

Drought in London

July 2006

Chair's Foreword



London's water supply is an essential service for all of us.

Londoners are facing what could be the worst drought for 100 years. Low rainfall and excessive leakage from London's water pipes have resulted in significant water shortages in the capital. If rainfall levels remain low over the coming months, water rationing in the capital will become a distinct possibility.

This report investigates the reasons for the threat to our water supply and makes recommendations that we believe are necessary to deal with the problem both in the short-term and in terms of long-term security of supply.

The report recommends that Ofwat must get tougher on water companies that fail to meet their targets, and also proposes that money raised from Ofwat fines should be given as a rebate to customers, rather than going into the Government's Consolidated Fund.

The Committee is concerned that if water rationing is introduced, it could have a major impact on Londoners' health and safety. It therefore calls on water companies and their partners to work to ensure sufficient safeguards are in place to minimise the impact of possible water rationing, particularly on vulnerable Londoners.

We are grateful to all the people who contributed to this investigation.

A handwritten signature in black ink that reads "J. McCartney". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Joanne McCartney, AM
Chair, Health and Public Services Committee

Executive Summary

London is currently experiencing a drought following many months of below average rainfall. Water shortages caused by the lack of rainfall have been compounded by massive amounts of leakage from the capital's water pipes, and increasing demand on our limited supplies.

The Health and Public Services Committee therefore decided to investigate what water companies and others are doing to tackle water shortages in the capital, and what impacts these efforts are having.

Three of the four companies supplying Londoners with water have already implemented restrictions on their customers' water use to try to minimise the need for water rationing in the coming months. However, if below average rainfall persists over the next few months, there is a real possibility that standpipes or other water rationing measures will be needed before the end of this year. If introduced, water rationing could have major impacts on Londoners' public health, and on the safety of vulnerable Londoners. The Committee therefore believes that water companies and their partners must work now to ensure sufficient safeguards are put in place to minimise the potential effects of water rationing later on.

Water companies and other organisations are using a range of different methods to inform the public about water shortages and how to conserve water, to try to reduce demand on our limited supplies. However, the Committee has heard that customers are confused about what water restrictions are in place in their area, and what these water restrictions mean for them.

Water companies all have leakage reduction programmes, which aim to increase the available water supply. Three of the four water companies operating in London have managed to reduce leakage enough to meet Ofwat targets. However, Thames Water has failed to meet its leakage targets for the past three years. Its leakage rates are the worst in the country, with the latest figures showing that it wastes the equivalent of almost 10 million baths of water in London every day. Furthermore, even if Thames Water met Ofwat's long-term target for reducing leakage to the economic level, Thames Water would still be able to waste 28% of the water in London's pipes. The Committee believes that this rate of leakage is unacceptable when the capital's water supply is not secure, particularly when a comparison is made with Tokyo's leakage rate of 4%.

Last year, Thames Water only reduced leakage by 2%, whilst its profits rose by 31% to £346.5 million, and customers' bills increased by an average of 21%. The Committee believes these figures show that Ofwat must use their enforcement powers to impose fines on Thames Water for failing to meet their targets. However, the Committee was disappointed to discover that the money raised from Ofwat fines goes straight to the Government's Consolidated Fund, rather than being redistributed to customers who have paid for the improvements that water companies have failed to deliver.

The Committee found that water meter penetration is very low in most parts of London, despite research showing that water meters can significantly reduce water usage.

In conclusion, the Committee believes that although water companies, Ofwat and other agencies are working to improve the security of London's water supply, more must be done, particularly to reduce leakage, increase water metering, and improve the information being given to customers.

Summary of Recommendations

1. Water companies should improve publicity for customers, and intensify their efforts to send out clear and simple information on conserving water, and on the details of what activities are and are not permitted under the current restrictions in their area.
2. The Consumer Council for Water should evaluate water companies' water conservation campaigns, by assessing the clarity of their messages, and their impact on water usage. They should also assess the clarity of water company information on different types of usage restrictions.
3. The Committee calls on water companies to prepare clear, simple advice for customers on maintaining personal and home hygiene during water rationing periods. Water companies should start preparing this information as soon as possible, so that it would be ready if they needed to apply for an emergency drought order. This information should be made readily available in alternative formats, to meet the needs of London's diverse communities.
4. All four London water companies should work with the police forces in their supply areas to reduce opportunities for bogus callers during water rationing periods as well as periods where leaks are being fixed. Water companies' public information campaigns should also include advice on how to prevent bogus callers gaining access to customers' homes.
5. The Committee believes that water meter penetration in London must be dramatically increased. Therefore, the Committee calls on Government to do more to facilitate water meter penetration, and calls on London water companies to accelerate their meter installation programmes, and do more to promote metering among their customers. However, the Government must allow meter tariffs to be set in a way that protects low-income families who need extra water.
6. All water companies should reduce leakage beyond economic levels. Ofwat should set tougher targets for water companies that balance financial implications of leakage reduction work against the need for security of supply, and the environmental impacts of alternative resource developments. Ofwat must use fines and other available sanctions to force water companies that do not meet their targets to accelerate their leakage reduction programmes.
7. When Ofwat fines water companies for breaching their licences or failing to meet standards, the money collected should be redistributed to that company's customers, rather than going into the Government's Consolidated Fund

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1. Introduction

- 1.1 London is currently experiencing a drought¹, because of a prolonged period of low rainfall. This lack of rain combined with high levels of leakage from the capital's water pipes and increasing demand on water supplies has created a situation of potentially severe water shortages. The Environment Agency believes that if the coming months are hot and dry, we may be facing the most severe drought in 100 years².
- 1.2 The current drought has already led to a range of restrictions being introduced to reduce customers' water usage. Three water companies supplying London have introduced hosepipe and sprinkler bans. Sutton and East Surrey Water has successfully applied for a drought order to further restrict non-essential water use, and Thames Water is currently going through the application process. If rainfall in the coming months is lower than average, and the available water supply is further reduced, there is a chance that more severe restrictions, such as water rationing could also be needed before the end of 2006³.
- 1.3 This report outlines why water companies serving London have needed to implement these usage restrictions, and looks at other measures that are being taken safeguard London's water supply in the short-term. Climate change and increased demand on limited water supplies mean that water shortages in London are likely to be a recurring issue in the foreseeable future. Therefore the report also addresses medium and long-term measures to improve the water supply/ demand balance.
- 1.4 This report follows the 2005 Environment Committee's investigation into water usage and supply in London⁴. This report also complements central government initiatives such as the House of Lords Science and Technology Committee examination of water management, and the recent water summit involving representatives of Defra, water companies and other key stakeholders, which have been addressing the issues on a national level⁵.
- 1.5 Four companies currently provide Londoners with water. They are: Thames Water, which supplies 76% of London's population, Three Valleys Water, which supplies 14%, Essex & Suffolk Water, which supplies 6.6% and Sutton & East Surrey, which supplies 3.7%⁶.

¹ Transcript of Health and Public Services Committee Meeting, 16 May 2006, p.2. Transcripts of Committee meetings are available from http://www.london.gov.uk/assembly/assembly_meetings.jsp

² 'Drought prospects 2006 – spring update' Environment Agency, May 2006, p.2

³ Transcript of Health and Public Services Committee Meeting, 16 May 2006, p.4-5

⁴ *Down the Drain, London's water usage and supply*—London Assembly Environment Committee Report, March 2005;

⁵ *Water Management*, Report of the House of Lords Science and Technology Committee, June 2006. On 1 June 2006, representatives of water companies, the industry body Water UK, Ofwat, the Environment Agency, and the Consumer Council for Water, met Environment Secretary David Miliband and Environment Minister Ian Pearson at Defra to discuss water supply challenges in the short, medium and long term and the collective responsibility for tackling them.

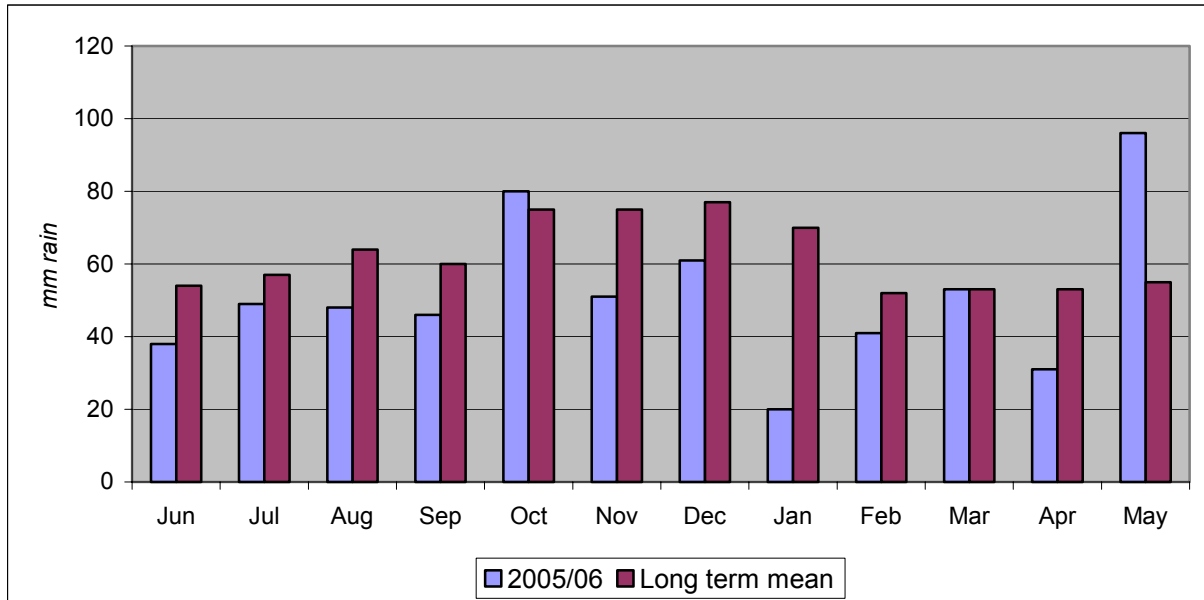
⁶ Figures from GLA's Principal Policy Advisor (Water)

2. What has caused the current water shortage situation?

Low rainfall

2.1 The Thames Region has received less than average rainfall almost every month since November 2004, which is the main cause of the current drought. The graph below shows the last year's rainfall in the Thames Region, compared to long-term averages.

Rainfall figures for the Thames Region⁷



2.2 Even though the rainfall in May 2006 was much higher than average, it will not make a long-lasting difference to current water shortages, because it will do little to replenish groundwater stores. Rainfall over the winter months is crucial for replenishing groundwater stores. These stores help replenish river flows, which in turn replenish reservoirs. As the last two winters have been much drier than average, groundwater stores are currently at very low levels. During the spring and summer, growing plants take first call on rainfall and consequently, groundwater stores do not get significantly replenished.

Demand for water

2.3 The demand for water in London is high, and increasing. Customers of the four water companies operating in London use between 158 and 178 litres of water a day, compared to a national average of 150 litres⁸. Water usage in the region has increased in recent years due to:

- Smaller household sizes – single person households have increased dramatically in recent years, and on average each person in a small household uses more water
- Increased use of power showers and other water intensive equipment
- Climate change, which has caused hotter summers, leading to higher water usage⁹

2.4 Population growth in and around London is also increasing the pressure on our water supplies. There were almost 600,000 more people living in London in 2004 than 1991, and

⁷ Based on figures from Thames Water's website, June 2006.

http://www.thameswater.co.uk/UK/region/en_gb/content/Section_Homepages/Multi_Download_000162.jsp

⁸ Security of supply, leakage and the efficient use of water 2004/5 Report; - Ofwat, October 2005, p.49

⁹ Down the Drain, London's water usage and supply—London Assembly Environment Committee Report, March 2005

the population is due to rise by a further 800,000 by 2021¹⁰. Based on current usage levels this means that in 2021 water companies will need to supply an extra 136,000,000 litres of water a day to meet the capital's needs.

Leaking pipes

- 2.5 Leakage from Thames Water's London pipe system is the worst in the country¹¹. Every day, around one third of the water in Thames Water's pipes is lost through leakage¹², and almost 90% of this leakage happens in London¹³. **In fact, Thames Water is losing almost 10 million baths of water in London per day through leakage¹⁴**. Leaking pipes waste energy as well as water, because all piped water has been purified.
- 2.6 Ofwat sets targets for water companies to reduce leakage to the economic level – which is the point at which it would cost more to reduce leakage further than it would cost to develop new resources. The table below shows companies' leakage rates against these Ofwat targets.

Water Company Estimates of total leakage in million litres per day against Ofwat agreed targets¹⁵

Company	2002/3 leakage	2002/3 target	2003/4 leakage	2003/4 target	2004/5 leakage (% of water entering supply) ¹⁶	2004/5 target
Thames Water	943	No target due to lack of data	946	850	915 (33%)	905
Sutton and East Surrey Water	24	25	24	25	24 (15%)	25
Three Valleys Water	152	140	152	140	149 (17%)	150
Essex and Suffolk Water	67	71	70	70	67 (14%)	70

- 2.7 Thames Water recently announced that its 2005/6 leakage rate was 894 million litres a day, against a target of 860 million litres. **This means that Thames Water has failed to meet its Ofwat leakage targets for the past three years¹⁷**. Thames Water is one of

¹⁰ Greater London Demographic Review 2004, Data Management and Analysis Group, GLA; and *Reviewing the London Plan: Statement of Intent by the Mayor*, GLA, 2005.

¹¹ *Security of supply, leakage and the efficient use of water* 2004/5 Report, Ofwat

¹² Written submission from GLA Principal Policy Advisor (Water) p.2-3; and *Water Management*, Report of the House of Lords Science and Technology Committee, June 2006. p.64

¹³ Written submission from the Environment Agency, p.4.

¹⁴ Based on a bath containing 80 litres of water, and 2005/6 Thames Water London leakage rate of 785 million litres a day, sourced from phone conversation with Thames Water's Local Government Community Affairs Manager on 29 June 2006. 785 million litres is the equivalent of 9,812,500 baths.

¹⁵ *Security of supply, leakage and the efficient use of water* 2002/3, 2003/4, and 2004/5 Reports - Ofwat

¹⁶ *Water Management*, Report of the House of Lords Science and Technology Committee, p.64.

¹⁷ *Security of supply, leakage and the efficient use of water* 2003/4, and 2004/5 Reports, Ofwat and Thames Water News Release, 21 June 2006

only two companies in the country that have failed to reach the economic level of leakage¹⁸.

2.8 The Environment Agency believes that Thames Water's leakage record is unacceptable, and that the company must get leakage in London under control¹⁹. The Committee endorses both this viewpoint, and the following statement, which was recently made by Ofwat:

'The company's poor leakage performance is not only inefficient, it is also contributing to water shortages that have led Thames Water to impose a hosepipe ban and seek a drought order'²⁰.

¹⁸ *Water Management*, Report of the House of Lords Science and Technology Committee, June 2006, p.62

¹⁹ Written submission from the Environment Agency, p.4,

²⁰ Ofwat PN 18/06, 20 June 2006

3. How are water shortages being tackled?

Supply/ demand balance

- 3.1 The key to tackling a drought is achieving a good water supply/ demand balance. This requires the introduction of short and long-term measures to both increase water supply and reduce demand. However, these measures have different impacts on customers, the environment and water companies, which will be discussed further in the next two chapters²¹.

4. Short term measures and their impacts

Public information campaigns

- 4.1 Water companies and other agencies have employed a range of different methods to inform the public about water shortages:

- The Mayor and Thames Water launched a joint public awareness campaign in March calling on all Londoners to be aware of how they use water and what they can do to conserve it.
- Thames Water, Three Valleys Water and Sutton and East Surrey Water have worked with other water companies operating in the south of England and the Environment Agency to set up www.beatthedrought.com which contains tips on saving water as well as an explanation of how the water shortages have come about. The “Beat the Drought” campaign also includes a cinema advert.
- All the water companies operating in London are advising customers on the current situation, current restrictions and how to save water through several media including their websites, letters to customers, press releases, advertisements in the press and promotional work with local authorities.

- 4.2 However, there is some reluctance among Londoners to save water because of water companies’ leakage records:

*‘Leakage from damaged pipes and the time taken for repairs to be carried out have created a public relations headache for those calling for London’s residents to use water more sustainably’.*²²

- 4.3 There is an issue about the clarity of the current information campaigns. Different companies’ campaigns contain slightly different information on how people can save water, and how much water each suggested action can save. Many people are also unclear about the water restrictions operating in their area, summed up by a representative of the Consumer Council for Water:

*‘There is confusion among customers even at present as to what they are allowed and not allowed to do.’*²³

- 4.4 It is unclear what effect the various information campaigns are having on the public’s use of water, and which campaigns are having the most impact. It would therefore make sense for

²¹ Supply/ demand issues have also been addressed in the London Assembly’s Environment Committee’s report *Down the Drain, London’s water usage and supply*, which was published in March 2005, which is available from <http://www.london.gov.uk/assembly/scrutiny/environment.jsp>

²² Written submission by the ALG’s Environment and Public Realm Director, p.1

²³ Transcript of Health and Public Services Committee Meeting, 16th May 2006, p.29

the different companies' campaigns to be evaluated in terms of the clarity of their message and their impact on consumers.

Recommendations 1 and 2:

- Water companies should improve publicity for customers, and intensify their efforts to send out clear and simple information on conserving water, and on the details of what activities are and are not permitted under the current restrictions in their area.
- The Consumer Council for Water should evaluate water companies' water conservation campaigns, by assessing the clarity of their messages, and their impact on water usage. They should also assess the clarity of water company information on different types of usage restrictions.

Restrictions on water usage

4.5 To reduce demand during periods of water shortage, water companies can implement various restrictions on customers' water usage. These restrictions range from hosepipe bans to water emergency drought orders that involve water rationing.

Level one: hosepipe and sprinkler ban

4.6 These bans prohibit the use of hosepipes and sprinklers for watering gardens and cleaning private vehicles. Thames Water, Sutton and East Surrey Water and Three Valleys Water all introduced hosepipe and sprinkler bans in spring 2006. In May, the Environment Agency also called on Essex and Suffolk Water to implement a hosepipe and sprinkler ban, to prevent customers in their supply area having to face more restrictions later on in the year²⁴. **At the time of writing, Essex and Suffolk Water had not brought a hosepipe and sprinkler ban into force.**

4.7 Sprinklers use around 1,200 litres of water an hour, so these bans can have a major impact on water usage. According to Thames Water, the demand for water has dropped by about 2% since they introduced the ban,²⁵ although it would be difficult to assess how much of this reduction is due to the hosepipe ban, and how much is due to the impact of the concurrent public information campaign on saving water.

Level two: non-essential use ban/ drought order

4.8 Drought orders enable water companies to prohibit water-intensive activities including the watering of parks and sports grounds and the use of window cleaning and car washing equipment. Sutton and East Surrey Water has successfully applied for a drought order, and Thames Water is currently applying for one. Sutton and East Surrey Water estimates their drought order will save enough water to supply around 18,000 households during critical periods, which is around 7% of all the properties it supplies²⁶. Therefore, drought orders can have significant effects on water usage.

4.9 In mid May, the Environment Agency called on Thames Water to apply for a drought order as soon as possible, stating that if the company delayed their application, this would

²⁴ *Drought Prospects, summer 2006*, the Environment Agency, May 2006, p.2

²⁵ Transcript of Health and Public Services Committee Meeting, 16th May 2006, p.8

²⁶ *Application for Drought Order: Non Essential Use Ban; Statement of Reasons and Environmental Report*, Sutton and East Surrey Water, March 2006, p.33

increase the risk of more severe restrictions later in the year²⁷, especially as the application process takes around six weeks. Thames Water only submitted its formal application for a drought order in late June. It remains to be seen whether this delay will contribute to the need for an emergency drought order later in the year.

- 4.10 Drought orders can have major impacts on businesses that rely on water, such as sports grounds and car wash companies. **It is therefore crucial that if a water company is granted a drought order it implements it sensitively, and with due regard to its impact on businesses and other stakeholders.** Thames Water has been working with potentially affected stakeholders including Kew Gardens and the Federation of Window Cleaners, so that it can be aware of their concerns as early as possible in the process. Thames Water is also currently assessing a scheme for offering alternative employment to people who cannot work during the period of the order. The Committee welcomes these proactive initiatives, and suggests that other water companies assess whether they could implement similar initiatives in their supply areas.

Level three: emergency drought order

- 4.11 Emergency drought orders are the most severe type of restrictions water companies can use. These orders are only used during times of severe drought, and involve companies rationing water either through standpipes or through other means such as reducing mains water pressure or by not providing a water supply 24 hours a day.
- 4.12 Because emergency drought orders involve such severe and universal restrictions, they have a big impact on all customers. However the effects of an emergency drought order would be most keenly felt by certain groups such as older people and disabled people who may have difficulties getting the water they need if, for example, standpipes were introduced.
- 4.13 Water companies should have lists of vulnerable residents who would be particularly affected by standpipes and other water rationing procedures, such as people who use dialysis machines. In the event of water rationing, local authorities will also use their databases to identify other vulnerable residents. Furthermore, the London Resilience Forum is co-ordinating work to ensure vulnerable Londoners are protected in the event of water rationing by pulling together different companies' communications strategies, establishing a list of 'critical customers' and producing information for people who need extra water. The Committee welcomes this work, but calls on the London Resilience Forum to ensure that effective safeguards are put in place to prevent lists of vulnerable customers reaching people who could misuse this information for criminal purposes.
- 4.14 A representative of Age Concern has stated that local voluntary organisations and community groups could provide volunteers who could support local authorities and water companies to deliver water to those unable to collect it themselves. However, this representative stated:

'Local authorities and water companies need to actively organise a response including voluntary contributions, not simply rely on the voluntary sector and good neighbours/ family support to deal with the problem'²⁸.

²⁷ *Drought prospects 2006- spring update*, May 2006, Environment Agency, p.2

²⁸ Email from Policy and Campaigns manager, Age Concern London, 19 June 2006.

4.15 **The London Resilience Forum must ensure that local voluntary organisations such as borough level Age Concern groups are included in plans for protecting vulnerable Londoners if standpipes are introduced, and that these groups are involved in discussions on these plans at as early a stage as possible.**

4.16 If the current drought became so severe that water rationing was required, this could have major public health implications for customers. People will need information on how they can maintain levels of personal and home hygiene with limited water supplies. To ensure this information is accessible to all Londoners, it will need to be made available in a range of languages and alternative formats, such as large print and Braille.

4.17 Furthermore, a public health expert has stated that if the drought meant that reservoirs dropped to very low levels and water had to be delivered by standpipe or tanker, water quality might suffer, unless extra safeguards are put in place.

‘Water-borne diseases such as cryptosporidium, campylobacter and leptospirosis may become more common, and there may be higher concentrations of chemicals such as pesticides in the water being treated’²⁹.

Recommendation 3

- The Committee calls on water companies to prepare clear, simple advice for customers on maintaining personal and home hygiene during water rationing periods. Water companies should start preparing this information as soon as possible, so that it would be ready if they needed to apply for an emergency drought order. Translations of this information should be made readily available.

4.18 Another potential consequence of emergency drought orders is the potential for ‘bogus callers’ to target vulnerable householders, and try to gain access to their homes by posing as water company employees. Thames Water has set up a doorstep password scheme where customers are given an identification password that employees will always use when they call at a customer’s house to help customers identify bogus callers. Thames Water has also sought advice from Thames Valley Police on what extra actions it could take to prevent this type of crime occurring during water rationing periods. The Committee welcomes this proactive approach, and suggests that other water companies adopt similar methods to prevent this type of crime happening during periods of drought.

Recommendation 4

- All four London water companies should work with the police forces in their supply areas to reduce opportunities for bogus callers during water rationing periods as well as periods where leaks are being fixed. Water companies’ public information campaigns should also include advice for residents on preventing bogus callers gaining access to their homes.

Temporary increases in supply

Drought permits and orders to take more water

4.19 These permits are issued to water companies to allow them to temporarily take extra water from supply sources including rivers. To date, in the London area, only Sutton and East

²⁹ Letter from Linda Bailey, Chair of Royal College of Nursing Public Health Forum, 22 June 2006, p.1

Surrey Water has been issued with a permit. Although these permits increase the water supply, they can also have detrimental effects on the environment. If river flows are reduced, this can cause increases in concentrations of pollutants, increased river temperatures, and reduced oxygen levels. These factors can lead to fish deaths, deaths of wetland birds, and algal blooms in rivers, which can kill plants and animals in the rivers³⁰.

Radical measures for increasing supply

- 4.20 Water companies have considered several other measures for increasing the amount of water available during times of drought.
- 4.21 Currently, companies agree that developing a national water grid to pump water to areas of the country experiencing drought conditions is not a viable option for increasing supply, mainly because the volume of water that would need to be moved makes this kind of scheme prohibitively expensive: an average family of four uses 600 litres of water a day, which weights two-thirds of a tonne³¹. However, at a more local level, neighbouring water companies already use transfer schemes to move water between their supply areas when needed.
- 4.22 Thames Water has investigated other means of increasing its available supply, including bringing water by boat from Scotland or Scandinavia. However, this approach would have major environmental and economic implications.

³⁰ *Environmental Assessment of Drought Orders and Permits*, Friends of the Earth, January 2002.

³¹ Transcript of Health and Public Services Committee Meeting, 16th May 2006, p.9

5. Medium and long-term measures and their impacts

- 5.1 Various medium and long-term measures are being considered to increase supply and reduce demand. Although these will not help tackle the immediate water shortages being faced in London, they could help to prevent a similar situation recurring.

Metering

- 5.2 Water meters have been shown to reduce water usage by an average of 10-15%³². Furthermore, research has shown that seven out of ten people currently save money by having a water meter³³. Therefore, water meters can benefit customers financially as well as having a big impact on demand reduction. It should be noted however that metered customers could end up paying higher charges in the future, so there is no guarantee that metering will save customers money in the long-term. Water metering can also be an important tool in detecting leakage from supply pipes. The Environment Agency believes that all homes in London and the South East should be metered by 2020 to help reduce water usage³⁴. The Committee agrees that increasing metering is a crucial part of reducing water use among Londoners in the long-term. However, the Committee questions the extent to which increased metering would be necessary if leakage in London was at a level consistent with national best practice.
- 5.3 Only a minority of homes in the capital currently have water meters installed. The four water companies have taken different attitudes to water metering, resulting in very different proportions of metered households in their supply areas. Three Valleys Water and Essex and Suffolk Water are installing meters at all properties on change of occupancy, which is leading to steady increases in the percentage of metered properties in their supply areas. However, Thames Water is currently only using this change of occupancy approach in two pilot areas.

Percentage of metered households by water company³⁵

	Essex and Suffolk Water (Essex Zone)	Thames Water (London Zone)	Three Valleys Water (Central and Southern Zones)	Sutton and East Surrey Water (East Surrey and Sutton Zones)
Proportion of metered households in 2005	32%	17%	22%	13%

- 5.4 Thames Water states that one of the reasons for their metering programme being slower than some other companies is the high proportion of flats in London. Many flats do not have a single point of entry for water, making meter installation difficult. However, a representative of the Environment Agency believes this problem is by no means insurmountable:

‘Installing meters in older flats or converted properties is difficult. However, this is not a reason to plan not to meter these properties. Experience from Europe is showing that these kinds of properties can be metered and we recommend that

³² Transcript of Health and Public Services Committee Meeting, 16th May 2006, p.18, *Water Management* – House of Lords Science and Technology Committee Report, June 2006, p. 78

³³ Transcript of Health and Public Services Committee Meeting, 16th May 2006, p.18

³⁴ Email from Robert Runcie, Environment Agency, 9th June 2006

³⁵ Email from Robert Runcie, Thames Regional Director, Environment Agency 16th June 2006 - the zones selected include (as far as possible) the areas of London served by the four companies.

Thames Water uses the available research to work out how it can successfully meter flats in London.³⁶

- 5.5 Current legislation means that water companies must install meters in all new homes. Water companies can also install meters on change of occupancy, and customers can ask to have a meter installed. This piecemeal approach means that progress in increasing the percentage of metered households has been slow, especially since it relies to a great extent on customers requesting meters, when many are unaware of their potential benefits.
- 5.6 There are concerns that water metering could have a disproportionate impact on people who are on low incomes and who have certain medical conditions, or large households, and therefore need extra water. Consideration must therefore be given about how to ensure these customers do not have to cope with unaffordable bills.

Recommendation 5

- The Committee believes that water meter penetration in London must be dramatically increased. Therefore, the Committee calls on Government to do more to facilitate water meter penetration, and calls on London water companies to accelerate their meter installation programmes, and do more to promote metering among their customers. However, the Government must allow meter tariffs to be set in a way that protects low-income families who need extra water.

Resource Development

- 5.7 Thames Water is planning a major new reservoir in Oxfordshire to increase the available supply in the London area. They are also planning to install an artificial recharge scheme in south London where an underground reservoir is 'artificially recharged' with water during the winter, for use if and when supplies in summer get low. A similar scheme in north London has already been developed. Thames Water also has plans for a desalination plant in Beckton, East London that could provide an extra water supply during times of extra need. A public inquiry into the desalination plant is currently taking place following the Mayor's objections to the plant, which centre on its environmental impacts.
- 5.8 However, it should be remembered that although these schemes could increase the security of London's water supply, much of the cost would be passed onto the consumer. These resources can also have negative environmental impacts, such as the loss of habitat for certain wildlife. Furthermore, ever-increasing demands on the region's water supply because of population growth mean that these extra resources can only solve water shortages for a limited amount of time, and therefore must be complemented by water conservation and leakage reduction initiatives.

Leakage reduction programmes

- 5.9 All water companies have leakage repair programmes, and are actively trying to reduce leakage to meet Ofwat targets. However, as mentioned in section two, Ofwat only demands that water companies reduce leakage to the economic level. **In Thames Water's case meeting the economic level would only mean reducing leakage to 28% of piped water. In contrast, the leakage rate in Tokyo is around 4%**³⁷. The Committee believes that although it may not be possible to match Tokyo's leakage rate, water companies must work to reduce leakage beyond economic levels to improve the security of

³⁶ Email from Robert Runcie, Thames Regional Director, Environment Agency 9th June 2006

³⁷ Written submission from GLA's Principal Policy Adviser (Water), p.2-3.

London's water supply – especially in light of the impacts of population growth, climate change, and the environmental impacts of alternative resource developments.

- 5.10 Thames Water's high leakage levels contribute to the company currently being bottom of the national table in terms of security of supply. The company currently does not have enough water to supply all of its customers during a dry year. The size of their supply shortfall is equivalent to the amount of water to supply 1.2 million Londoners³⁸. These deficits mean that water rationing is more likely to be needed among customers in London and surrounding areas than elsewhere in the country.
- 5.11 During the Committee's visit to mains pipe replacement sites, and during the evidentiary hearing, Thames Water representatives explained why they were unable to go any faster with their leakage repair programme, including:
- The lack of a definitive map of the location of different utilities pipes under London's streets
 - The number of utilities' pipes that are located in the limited space under London's streets, which means that water pipe replacement is often complex and awkward to undertake
 - The age of London's water pipes – many of which are more than 100 years old
 - The lack of suitable, available staff to undertake the repairs
 - The limitations Ofwat places on bill increases to fund the work³⁹.
- 5.12 However, Thames Water's 2005/6 leakage rate of 894 million litres a day⁴⁰ means that Thames Water has only reduced leakage by 2% in the same year that customers' bills increased by an average of 21%⁴¹ and the company's pre tax profits rose by 31% to £346.5 million⁴². These figures make the Committee question whether Thames Water's leakage programme is really going as fast as it possibly can.
- 5.13 As mentioned in section 2, Thames Water has failed to meet its Ofwat leakage targets for the past three years. Ofwat's response to this failure so far has been to develop a special action plan with Thames Water to help them reduce leakage⁴³. However, Ofwat is able to impose fines on water companies of up to 10% of their turnover if they fail to meet their targets⁴⁴. Currently, the money collected from these fines goes directly to the Government's Consolidated Fund⁴⁵, and is therefore not ring fenced for work related to improving the security of the water supply nor is it returned to water company customers. In contrast, if train companies' performance against agreed targets falls below a certain level, season ticket holders are compensated by receiving discounts when they renew their tickets⁴⁶.

³⁸ Written submission by the Environment Agency, p.2-3

³⁹ Notes of visit to mains replacement sites in the City of London, 12 June 2006, and Transcript of Health and Public Services Committee Meeting 16 May 2006, p.14-16

⁴⁰ Thames Water News Release, 21 June 2006

⁴¹ *Water and Sewerage Bills 2005-2006*, Ofwat, 2005, p.4 available from www.ofwat.gov.uk and Westminster Hall Debate on Drought Order (London) Tuesday, 27 June 2006, Hansard

⁴² Thames Water News Release, 21 June 2006

⁴³ *Security of supply, leakage and the efficient use of water* 2003/4, and 2004/5 Reports, Ofwat

⁴⁴ *Regulating the companies – Ofwat's role*, Ofwat, p.3 available from www.ofwat.gov.uk

⁴⁵ Telephone conversation with Ofwat's Head of Parliamentary and Public Affairs, 23 June 2006

⁴⁶ Strategic Rail Authority website: <http://www.sra.gov.uk/qa/perform>

Recommendations 6 and 7

- All water companies should reduce leakage beyond economic levels. Ofwat should set tougher targets for leakage that balance financial implications of leakage reduction work against the need for security of supply, and the environmental impacts of alternative resource developments. Ofwat must use fines and other available sanctions to force water companies that do not meet their targets to accelerate their leakage reduction programmes.
- When Ofwat fines water companies for breaching their licences or failing to meet standards, the money collected should be redistributed to that company's customers, rather than going into the Government's Consolidated Fund.

5.14 Importantly, fines and other Ofwat sanctions are the only tools available to encourage companies to reduce their leakage rates. There are currently no positive incentives to encourage water companies to reduce their leakage levels.

Water recycling and rainwater collection

5.15 Recycling 'grey' water and using rainwater collection systems reduces reliance on piped water in times of drought as well as conserving energy. All London water companies offer reduced price water butts through their websites, to encourage customers to collect and use rainwater on their gardens. 'Grey water' recycling systems are also being installed to reduce the demand on piped water within homes and offices. However, these schemes tend to be expensive to install and maintain. For example, the grey water-recycling scheme installed in the Millennium Dome has been removed by its new owners because of the maintenance costs associated with it⁴⁷.

6. Conclusions

6.1 Water companies, Ofwat and the Government must all do more to safeguard London's water supply. The Government and water companies must work together to increase the proportion of metered homes and develop incentives to encourage take up of equipment that reduce the use of piped water. Ofwat must set targets to drive leakage down beyond economic levels, and must get tougher on companies failing to meet their targets.

6.2 Londoners must also try to conserve water to reduce demand on our limited supplies, both during periods of drought, and when water is more plentiful. This will help to safeguard our supply in the long-term, and reduce the need to develop new resources that can have negative environmental and social impacts. To help Londoners save water, London's water companies must redouble their efforts to provide clear and simple information on conserving water.

6.3 There is a real possibility that an emergency drought order could be implemented in London by the end of 2006, which would involve water rationing. To minimise the impact of water rationing on Londoners' public health, water companies must start work now to develop advice and guidance for the public. Water companies must also work with their partners to set up safeguards to prevent vulnerable people becoming victims of crime during water rationing.

⁴⁷ Transcript of Health and Public Services Committee Meeting, 16th May 2006, p.28

Appendix One – Visits and Evidence

To obtain any of the evidence listed, contact Susannah Drury, Scrutiny Manager, tel: 020 7983 4947, email: susannah.drury@london.gov.uk

Written submissions for this investigation

- Director of The Environment and Public Realm, ALG
- The Consumer Council for Water
- The Environment Agency
- Essex and Suffolk Water
- The GLA's Principal Policy Advisor (Water)
- Three Valleys Water

Witnesses at the evidentiary hearing on 16th May 2006

- Mike Pocock, Head of Strategic Planning, Three Valleys Water.
- Robert Runcie, Thames Regional Director, Environment Agency
- Richard Aylard, External Affairs and Environment Director, Thames Water
- Tony Denton, Local Government Community Affairs Manager, Thames Water
- Siobhan Aris, Acting Thames Regional Manager, Consumer Council for Water
- James Jenkins, Thames Region Committee Member, Consumer Council for Water.

The transcript of this meeting is available at www.london.gov.uk/assembly

Visit to mains replacement sites in the City of London.

Committee members visited two Thames Water mains replacement sites in the City of London on 12th June 2006. During this visit they met with representatives of both Thames Water, and the contractor conducting the replacement work.