability for irrigation
- Difficulties in filling surface water reservoirs
- Increasing soil erosion
- Soil degradation

Others (listed below) have more direct implications for water companies and need to be addressed within their long term strategies with the aim of making water resources management systems more resilient into the future.

- Increasing water demand
- The incidence and severity of droughts
- Difficulties in filling surface water reservoirs
- Changing yields from groundwater
- The adequacy of wastewater treatment infrastructure
- Increasing nutrient concentrations and eutrophication in rivers and lakes
- Reduced base flow in rivers
- Worsening condition of aquatic habitats and species

Each of these risks carries with it potential opportunities for local businesses to develop innovative solutions and this will be investigated further in Step 5.

The WRF will need to be reviewed at intervals to ensure that it continues to use the best available data and focus on the correct issues and locations.

c. The water industry planning process

Water companies produce new Water Resources Management Plans (WRMPs) every 5 years. Each WRMP covers a 25 year time period on a rolling basis. The companies are now preparing their plans for the period 2015 to 2040.

There are five water companies that supply Kent but three of them cover about 90% of the county – namely South East Water, Southern Water and Affinity Water (formerly Veolia Water SE / Folkestone & Dover Water).

All the water companies in South East England form part of a planning group called 'Water Resources in the Southeast' (WRSE) which is chaired by the Environment Agency (EA). This group brings together EA regional water resources modelling functions with water company infrastructure planning to identify and promote optimal strategic infrastructure options. The WRSE work remains confidential until after the individual company plans are approved.

The previous planning process for the period 2010 to 2035 culminated in public inquiries for South East Water and Thames Water. The current planning process includes two key improvements that have since been made:

- The WRSE group appears to be more strongly supported by all the relevant water companies, more fit for purpose and better integrated with each company's own planning functions.
- South East Water (SEW) has completely changed its approach to engaging with stakeholder organisations – it has set up a Customer Challenge Group and an Environmental Focus Group (EFG) to “advise and challenge” the company. KCC is one of the organisations represented on the EFG.

It is understood that Thames Water is following a similar approach to SEW on stakeholder engagement. The other companies that supply Kent – Southern Water, Affinity Water, and Sutton & East Surrey Water – are following a more conventional approach that mainly involves consulting a wide range of stakeholders on their draft WRMP. Southern Water has, however, also been running a number of one day events to explain their planning process and listen to the views of stakeholders. KCC has taken part in these.

The water companies will all produce their draft WRMPs in late April / early May 2013 and this will be followed by a formal consultation period after which each company will produce its Statement of Response, make any revisions and publish the final plan in early 2014.

d. The proposed focus for KCC influence

Drawing on the recommendations from the Kent Water Summit and the findings from the Kent Water Resilience Framework, there are three key areas of work that it is suggested that KCC should now be emphasising with all the local water companies:

- demand management;
- wastewater re-use; and
- catchment management.

These are not panaceas for Kent's water problems, neither are they the only things that need to be done. However, they do hold considerable potential and require greater attention.

i. Demand management

The management of water resources requires a balanced approach that addresses both supply and demand. In the past, water companies have favoured supply side engineering solutions but have gradually come around to balancing this with a stronger focus on leakage reduction, metering, domestic water efficiency and tariffs to encourage water saving. KCC has been working with local water companies for some years through the Kent Water Demand Management Group to promote domestic water efficiency and this has now culminated in these companies joining the Kent Green Deal Partnership and committing to work with KCC and others in retrofitting the existing Kent housing stock with efficiency improvements. Demand management is now getting more attention but still needs to be emphasised by KCC to ensure that water wastage is minimised.

All the Kent water companies are progressing domestic water metering schemes within their current plans. Affinity Water has already completed their programme for the old Folkestone & Dover Water area with 93% of those properties now metered. Southern Water will reach a similar level by 2015 and South East Water will reach 71% by that date. There is scope to encourage SEW to accelerate this to deliver 90% metering ahead of the current expected completion date of 2020.

The need for faster metering and improved domestic water efficiency was highlighted at the Kent Water Summit and this was followed up by a letter to the relevant government minister at DEFRA. It is important that this is reiterated to water companies over the coming months. Specifically, it is recommended that KCC should:

- Stress the importance of demand management in general to all water companies;
- Stress the importance of their involvement in the Kent Green Deal Partnership and their provision of the water efficiency measures free of cost to the households;
- Emphasise to South East Water the desirability of reaching their target level of metering ahead of 2020.

ii. Wastewater re-use

The re-use of wastewater is a good way to improve the efficient use of water resources and it can be applied at a number of different points within the water systems:

- a. Within homes or businesses using grey water recycling technology to provide water for toilet flushing and garden use;

- b. At a neighbourhood scale using localised treatment and a separate water supply to homes for non-potable use (using colour-coded pipework and other such precautions); and / or
- c. At river catchment scale by upgrading coastal wastewater treatment works, pumping the more highly treated effluent back up river to support natural flows, and re-abstracting it further downstream for additional treatment and input into the regular water supply network. (This is referred to as 'indirect re-use').

Option a is currently costly to include in new homes, difficult to retrofit into existing homes and can have maintenance and performance issues. Option b. provides some economy of scale but is only suitable for new developments and faces a number of ownership issues. Option c. is generally the most economically attractive proposition as it benefits from significant economies of scale, it can target water that would otherwise be lost to the sea, supports low flows in rivers and can be applied to all wastewater streams. It addresses several of the risks highlighted in the Kent Water Resilience Framework as it is a very resilient solution, the output of which is little affected by drought. Unfortunately it requires treatment processes that are currently energy-intensive and, although this is being steadily improved by technological advances, in many situations it may not be the least cost option. Wastewater re-use options at Aylesford and Ramsgate were advocated at the Kent Water Summit. The approach is gaining popularity and would benefit from the support of KCC. Specifically, it is recommended that KCC should voice support for catchment-scale wastewater re-use in coming consultation responses, subject to the obvious compliance with the stringent drinking water quality standards of the Drinking Water Inspectorate.

iii. Catchment management

Catchment management involves water companies working outside their conventional areas of responsibility to support a wide range of measures aimed at improving the quality and quantity of water in the environment and hence making more water available for abstraction. Typically these measures range from:

- Improving land management in the upper reaches of river catchments to reduce pollution, retain more water following heavy rainfall events, and to promote aquifer recharge; to
- Localised measures to protect specific water sources from temporary shut-downs caused by pollution events from neighbouring land.

The water supply benefits of catchment management measures are generally difficult to quantify but can be highly cost effective and also deliver significant environmental benefits.

Given that this type of work would require water companies to enter into unusual partnerships with land managers, KCC support would provide significant encouragement. In particular it is recommended that KCC could

usefully stress support for catchment management to all water companies in coming consultations and discussions.

5. Conclusions

During 2012 KCC has led two important pieces of work concerning water resources management – The Kent Water Summit and the Kent Water Resilience Framework. The recommendations and findings from these have particular relevance to the Kent water companies as they develop their Water Resources Management Plans for the period 2015 to 2040 and consult on these in May / June 2013.

It is proposed that KCC should use these opportunities to emphasise the importance of water demand management, wastewater re-use and catchment management.

6. Recommendations

Members are asked to:

Note the programmes of work described in this report and the resulting recommendations and findings.

Support the particular emphasis on water demand management, wastewater re-use and catchment management within KCC's ongoing engagement with water companies and within pending consultation processes.

7. Background Documents

Kent Water Summit 2012. Summary and key points. KCC, 2012.

Kent Water Summit 2012. Follow-up Actions. KCC, 2012.

The State of Water in Kent. Environment Agency, 2012.

<https://shareweb.kent.gov.uk/Documents/environment-and-planning/environment-and-climate-change/water%20summit/state-of-water.pdf>

Risks and Opportunities for Water Systems: An analysis of the long term risks and opportunities for water systems in Kent (draft). KCC, 2012.

<https://shareweb.kent.gov.uk/Documents/environment-and-planning/environment-and-climate-change/water%20summit/wrf-analysis.pdf>
and <https://shareweb.kent.gov.uk/Documents/environment-and-planning/environment-and-climate-change/water%20summit/wrf-figures.pdf>

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