

# Report of the Residents' & Environmental Services Policy Overview Committee 2013/14

## Using Our Water: Improving Efficiency and Developing Long-Term Strategies



### Members of the Committee

*Cllr Michael White (Chairman)*  
*Cllr David Yarrow (Vice Chairman)*  
*Cllr Lynne Allen*  
*Cllr Shirley Harper-O'Neill*  
*Cllr Patricia Jackson*  
*Cllr Kuldeep Lakhmana*  
*Cllr Carol Melvin*  
*Cllr David Payne*

# Contents

<b>Chairman's Foreword</b>	<b>3</b>
<b>Recommendations</b>	<b>4</b>
<b>Background to this Review</b>	<b>5</b>
<b>Change of Practice</b>	<b>7</b>
<b>Change of Technologies</b>	<b>9</b>
<b>Change of Policy</b>	<b>11</b>
<b>Background Reading</b>	<b>12</b>
<b>Appendices</b>	<b>14</b>



## **CHAIRMAN'S FOREWORD**

*On inspecting the list of reviews that this Committee has undertaken over recent years, it is immediately obvious that an impressive range of topics have been explored covering the full breadth of the Council's residents-facing and environmental services. Work on areas as diverse as cemetery regulations, the environmental impact of phone masts and the use of Khat has been undertaken and has benefited residents on the local level as well as having a significant national impact. In fact, I am proud to say that almost every area of the Committee's remit has been touched upon with work currently underway across the Council as a result of our recommendations.*

*However, one notable exception to this impressive coverage of the Committee's responsibilities was that of the use of water both by the Council itself and by those on whom we have influence. Hillingdon is located within the most water stressed area of the country in which, despite a finite water resource, a growing population is consuming an above-average amount of water. Such a trend has obvious implications on the local environment and emphasises the importance of considering water efficiency in the Council role as a local planning authority and, more generally, as an influential organisation within the Borough.*

*It was with these key environmental factors in mind that the Committee decided to undertake a review that would cover a wide range of the Council's water-using operations as well as the policies that it applied through the planning function. It was hoped from the outset that exploring these themes would have a positive impact on the Borough's environment and, as a result of proposing water-saving measures, that financial efficiencies may also be delivered in the medium to long terms.*

*To address these concerns, the witness sessions focussed on the Council's use of water in green spaces and across the corporate estate with evidence provided from the Environment Agency, Affinity Water and Council officers. The Committee also attended a site visit to Heathrow Terminal 2 which is currently being redeveloped with an impressive approach to reducing water consumption and energy efficiency. Both the sessions and site visit were invaluable in informing the Committee of the key issues surrounding water use and some of the technologies used to address these issues.*

*I would like to place on record both my own and the Committee's appreciation to all of the witnesses who generously gave us their time and expertise. This has enabled us to produce a comprehensive and, I believe, valuable report which I am proud to commend to Cabinet.*

**Councillor Michael White**

**Chairman of the Residents' & Environmental Services Policy Overview Committee**

# **RECOMMENDATIONS**

The Residents' & Environmental Services Policy Overview Committee recommends:

## **Change of Practice**

- 1. That the Cabinet Member for Finance, Property & Business Services considers asking officers to facilitate regular meetings with Affinity Water, Council leisure centre operators and the Greater London Authority to share best practice, foster stronger partnerships and develop a strategic approach to reducing the water usage of the Council and its partners;**
- 2. That the Cabinet Member for Finance, Property & Business Services requests officers to liaise with the Borough's education establishments to pass on information regarding water-saving measures and encourage small-scale initiatives to reduce usage;**

## **Change of Technologies**

- 3. That Cabinet commend the work already undertaken by officers to receive detailed billing data from Affinity Water and commit to pursuing this until it is agreed as a long-term measure;**
- 4. That the Cabinet Member for Finance, Property & Business Services considers that, once data is provided, officers undertake a comprehensive audit of the Council's water usage and produce a league table highlighting key users across the estate with a view to identifying areas for efficiencies;**
- 5. Notwithstanding the provision of detailed billing data from Affinity Water, that the Cabinet Member for Finance, Property & Business Services requests officers to investigate the viability of gradually upgrading to smart metering across the Council's estate as a means through which to monitor real-time water usage and report findings back to the relevant Cabinet Members in due course;**
- 6. As part of the budget planning process, that the Cabinet Member for Finance, Property & Business Services requests officers to investigate the use of a borehole at the Rural Activities Garden Centre as a spend-to-save project and report findings back to relevant Cabinet Members in due course;**

## **Change of Policies**

- 7. That the Cabinet Member for Planning, Transportation & Recycling considers the inclusion of the following areas in the Local Plan Part 2:**
  - Stronger and clearer policies on sustainable drainage in the Borough including the use of at-source collection;**
  - Water conservation policies relating to a wider range of planning developments than just major developments;**
- 8. That the Cabinet Member for Planning, Transportation & Recycling considers that officers investigate the viability of amending, as an interim measure, policy EM1 point 11 to remove the word "major" thereby making it applicable to a wider range of planning developments in the Borough.**

## **BACKGROUND TO THIS REVIEW**

*Increasing population and development pressures present particular challenges for the environment in the South East. Water resources, waste water, flood risk and waste disposal are all major concerns, and climate change is increasing many of the risks that the South East faces.*

Environment Agency website

To understand the importance of water conservation as a challenge facing the Council's resources and the local environment, it is important to recognise that Hillingdon is located within an area in which water is scarcer than anywhere else in England and Wales. The Environment Agency highlights that the South East has a growing population using more water than people in any other part of the country in spite of the fact that there is less water available per person than in many Mediterranean countries. Although the responsibility of addressing these challenges is primarily that of the Environment Agency and local water suppliers<sup>1</sup>, the Council, as a significant water user and a local planning authority, has the capability of making a considerable contribution to the reduction in water use across the Borough.

Given the more direct influence that the Council has on its own operations, the main focus of the review necessarily explored what could be done to reduce water usage across the Council's green spaces and corporate estate. However, the review also sought to ensure that the influence held over planning developments within the Borough was used to promote water efficiency and conservation. Hillingdon has recently seen a minor downturn in domestic water consumption but the Borough still has an above-average household water use that has, at times, risen significantly higher than that of other London boroughs. Consequently, the Committee felt that further work could be done by the Council to achieve a reduction in water usage by ensuring that robust planning policies were in place requiring developers to implement water conservation measures.

In the light of this, the Terms of Reference for the review (set out in full at Appendix A) were founded on the key concern of putting long-term measures in place to reduce water usage throughout the Borough thereby reducing the considerable strain on the region's water resources. Furthermore, it was hoped that, by putting forward recommendations that addressed this concern, financial efficiencies for the Council might also be yielded as a result of a reduction in overall usage.

To achieve these aims the Committee heard evidence from witnesses both internal and external. Representatives from across Council departments provided information on the Council's current water-saving practices and policies whilst representatives from Affinity Water and the Environment Agency outlined some of the broader issues surrounding water conservation. The Committee also undertook a site visit to the Heathrow Terminal 2 development to investigate their approach to reducing water usage. Full details of witnesses sessions can be found at Appendix A.

### **Structure**

Over the course of the review, three major themes were identified that were felt to encapsulate the areas of the Council's operations in which improvements to water use might be made. Consequently, the report has been produced mirroring these themes, as follows:

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<sup>1</sup> In Hillingdon's case the water provider is Affinity Water.

1. Change of Practice
2. Change of Technologies
3. Change of Policies

It should be noted that, in order to keep this report as accessible as possible, much of the contextual information relating to the review can either be found through the external sources highlighted in the Background Reading list or within the appendices to this report.

## CHANGE OF PRACTICE

As highlighted in Appendix A, the Committee heard evidence from a number of partner agencies and experts in the field of water conservation. It was notable that each of the sessions provided information on the provision, use, and saving of water that revealed areas of the Council's practice that, once investigated further, might lead to considerable efficiencies. Although the Committee was reassured that there was significant expertise on water conservation within the Council, Members highlighted the value of fostering a better relationship with these organisations whereby expertise, information and developments were shared between providers and key water users.

An area of particular interest to the Committee was that of the Council's leisure centres, run in partnership with Fusion and Greenwich Leisure Limited (GLL), which were considered to be key water users and to have the potential for making considerable water efficiencies. At the Committee's request, officers liaised with colleagues from the leisure centres and were informed that there was currently little contact between them and Affinity Water. Colleagues further indicated that the Council organising and facilitating such meetings would be welcomed so that best practice and information could be shared and efficiencies made. Members highlighted the leisure centres as being one of the key organisations that might benefit from these meetings, however, it was noted that an invite could be extended to other major water users as they were identified.

Furthermore, planning officers advised that facilitating a meeting with colleagues at the Greater London Authority (GLA) would also be a positive step towards ensuring that the Council was kept up to date on the latest developments in the field of water conservation. Not only was it noted that the GLA had considerable expertise in water conservation that could be exploited, it was also noted that they had high-quality and robust policies that could be learnt from and utilized by the Council on a local level. Although neither of these meetings might produce immediately measurable reductions in water usage, it was felt that putting processes in place for the sharing of best practice would ultimately produce efficiencies and savings for the Council and other organisations in the longer term.

With a view to ensuring that these relationships were as effective as possible, the Committee recommends:

**1**

**That the Cabinet Member for Finance, Property & Business Services considers asking officers to facilitate regular meetings with Affinity Water, Council leisure centre operators and the Greater London Authority to share best practice, foster stronger partnerships and develop a strategic approach to reducing the water usage of the Council and its partners.**

Appreciating the benefit of sharing information and best practice between the organisations above, the Committee felt that it was important that the Council also endeavours to pass on its own expertise where appropriate. The possibility of officers liaising with the Borough's schools to pass on information relating to water conservation (particularly small-scale initiatives that could be easily replicated on a school's estate) was considered to be a simple and effective way of promoting the importance of water conservation. Consequently, the Committee recommends:

**2**

**That the Cabinet Member for Finance, Property & Business Services requests officers to liaise with the Borough's education establishments to pass on information regarding water-saving measures and encourage small-scale initiatives to reduce usage.**

## CHANGE OF TECHNOLOGIES

### Billing

As might be expected, during the course of the review the Committee wished to receive data on the Council's annual water usage and expenditure. These figures were duly provided at approximately 225,000 cubic metres and £167,000 respectively (exclusive of schools and Housing Revenue Account). It is important to note that administering and paying for water was undertaken individually by a wide range of officers across the Council. In 2012/13, for instance, 70 officers raised 420 purchase orders to pay the £167,000 bill noted above. Such a complex administration process was costly and time consuming both for the Council and Affinity Water. However, despite the complexities of administration, it was highlighted that the bill provided to the Council did not provide a comprehensive breakdown that included individual building usage and so could not be used to highlight areas of concern across the estate.

Witnesses highlighted that work was currently being progressed with Affinity to address this issue and reduce the admin and process costs through the consolidation of bills. This would involve the Council being provided with detailed data – including historic data – on water usage across all of its properties. This could be input into a computer programme that would enable individual building's water performance to be monitored and allow officers to set targets for reduction. This would allow the highest water users to be identified and be invaluable in the earlier detection of leaks and could lead to a reduction in the administration costs associated with billing. To achieve this, the Committee proposed the following recommendations:

**3**

**That Cabinet commend the work already undertaken by officers to receive detailed billing data from Affinity Water and commit to pursuing this until it is agreed as a long-term measure.**

**4**

**That the Cabinet Member for Finance, Property & Business Services considers that, once data is provided, officers undertake a comprehensive audit of the Council's water usage and produce a league table highlighting key users across the estate with a view to identifying areas for efficiencies.**

### Smart Metering & Boreholes

To find out more about the use of new, water-efficient technologies, the Committee undertook a site visit to Heathrow Terminal 2 which is currently being redeveloped with a focus on sustainable design. The Committee was extremely impressed with the work undertaken by the airport both to reduce dependency on mains water through the introduction of boreholes and the use of smart metering to allow for real-time monitoring of water use and possible leaks via wireless telemetry. The system meant that a leak could be detected almost immediately whereas, without it, there could be a delay of weeks before it was located. Such delays have an obvious resource implications and any reduction to this would present considerable potential for financial efficiencies to be made.

Evidently there are cross-over between the provision of detailed bills by Affinity Water and implementing a smart metering upgrade. The benefits of smart meters are that they provide updates on the amount of water used every 15 minutes in an easily understood

format. This would allow the Council to monitor leakages in real time and also highlight the use of water across green spaces and the corporate estate to inform a strategic approach to reducing water consumption. It is important to note that smart meters are a relatively expensive solution and that a comprehensive business case would have to be put forward to make an informed decision on their introduction. Consequently, the Committee wished to recommend that officers investigate how viable such a project would be. As such, the Committee recommends:

**5**

**Notwithstanding the provision of detailed billing data from Affinity Water, that the Cabinet Member for Finance, Property & Business Services requests officers to investigate the viability of gradually upgrading to smart metering across the Council's estate as a means through which to monitor real-time water usage and report findings back to the relevant Cabinet Members in due course.**

Colleagues from Heathrow, Affinity and the Environment Agency all provided useful information on the viability of using boreholes to extract ground water directly. It was highlighted that there were a number of issues associated with the use of this technology. Namely, that boreholes needed to be licenced by the Environment Agency, they cost up to £500,000 to drill and, in the worst case scenario, could yield no or very little water. However, witnesses also noted that successful boreholes could deliver positive impacts on the environment and medium- to long- term financial savings.

The Committee heard that officers had begun investigating the viability of introducing a borehole at the Council's Rural Activities Garden Centre with the possibility of reducing the amount of mains water used at the site. The possibility of using the water from the borehole for other areas of the Council's activities was also being explored. At the time of this review, there were a number of issues to be explored further by officers such as the financial viability of the project, the level of treatment that would be required on abstracted water, how water would be stored, etc. Given the range issues that needed to be resolved to determine the efficacy of such a project, the Committee wished only to make a recommendation for further investigation to be undertaken. As such the Committee recommends:

**6**

**As part of the budget planning process, that the Cabinet Member for Finance, Property & Business Services requests officers to investigate the use of a borehole at the Rural Activities Garden Centre as a spend-to-save project and report findings back to relevant Cabinet Members in due course.**

## CHANGE OF POLICIES

As well as focusing on what the Council could do to reduce water usage across its own estate, the Committee wished to explore what could be done to encourage or require other organisations in the Borough to become more water efficient. As has been noted above, there is considerable scope to develop how best practice is shared between providers, policy makers and key water users but the Committee also felt that the Council's role as a local planning authority could be enhanced to promote the importance of water conservation in as many of the Borough's developments as possible.<sup>2</sup>

Although the Council currently has a wide range of local policies in place, witnesses informed the Committee that there was no single, comprehensive document that brought such policies together. The Local Plan Part 2 was in the process of being developed and would, in due course, provide this resource. However, the Committee felt that this provided them with two opportunities; firstly, to influence the development of the Local Plan Part 2 by encouraging the inclusion of water conservation policies and, secondly, to propose a simple revision to existing policies to ensure they were fit-for-purpose in the interim period.

Witnesses noted that the policies currently in use relating to water conservation, particularly policy EM1, required major developments (10 units or more) to consider the full water cycle including consideration of water consumption. However, the fact that this was limited to major applications meant that current policy technically only applied to 5-10% of new developments in the Borough, even though officers were trying to apply it more widely through conditions (coded RES15/COM15 and RES16) that required developers to undertake water conservation works as part of their planning approval.<sup>3</sup>

These standard conditions required various water conservation measures but, crucially, these could be challenged at appeal due to the Council's existing policies only covering major developments. RES16, for instance, required developments to achieve Level 4 of the Code for Sustainable Homes. However, due to being insufficiently backed by policy, decisions had been challenged in the past and led to the Council backing down on water conservation requirements placed on developers.

The Committee strongly believed that requiring planning developments within the Borough to implement water conservation measures should be fully supported by policy and should cover as wide a range of developments as possible. The following two recommendations were felt to address these concerns both in the long-term by inclusion in the Local Plan Part 2 and for the interim period prior to its introduction.

**7**

**The Cabinet Member for Planning, Transportation & Recycling considers the inclusion of the following areas in the Local Plan Part 2:**

- **Stronger and clearer policies on sustainable drainage in the Borough including the use of at-source collection;**
- **Water conservation policies relating to a wider range of planning developments than just major developments**

**8**

**That the Cabinet Member for Planning, Transportation & Recycling considers that officers investigate the viability of amending, as an interim measure, policy EM1 point 11 to remove the word "major" thereby making it applicable to a wider range of planning developments in the Borough.**

<sup>2</sup> The Committee emphasised that these measures would also have a positive impact on flooding in the area.

<sup>3</sup> Policy EM1 and RES15/COM15 and RES16 are provided in full at Appendix B

## BACKGROUND READING

The following information is provided in order to signpost readers to useful contextual information to this review.

- Information on water resources, abstraction, managing resources and other areas can be found on the Environment Agency website at the following address:  
<http://www.environment-agency.gov.uk/business/topics/water/>
- Details of what Affinity Water are doing to reduce the consumption of natural resources are provided on their website at:  
<https://www.affinitywater.co.uk/environment.aspx>
- Information on the Smart Metering initiative being undertaken by Thames Water and Anglian Water can be found here: <http://www.anglianwater.co.uk/business/business-services/smart-metering/> <http://www.thameswater.co.uk/media/press-releases/17391.htm>
- The London State of the Environment Report (section 4 covering Water Resources in London) can be found here:  
<http://data.london.gov.uk/datastore/package/state-environment-report-london>
- Environmental Fact Sheets for all of the London boroughs can be found at the below link. These provide a “snap shot” of the environment in each borough. Note that the graph relating to water conservation is inaccurate due to an Environment Agency error. The Borough’s water consumption has not seen a significant downturn in domestic water use in the past year. The text accompanying the graph is, however, correct.  
<http://www.environment-agency.gov.uk/research/library/publications/103321.aspx>
- More information from the witness sessions can be found in the minutes to the meetings. These can be found here:  
**Session 1:**  
<http://modgov.hillingdon.gov.uk/ieListDocuments.aspx?CId=114&MId=1679&Ver=4>  
**Session 2:**  
<http://modgov.hillingdon.gov.uk/ieListDocuments.aspx?CId=114&MId=1681&Ver=4>  
**Session 3:**  
<http://modgov.hillingdon.gov.uk/ieListDocuments.aspx?CId=114&MId=1683&Ver=4>

## APPENDIX A - TERMS OF REFERENCE AND WITNESSES

### TERMS OF REFERENCE

#### General

1. To gather evidence in order to develop a broad understanding of:
  - a. The Council's current water usage practices in both its green spaces and across the corporate estate,
  - b. The scope of the Council's existing policies regarding its own water usage,
  - c. The planning requirements that the Council places on developers building in the Borough.

#### Water and Our Green Spaces

2. To explore possible ways in which the Council could make short-, medium- and long- term improvements to its water usage in award-winning green spaces;
3. To explore alternative water supply options and determine where the Council can get best value for money and have the best possible impact on the environment;
4. To make recommendations that produce financial savings, increased efficiency and add to the Council's reputation as an authority with an innovative and leading approach to green spaces;

#### Water and Our Corporate Estate

5. To explore how the Council could make cost-effective changes to its water usage practices across the corporate estate;
6. To make recommendations that improve how the Council uses water within its own buildings with a view to reducing usage and producing positive financial and environmental impacts;

#### Developing Our Water Strategy

7. To contribute to the development of future water requirements set out in the Local Plan Part 2;
8. In conjunction with the Environment Agency and water companies, to contribute to future plans for conserving and reducing water usage in the Borough; and
9. To make recommendations that put measures in place to ensure that the Borough's water usage is brought in line with the London average as determined by the London State of the Environment Report.

### WITNESSES

<b>SESSION 1 – 17 OCTOBER 2013</b>
Paul Richards, Green Spaces and Leisure Services Manager Alastair Wilson, Senior Environment Planning Specialist (Water Resources) Jane Wilkin, Planning Advisor at the Environment Agency
<b>SESSION 2 – 12 NOVEMBER 2013</b>
Emma Grigson, Head of Corporate Affairs, Affinity Water Nick Gilbert, Environment and Education Services Manager, Affinity Water David Haygarth, Energy Manager
<b>SESSION 3 – 04 DECEMBER 2013</b>
Vicky Boorman, Flood and Water Management Specialist James Rodger, Head of Planning, Green Spaces and Culture

## APPENDIX B – PLANNING POLICIES AND CONDITIONS

### **Policy EM1: Climate Change Adaptation and Mitigation**

The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

1. Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport.
2. Promoting a modal shift away from private car use and requiring new development to include innovative initiatives to reduce car dependency.
3. Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market.
4. Working with developers of major schemes to identify the opportunities to help provide efficiency initiatives that can benefit the existing building stock.
5. Promoting the use of decentralised energy within large scale development whilst improving local air quality levels.
6. Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional emissions reductions.
7. Encouraging sustainable techniques to land remediation to reduce the need to transport waste to landfill. In particular developers should consider (bioremediation) as part of their proposals.
8. Encouraging the installation of renewable energy for all new development in meeting the carbon reduction targets savings set out in the London Plan. Identify opportunities for new sources of electricity generation including anaerobic digestion, hydroelectricity and a greater use of waste as a resource.
9. Promoting new development to contribute to the upgrading of existing housing stock where appropriate.
1. The Borough will ensure that climate change adaptation is addressed at every stage of the development process by:
10. Locating and designing development to minimise the probability and impacts of flooding.
11. Requiring major development proposals to consider the whole water cycle impact which includes flood risk management, foul and surface water drainage and water consumption.
12. Giving preference to development of previously developed land to avoid the loss of further green areas.
13. Promoting the use of living walls and roofs, alongside sustainable forms of drainage to manage surface water run-off and increase the amount of carbon sinks.
14. Promoting the inclusion of passive design measures to reduce the impacts of urban heat effects.

### **RES15/COM15: Sustainable Water Management**

No development approved by this permission shall be commenced until a scheme for the provision of sustainable water management has been submitted to and approved in writing by the Local Planning Authority. The scheme shall clearly demonstrate that sustainable drainage systems (SUDS) have been incorporated into the designs of the development in accordance with the hierarchy set out in accordance with Policy 5.15 of the London Plan and will:

- i. provide information about the design storm period and intensity, the method employed to delay and control the surface water discharged from the site and

## APPENDIX B – PLANNING POLICIES AND CONDITIONS

- the measures taken to prevent pollution of the receiving groundwater and/or surface waters;
- ii. include a timetable for its implementation; and
  - iii. provide a management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime.

The scheme shall also demonstrate the use of methods to minimise the use of potable water through water collection, reuse and recycling and will:

- iv. provide details of water collection facilities to capture excess rainwater;
- v. provide details of how rain and grey water will be recycled and reused in the development.

Thereafter the development shall be implemented and retained/maintained in accordance with these details for as long as the development remains in existence.

### **RES16 – Code for Sustainable Homes**

The dwellings shall achieve Level 4 of the Code for Sustainable Homes. No development shall commence until a signed design stage certificate confirming this level has been received. The design stage certificate shall be retained and made available for inspection by the Local Planning Authority on request.

The development must be completed in accordance with the principles of the design stage certificate and the applicant shall ensure that completion stage certificate has been attained prior to occupancy of each dwelling.