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Consultation on measures to reduce personal water use

Response from the Mayor of London

Summary

This response is on behalf of the Mayor of London. The Greater London Authority (GLA) is the strategic authority for London. The Mayor is required to prepare and publish a London Environment Strategy by the Greater London Authority Act 1999 ('GLA Act' as amended), under changes made by the Localism Act 2011, which includes policies and proposals in relation to climate change adaptation. These require the Mayor to consider the impact of climate change and potential mitigation proposals for adaptation for London.

The Mayor published his London Environment Strategy in May 2018, setting out his vision to make London the greenest global city. This includes objectives to

- ensure an efficient, secure, resilient and affordable water supply for London and Londoners;
- encourage and support infrastructure providers and businesses to understand and manage climate change risks and impacts to deliver resilient growth and services; and
- reduce the risk of flooding through appropriate flood defences and increased awareness.

In responding to recent Water Resource Management Plan consultations from London water companies, the Mayor called for a twin-track approach to managing London's future resources. The Mayor recognises new strategic water resources and supporting infrastructure will be needed to supply London and the South East, but this must be delivered alongside increased efforts in demand management, including greater efforts to achieve water efficiency and reduce leakage.

The Mayor is deeply disappointed with the resilience and management of Thames Water's network. It is clear that leakage and water demand management need to be tackled and that these issues are linked to years of underinvestment in London. The Mayor believes there is a need for Government to provide leadership to encourage improvements in water efficiency as a vital component in ensuring secure, resilient and reliable water resources in future. The Mayor is pleased to be providing evidence to Defra to inform national policy development and measures to reduce personal water consumption. Tighter national requirements on water efficiency will enable England's more water-stressed regions to take stronger local policy action.

While this consultation focuses on reducing household water use, our response also makes suggestions for reducing non-residential water consumption, as this is an area where more must be done to bring down London's overall water demand.

A summary of the key asks in this response include:

- Water companies must accelerate the roll out of water metering in the capital
- Incentives are needed to reduce water use, and must be extended to the non-residential sector
- Building regulation targets must be strengthened and should include a shift to water labelling. This should be applied to household and non-residential regulations

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- Measures to encourage rainwater harvesting and reuse systems, including in building regulations
- More water company customer engagement on the range of approaches to achieve greater water efficiency, and more collaboration with professional partners to deliver behaviour change

Building regulations for water consumption

The current approach in Building Regulations works to the degree that places in water-stressed areas can mandate that new developments meet stronger optional requirements. The targets themselves, however, need to be stronger. This is in order to enable greater reductions in water consumption, to address the scale of the water scarcity challenge and to maximise the benefits of increased water efficiency. In London, the Mayor requires 110 litres per person per day as a minimum standard for all new homes. This requirement can be met easily through water-efficient fixtures and fittings. As the impacts of climate change are increasingly felt, a step change in reducing water consumption is needed, and new developments are a key way to achieve this. To enable London to reduce per capita consumption across all developments, new developments have the opportunity to aim for more ambitious targets. This would be in line with recommendations set out by the National Infrastructure Commission, the Committee on Climate Change, the Environmental Audit Committee, and in the Westminster Sustainable Business Forum's Bricks and Water report.

In addition to strengthening the targets, they should follow a 'fittings-based' approach, which sets minimum flow rates for each fixture or fitting in a building, such as toilets, taps and showers – rather than using a whole building calculator. This would provide a simpler, more reliable way to design, specify and enforce water efficiency standards. This can also be linked in the future to a water labelling programme, which would make it easier to assess whether a building is meeting the required standards. The current method of assessing the building as a whole, rather than individual fixtures, does not maximise water efficiency, as in order to meet the standard, some products could be made very efficient while others are ignored.

It is important that the standards set in building regulations are updated to include non-residential water efficiency standards. The Mayor's new London Plan sets out a minimum performance standard for non-residential developments, based on existing BREEAM targets. These standards would be more effective if embedded within building regulations and applied more broadly than only in London. Non-residential developments often provide greater opportunity for innovation in water efficiency, including in trialling new technologies and incorporating water reuse.

Setting standards for new developments will not be sufficient to achieve overall reductions in water consumption. The Government should also fund a national retrofit programme focused on water-stressed areas. This should be in partnership with water companies and local authorities, and should be aligned with and draw lessons from similar retrofit programmes. In London the Mayor has a programme of energy efficiency retrofit programmes called Energy for Londoners. These programmes and others like them provide learnings, including the integration of water efficiency and metering advice. This should be followed by Government as a best practice approach.

Water efficiency labelling

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Currently, it is difficult for consumers and building designers/developers to make informed choices about the water efficiency of water-using products they buy, such as toilets and taps. It is also difficult for local authorities and building control professionals to be sure that water-efficient products installed meet the intended targets. Water efficiency information displayed on water using products via a water label is necessary to enable successful water consumption reduction.

Water efficiency labelling should be linked to building regulations, minimum standards and behaviour change campaigns. Labelling would enable a fittings-based approach to regulations, setting a true minimum standard for each fitting that cannot then be changed by occupants after installation. Labelling would provide more certainty and reduce costs for both developers and consumers, reducing the complexity when specifying or purchasing. A labelling scheme would also allow for building regulation standards to be introduced for non-residential in a straightforward way.

According to Waterwise, introducing a mandatory water label linked to fittings standards is the single most important thing that Government could do to help reduce personal water use. Labelling schemes have been proven successful in countries all around the world. A mandatory labelling scheme implemented in England is estimated to save over 1,500 Ml/d of water by 2045, reducing personal consumption by more than 30 litres per day. Over 25 years it would reduce household utility bills by £34 billion and cut emissions by over 50 MtCO_{2e}.

Metering

The Mayor supports London's water companies in their aim to increase the number of properties that have water meters, as part of a wider water efficiency strategy – providing safeguards are in place to protect vulnerable groups and prevent water poverty. Water metering ensures that people are charged proportionally for the amount they use. Water meters, especially smart meters, can help customers better understand their water use behaviour and so contribute to reducing household consumption. Smart water meters are better able to provide real-time data to both water companies and customers, therefore helping inform consumption patterns and behaviours; which in turn can be used to target behaviour change actions, such as taking shorter showers.

Evidence from around the world has shown metering to be effective at reducing household water use – at up to about 20% saving compared to non-metered properties. Meters provide a financial disincentive to waste water, particularly if charges are designed to increase for non-essential uses (such as stepped charging rates, with a standard rate for essential water use and a higher cost per litre when more water than this is used). However, such tariffs and other variable pricing mechanisms need careful consideration, to ensure that thresholds between price bands are set at an appropriate level to prevent wasteful use; and they must not penalise vulnerable groups.

A key part in achieving reductions in personal water use is more customer awareness and valuing of water, and this can only be achieved if customers know how much they personally use.

While London water companies have set out ambitious plans for delivering water meters to residential customers, meter installation rates in London have not matched what was set out in their plans at the start of AMP 6. Consequently, meter penetration is lower in London than expected as we near the end of AMP6, with Thames Water having achieved approximately 60%

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of their metering target four years into the five-year plan period. The Mayor's London Environment Strategy calls for wider meter roll out as a critical component of improving water efficiency. The Mayor's energy efficiency retrofit and fuel poverty programmes support water metering through providing information on the benefits of metering, for example through the contribution water meters can make on reducing household energy consumption. Water companies must increase their rate of meter roll out, improving on past performance, to meet this objective.

Current programmes have been hampered by complexities, such as more properties than expected requiring an internal meter, which is more time-consuming to install. Companies should make better use of available information on property types and tenure to target meter roll out towards areas where more external meters, which are quicker and cheaper to fit, would form the majority of the installations. The GLA is happy to work with London water companies to help them improve their household and property data.

Where possible, new developments should have individual meters installed, rather than bulk meters that serve multiple properties, as this will provide more accurate data.

Smart metering

Smart meters have the added advantage over manual meters of providing close to real-time usage data. Leakage is one of the most major sources of water wastage in London, with over 25% of all water put into supply being lost through leakage. For London this is an area of demand management that requires significant improvement.

About a third of all leakage is thought to be on the customer side, either from supply pipes, or from fittings and fixtures in the homes, such as leaky loos. Smart water meters provide a useful tool for both customers and/or water companies to identify customer side leakage, which might otherwise go unnoticed for long periods.

To maximise the benefits of smart meters' ability to gather consumption data, it should be shared with both the consumer, as a means to influence their water use through behaviour change; as well as with the local authority, so they can build an understanding of water use in their borough. Consumption data by borough would assist in prioritising areas for retrofit as part of any national water efficiency retrofit programme (see p.2 above). This would all need to be done with consideration of data privacy in mind.

In the Mayor's response to the Defra consultation *Improving Our Management of Water in the Environment* in spring 2019, the Mayor called for more transparency and sharing of water data to aid water efficiency efforts – so that we can improve water resilience and better protect vulnerable water users.

Incentives

Wider roll out of water metering and better data collection offers opportunities to further reduce water consumption through incentivisation.

For example, ESCO-style payments, particularly for non-residential customers, should be explored and supported; such as paying a nominal amount (or providing an ongoing discount to charges) based on reported reduction in potable water use, which can be achieved by using recycled water for non-potable needs, instead of mains water.

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The Mayor's London Environment Strategy highlighted that the new retail water market offered opportunities to improve water efficiency for non-residential water users. However, the retail water market has had little success in improving water efficiency in this area, with just a small proportion of retailers offering any sort of water efficiency programme or incentives. See 'additional comments' below.

Rainwater harvesting and water reuse

The Mayor's London Environment Strategy and draft new London Plan set out an integrated approach to water management in London. Water harvesting, recycling and reuse schemes are a crucial part of addressing London's anticipated future water scarcity in an integrated way. Water reuse at the individual or community scale enable both sides of the 'twin track' approach—reducing potable water consumption and providing a new supply of non-potable water.

The Mayor's Water Advisory Group is currently looking into what is needed to more effectively encourage the use of water reuse schemes. The work is ongoing, and the Mayor will be happy to share the results. To date, the following actions for Government have been identified to increase the uptake of reuse systems:

- Raising awareness of the benefits of reuse systems, such as the ability to design rainwater harvesting; so that it meets both surface water and water consumption aims, not only one or the other
- Stronger building regulations for residential and non-residential buildings that strengthen potable water consumption minimum targets
- Stronger surface water flood risk building regulations that shift away from single-purpose attenuation tanks to dual purpose, dynamic attenuation and harvesting systems
- Promotion of integrated water management, circular economy for water and water cycle approaches to water planning
- Financial support for research and innovation to demonstrate and build the evidence base for the success of these types of systems
- Incentives, financial or otherwise, for water companies and building developers to integrate systems into their designs and maintenance

Communications and behaviour change

The Mayor commissioned polling last year on water-related issues, and the results found that 41 per cent of Londoners think that water companies do not have to care about customers. This is higher than supermarkets, clothing brands, energy companies and social media companies. Water companies need to do more to engage with a broad range of customers. They should also be looking to examples from other water companies and beyond the water industry to other sectors, including internationally, for best practice on customer and public engagement.

Water companies cannot do this alone. They should work in collaboration with Government, local authorities, environmental charity groups, manufacturers, developers, the building sector and the health sector to communicate the need for water efficiency.

Collaborative communications on water efficiency needs to go beyond 'awareness' campaigns. With the more widespread introduction of metering, particularly smart metering, more information on water consumption can be provided to users. Campaigns to reduce usage can be

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linked to this information, such as by providing real-time information, providing incentives linked to tracked reductions and social norms communications. Reducing the barriers to water efficiency will also enable behaviour change. Product labelling is a major step to making purchase and installation of water efficient-fittings easier. More widespread rollout of retrofit programmes, such as Thames Water's Smarter Home/Business Visits, and links with energy efficiency retrofit programmes would further reduce the barriers to behaviour change.

Any communications campaign that calls on the public to change behaviours and reduce water consumption will need to ensure that water companies are maximising their own efforts to reduce their water waste. This means making significant improvements on leakage and mains repair and successfully communicating that effort.

Additional comments

Non-residential water use

Non-residential water use needs to be included as part of any effort on personal water use. More is needed to enable Government, Ofwat, MOSL (the market operator), wholesale water companies and water retailers work together to effectively encourage and incentivise greater water efficiency in the non-residential water sector. According to Waterwise, between 20 and 25 per cent of water put into supply is used by business, yet recent figures from Ofwat's second year state of the retail market report suggest that only 0.2 per cent of business customers reported new water efficiency or leak detection services. Increased water efficiency was claimed to be one of the big benefits of opening up the business retail market. However, despite some examples of good practice, the sector is struggling to realise and demonstrate these benefits to all customers. The Mayor strongly urges Government, regulators and the water sector to work together more effectively to incentivise greater water efficiency in the retail water market.

Regulatory flexibility for demand management

Demand management programmes, such as behaviour change campaigns, retrofit programmes, individual and community water reuse programmes and other distributed programmes, can sometimes provide less certainty than large water supply infrastructure projects. It is important that funding of and incentives for personal water use reduction programmes is done with enough financial and regulatory flexibility for water companies to innovate in this space, and spend appropriately on the types of engagement efforts that might be difficult to quantify. Ofwat and MOSL as regulators should not only provide flexibility for these programmes, but should actively encourage these as resilient approaches to future water scarcity and integrated water management.

Local authority collaboration

Personal water use campaigns and measures, such as updating of building regulations, should be done in collaboration with local authorities. Information sharing of water company data at the local authority scale is important for being able to implement local policies and targets, such as those in the London Plan and London Environment Strategy.

Evidence

The evidence bases for the London Environment Strategy (<https://www.london.gov.uk/what-we-do/environment/london-environment-strategy>, including appendices) and the London Plan (current and the forthcoming new versions <https://www.london.gov.uk/what-we-do/planning/london-plan>) may provide further information to support work, particularly on setting new building standards, non-residential standards and encouraging water reuse.

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London is in the process of developing a new London Resilience Strategy. The Mayor is currently consulting on the Preliminary Resilience Assessment, which includes information and evidence base that may be relevant: <https://www.london.gov.uk/about-us/organisations-we-work/london-prepared/consultation-preliminary-resilience-assessment>.

The Mayor's Water Advisory Group includes the four London water companies, regulators, policy organisations and others. It meets three times a year to discuss how to progress water issues specific to London. The group is happy to provide a forum in which to discuss this topic further, particularly as it applies in London. The group is also happy to share results of the work of its Task and Finish group on water reuse when it becomes available.