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Defra Consultation on Measures to Reduce Personal Water Use

https://consult.defra.gov.uk/water/measures-to-reduce-personal-water-use/

Summary of Waterwise Consultation Response (13/9/19)

The document below provides a shortened summary of the emerging Waterwise response to the above consultation and has been prepared for external dissemination during the consultation window.

Our response to each multiple choice question is highlighted and a boxed paragraph sets out the primary reasons for each of our responses. Waterwise is currently working on a more detailed response which will be submitted to Defra (water.resources@defra.gov.uk) for the 11th October deadline.

If you have any queries please contact nathan.richardson@waterwise.org.uk

Waterwise was founded in 2005 and is the leading authority on water efficiency in the UK. We are an independent, not for profit organisation, receiving funding from supporters across and beyond the water sector and wider sponsorship and research projects. We like to be at the front, leading and supporting innovative efforts to realise our mission; that water will be used wisely, every day, everywhere.

Consultation questions

Building Regulations

1. Do you consider that the current approach in Building Regulations (i.e. a mandatory minimum standard for new homes but with local authorities in water stressed areas having discretion to ask for a higher standard through a Building Regulations Optional Requirement) is effective?
a. Yes
b. No
c. No view
Please give reasons to support your answer

Whilst Waterwise strongly supports incorporating a minimum water efficiency standard into Building Regulations for new homes we support the Environmental Audit Committee 2018 recommendation[1] for a single ambitious national minimum standard that tightens over time rather than the current spatially limited option for local authorities to ask for greater ambition.

A single standard would be simpler for local authorities and developers and would recognise that droughts can happen in areas not classed as water stressed and that we need a national approach to resilience. It allows for the benefits of greater water efficiency to be realised nationally including reducing energy use and carbon emissions; improving affordability and leaving more water in the environment.

2. Do you consider that the current minimum standard of 125 litres per person per day and optional requirement of 110 litres per person per day should be changed, and if so what might be an appropriate new standard?
a. Yes
b. No
c. No view
Please give reasons to support your answer

Waterwise wants to see the current minimum Building Regulations standard tightened to reflect increased understanding of the scale of the water scarcity challenge and of the potential benefits of greater water efficiency. Currently it is higher than the long term ambition set out in many water company water resource

[1] https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/826/826.pdf

management plans[2]. It is also higher than the recommended levels set out by the NIC[3], Climate Change Committee[4], Environmental Audit Committee[5] and in the Bricks and Water report[6].

We want to see a single national minimum standard of 100 lpd adopted nationally immediately with a commitment to reduce it to at least 95 lpd by 2030. Recent analysis from the Energy Savings Trust[7] highlighted the water and energy savings that could be realised at various more ambitious levels of water efficiency in new homes with pay-back achieved within 14 months.

3. Are there any other issues relevant to using Building Regulations to set water efficiency standards that the Government should consider?

We would like to flag the following two further issues:

1 - Moving to just a "fittings based" approach in Building Regulations. A "fittings based" approach would provide a simple and more reliable way to link the design and specification of new build houses to minimum efficiency standards for fittings

2 - We want to see government re-introduce a simple way of "grading" or banding new homes for water efficiency. There are a range of examples for "grading" water efficient homes that could be applied in the UK. These could help promote water efficient homes potentially as part of the Future Homes Standard

4. To what extent do you agree or disagree that Government should work with water companies and local authorities to run partnership retrofit and behaviour change programmes in existing homes?

a. Strongly agree

b. Slightly agree

c. Neither agree nor disagree

d. Slightly disagree

e. Strongly disagree

f. Don't know

Please explain your answer

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[2] https://www.ofwat.gov.uk/regulated-companies/price-review/2019-price-review/draft-determinations/

[3] https://www.nic.org.uk/publications/preparing-for-a-drier-future-englands-water-infrastructure-needs/

[4] uk-climate-change-risk-assessment-2017

[5] https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/826/826.pdf

[6] Bricks-water-plan-action-building-homes-and-managing-water-england

[7] Phase 2 Summary Report (2019); Phase 2 Technical Report (2019)

Given that around 80% of England's housing stock in 2050 has already been built it is vital that Government work with water companies, local authorities and others to run retrofit programmes, which we would like to see such focus particularly on social housing and on those with known affordability issues.

We believe there are significant benefits in linking energy and water efficiency advisory and retrofit programmes given the links between the two. Of all the CO2 emissions in the UK, 6% are from water use[8]. A massive 89% of this comes from heating water in our homes. Around 20% of a typical household gas bill is due to heating water in the home[9]. Achieving join up between water and energy should be an objective of the proposed Future Homes Standard.

A mandatory water label linked to minimum standards for fittings would make a significant difference in reducing water use in existing buildings over time and can be easily linked to retrofit campaigns.

Water Labelling

5. To what extent do you agree or disagree that information on water efficiency should be displayed on water using products?
a. Strongly agree
b. Slightly agree
c. Neither agree nor disagree
d. Slightly disagree
e. Strongly disagree
f. Don't know
Please explain your answer

Currently it is difficult for customers to make informed choices about the water efficiency of water-using products they buy. Introducing a mandatory water label linked to fittings standards will address this and is the single most important thing that government could do to help reduce personal water use.

A mandatory water labelling scheme linked to minimum standards has been in place in Australia since 2005. By 2017 the Australian it is already saving over 300 Ml/d of water and has reduced emissions by 11 Mt CO2e to date. It is delivering total annual household bill savings of $1 billion per year[10].

A similar scheme implemented in England could save us over 1,500 Ml/d of water by

[8] https://www.energysavingtrust.org.uk/policy-research/home-water
[9] https://www.energysavingtrust.org.uk/home-energy-efficiency/saving-water
[10] https://www.waterrating.gov.au/about/review-evaluation/environmental-effects

2045, reducing personal consumption by over 30 lpd. Over 25 years it would reduce household utility bills by £34 billion and cut emissions by over 50 MtCO2e[11].

6. To what extent do you agree or disagree that providing information about products' water efficiency changes peoples' purchasing behaviour and reduces their use of water?
a. Strongly agree
b. Slightly agree
c. Neither agree nor disagree
d. Slightly disagree
e. Strongly disagree
f. Don't know
Please explain your answer

Market research undertaken for the Australian WELS scheme shows that water efficiency is now the highest or second highest consideration for customers in their purchasing decisions for products covered by their mandatory water label[12]. The scheme is also helping drive the product market to offer Australians more water efficient products with poorer performing products dropping out.

7. To what extent do you agree or disagree that water efficiency labels should be linked to building standards and minimum standards?
a. Strongly agree
b. Slightly agree
c. Neither agree nor disagree
d. Slightly disagree
e. Strongly disagree
f. Don't know
Please explain your answer

The impact of a water label in driving water and energy savings is far greater if it is linked to building regulations and minimum standards, as it has been in Australia.

Research by the Energy Savings Trust has shown that over four times as much water could be saved in England after 10 years with a link to Building Regulations and minimum standards compared to just having a mandatory water label alone[13]. The levels of water saving achieved within 25 years are significant when compared to the 4000 Ml/d that the NIC identified was needed to address water supply resilience risks[14].

[11] https://www.waterwise.org.uk/resource/water-labelling-phase-2-reports/
[12] https://www.waterrating.gov.au/about/review-evaluation/consumers
[13] https://www.waterwise.org.uk/resource/water-labelling-phase-1-technical-report-re-issue/
[14] https://www.waterwise.org.uk/resource/water-labelling-phase-2-reports/

Parameter / Building Regulations Level	110 LPD	100 LPD	95 LPD	85 LPD
Total cost to implement (over 25 years)	£326m	£345m	£358m	£405m
Saving for householders on energy and water bills (over 25 years)	£17,219m	£34,392m	£36,364m	£41,894m
Average saving per household per year	£29	£37	£40	£44
Average cost per household per year	55p	59p	60p	68p
Benefit:cost ratio	55:1	67:1	68:1	67:1
PCC reduction by Year 25 (l/p/d)	22.3	25.9	27.2	31.2
Water saving in Year 25 (Ml/d)	1,313	1,531	1,603	1,844
Total emissions saving (MtCO2e)	38.8	48.1	50.8	55.9

Alongside water savings significant energy and financial savings can also be achieved through a joined up approach with householders saving between £30 and £40 a year with payback of any additional costs for new homes reached within around one year. All the scenarios see significant energy savings and emission reductions helping us reach net zero targets. The 55 mtCO2e saved over 25 years in the 85 lpd scenario is equivalent to taking over 23 million cars off the road for a year.

8. How else could Government or water companies encourage people to use more water efficient devices/appliances at home?

There are a number of additional ways that government or water companies could encourage people to use more water efficient devices at home. These include:

- Ensuring that the public understand **why** water efficient products are important (national campaign) **and how** they can help save water, money, energy and leave more water in the environment (see responses to Q22 and Q23)
- Ensuring that the **performance** of the products themselves are acceptable to the public
- Ensuring that water efficient products are **fit for purpose**. The mis-use of confusing dual flush toilet buttons and water lost through leaking toilet valves and fittings risk negating all the savings offered by dual flush water efficient toilets (see our response to Q24).
- Engaging manufacturers and retailers to encourage them to promote water saving products and to provide information with the products on how purchases can save water

We also believe that there is an urgent need to undertake large scale research into water using behaviours in the home. This research should also include a review of the potential to use insights from metering data, particularly smart meters, to encourage greater efficiency.

Metering

9. To what extent do you agree or disagree that people should pay for water according to how much they use?
a. Strongly agree
b. Slightly agree
c. Neither agree nor disagree
d. Slightly disagree
e. Strongly disagree
f. Don't know
Please explain why.

We know that customers that pay for their water by meter use 12-22% less than those that pay by rateable value[15]. Paying according to how much is used is the fairest, most progressive, approach whilst recognising that vulnerable customers will need targeted support. 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.

10. To what extent do you agree or disagree that the amount of households charged by metered volume should be increased beyond and/or faster than what is already planned by water companies?
a. Strongly agree
b. Slightly agree
c. Neither agree nor disagree
d. Slightly disagree
e. Strongly disagree
f. Don't know
Please explain why.

The rate of meter penetration nationally is not currently fast enough. We agree with the National Infrastructure Commission[16] that meter roll out needs to be more ambitious with greater pace needed both to improve water security but also deliver benefits of leakage reduction and water efficiency. Analysis of water company consumption data since 1999 shows that the higher the level of meter penetration the lower the mean volume of water used per property with metering particularly effective in reducing consumption amongst very high users[17]. Metering is an

[15] Ornaghi C. & Tonin, M. (2017) The Effect of Metering on Water Consumption - Policy Note https://www.waterwise.org.uk/wp-content/uploads/2018/08/The-Effect-of-Metering-on-Water-Consumption_June2017.pdf
[16] https://www.nic.org.uk/publications/preparing-for-a-drier-future-englands-water-infrastructure-needs/
[17] The-long-term-potential-for-deep-reductions-in-household-water-demand

important tool in a basket of measures to support customers to waste less water, and can enable other engagement to drive change in water-using habits.

11. If you agree that the amount of households charged by metered volume should be increased, what do you think would be the best or most appropriate approach? Do you have suggestions for increasing metering other than what is mentioned above?

Waterwise's preferred approach would be full universal metering across England as recommended by the NIC[18]. This would require a change in policy and removal of restrictions that prevent faster roll-out across England. It would be preferable that all installations are smart meters as this would yield greater demand reductions.

12. Are there any other issues we need to consider with regard to increasing metering?

CCWater show that 3m households struggle to pay their water bills[19]. Therefore affordability needs to be considered alongside metering policy. Whilst metering has been shown to help customers save water and therefore can reduce water and energy bills for customers it may result in bill rises and affordability issues for some if not addressed alongside metering rollout. Water companies already provide support to vulnerable customers and this could be used/extended to minimise any adverse impacts. Water efficiency retrofit visits offered by companies alongside metering can also help manage bills down.

Smart metering

13. To what extent do you support or oppose the use of smart water meters instead of manual meters?
a. Strongly support
b. Slightly support
c. Neither support nor oppose
d. Slightly oppose
e. Strongly oppose
Please explain why.

Wherever possible we want to see water companies putting in smart meters as opposed to traditional meters read once or twice a year. The greater resolution of data from smart meters can help customers engage more with their own water use

[18] https://www.nic.org.uk/wp-content/uploads/NIC-Preparing-for-a-Drier-Future-26-April-2018.pdf
[19] https://www.ccwater.org.uk/blog/2018/12/04/water-debt-hurting-poorest-families-uk-poverty-report/

and their water company. Evidence is already showing they can help save more water than traditional meters[20] [21]. Smart meters are also better at helping identify internal plumbing losses, such as leaky loos.

Incentives

14. To what extent do you support or oppose the use of incentives to encourage customers to use less water?
a. Strongly support
b. Slightly support
c. Neither support nor oppose
d. Slightly oppose
e. Strongly oppose
Please explain why.

Waterwise supports the use of incentives as the evidence shows they can encourage customers to use less water[22]. By utilising a variety of personal motivators (e.g. environmental, financial or community) incentives can help encourage customers to reduce their water consumption.

Incentives offer the customer a 'reward' for their water-saving behaviour. Through the use of gamification this could also allow more engagement with the customer and further opportunities to educate, inform and further reduce their water consumption.

15. What incentives could water companies use to reduce customer use of water?

Community/Environmental Incentives
In the River Itchen Challenge six communities (Cheriton, Kilmeston, Bramdean, Hinton Ampner, Bishop's Sutton & Beauworth) took part in-year long challenge saving 6% of water compared to their neighbouring communities benefiting the nearby chalk river[23]. The reward was financial support from Southern Water to a local community project.

Financial Incentives

Green Redeem is a rewards scheme that allows customers to gain points from saving water (similar to Tesco clubcard points) these points can then be used at a variety of highstreet

[20] Pericly & Jenkins (2015) Smart meters and domestic usage
[21] Pathways to Long-term PCC Reduction, WaterUK (Artesia, 2019)
[22] River Itchen Challenge
[23] River Itchen Challenge

shops or donated to a charity of your choice. There is an online portal that allows customers to track their usage and exchange their points for rewards. Currently Green Redeem are working with Thames Water, South West Water and Anglian Water https://www.greenredeem.co.uk/

RWH and water reuse

16. To what extent do you support or oppose the use of RWH and GWR schemes at individual level?
a. Strongly support
b. Slightly support
c. Neither support nor oppose
d. Slightly oppose
e. Strongly oppose
Please explain why.

Waterwise supports initiatives to reduce demand on mains supply and the environment, including using rain and recycled water for non potable use. To reach very low levels of personal water use reusing water and harvesting rainwater will need to be part of the tool kit although the cost: benefit case is generally stronger when undertaken at a community scale.

17. To what extent do you support or oppose the use of RWH and GWR schemes at community scale?
a. Strongly support
b. Slightly support
c. Neither support nor oppose
d. Slightly oppose
e. Strongly oppose
Please explain why.

Waterwise supports the use of rain and recycled water to reduce demand on mains supply and protect the environment. Using RWH/GWR will be particularly cost effective if done on a community scale with those systems with the fastest payback periods utilising large collection surface areas. The additional benefit of community scale projects is that they are often better maintained in the long term. We would like to see a requirement for rainwater harvesting to be considered in the design stage of community scale developments.

18. How can Government or water companies most effectively encourage people to reuse water in their homes?

Raising awareness of the potential and the myths surrounding water reuse, enabling people to see the reductions of something like water recycling in their bills, making new technology accessible to customers and incentivising building developers to build reuse systems into their designs and maintain them well.

Supply pipe leakage

19. Do you have any evidence/views/comments on the potential impacts on water bills for various customers and geographical regions should the management of supply pipes be transferred to water companies?

We do not hold any evidence.

However, we would expect that transferring responsibility to water companies for finding and fixing leaking supply pipes would result in greater water savings and be more cost-efficient when undertaken at scale rather than by individual householders.

20. Of the alternative options below, which is your preferred? Please explain why or if you have other ideas.

- *Increased use of metering and/or smart metering.*
- *National policy for a single continuous pipe from main to wall mounted meter box in new build properties, to address leakage.*
- *Create a mandatory code of practice for water supply companies (rather than voluntary)*
- *Require water supply companies to assist with maintenance and repair.*
- *Voluntary adoption of supply pipes by water supply companies.*
- *Water supply companies to run public relations exercise to identify and address problem pipes and clarify property owner responsibilities.*

Our preferred option is for increased use of metering and/or smart metering. Not only does this option help find leaking supply pipes it also has wider benefits for water efficiency and in flagging leaks within the home.

21. What other options are available to reduce leakage from customer supply pipes?

Increasing the pace of smart metering (see Q10) would help reduce leakage from customer supply pipes as they would be found more rapidly. Having a consistent approach from water companies to dealing with supply pipe leakage repairs would also be helpful.

Communications and behaviour change

22. What are the main barriers to changing behaviours to reduce personal water use? Please rank your top three options by order of importance:

a. Insufficient access to support and advice
b. Insufficient information about personal water usage
c. Insufficient information about water scarcity
d. Lack of financial incentive
e. Investment in more water efficient equipment is prohibitively expensive
f. Difficulty in changing habits
g. People feel they are already doing all they can to reduce water use
h. Hygiene reasons
i. Other (please specify)

Waterwise believe the main barriers to changing behaviours to reduce personal water use are a combination of b and c and a combination of f and g.

Insufficient information on water scarcity and personal water use is essential to motivate water saving behaviours proving the "why" water saving is needed.

Research has shown that many people already consider themselves to be water efficient and therefore that they don't need to change habits and do more to save water.

23. Which organisation(s) (if any) should communicate about how to reduce personal water use? Please select all that apply.

a. Water companies
b. Government
c. Local government
d. Environmental non-governmental organisations, for example environmental charities
e. Other – please specify

Waterwise believe that we need a cross sector, collaborative approach in order to raise awareness of the need for greater water efficiency and how it can be achieved. This collaborative approach is essential if we are to to realise ambitious reductions in personal water use. This should not be solely the responsibility of the water industry but utilise government, partnerships, industry leaders, manufacturers, eNGOs and developers. Other sectors such as public health and housing would also be helpful advocates.

Other

24. If there are any further matters that you would like to raise or any further information that you would like to provide in relation to measures to reduce personal water use, please give details here.

- We want to see government, regulators and the water sector working together more effectively to incentivise greater **water efficiency in the business water retail market**. Between 20% and 25% of water put into supply is used by business and so it is critical that we see reductions in business water use alongside domestic use if we are to reduce overall water demand and increase resilience.
  Increased water efficiency was trailed as 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. Waterwise held a workshop on this issue in May 2019 that highlighted some of the issues limiting progress and identified a number of key actions https://www.waterwise.org.uk/resource/retail-water-market-note-from-joint-workshop-14th-may-2019/ including the recommendation for a joint letter from Government and Regulators (Defra, Ofwat, EA) setting out:
    a. A statement of need and of ambition on business water efficiency
    b. Clarification of what wholesalers can do directly with businesses (e.g. business visits) and with retailers (e.g. water saving incentives)
    c. Proposals for further action (see recommendations below)
    d. The above could be accompanied by a statement of support from a broader coalition of organisations include MOSL, CCW, Waterwise

- We want to see greater efforts made to address the 5-8% of dual flush toilets that are leaking - so called **Leaky Loos**. See our Position Statement here. https://www.waterwise.org.uk/resource/leaky-loos-position-statement/
  Fixing leaky loos can reduce water wastage, lower customers bills and increase resilience to drought. A leaking toilet wastes between 215 and 400 litres of clean drinking water on average every day and around 400 million litres of water is estimated to leak from UK toilets every day, which is enough water to supply 2.8 million people - the populations of Edinburgh, Cardiff, Belfast, Manchester, Sheffield,

Liverpool and Bristol combined. Fixing leaky loos could contribute around 10% of the additional water capacity needed to cope with an extreme drought in England by 2050. We need to ensure that the Water Fittings Regulations and the testing regime is fit for purpose and that manufacturers address the design flaws that contribute to the problem. We would also like to see a national awareness raising campaign to help the public find leaking toilets and address them.

- We would like to see research undertaken to assess the level of **personal use of water outside the home** not included in the current PCC figures. We are concerned that increasing personal water use outside the home may limit our ability to reduce overall water consumption.

- We want to see action to address current **confusion over which dual flush toilet button** does what. According to research conducted by SES Water only 25% of people use dual flush buttons correctly leaving 75% of people using them incorrectly wasting water. Research by the Energy Savings Trust has shown that we could be wasting some 220 Ml/d nationally which equates to 3.5 litres per person per day. https://www.waterwise.org.uk/resource/water-labelling-phase-2-reports/
  We need to see design and information improvements on products that make it clearer what button does what together with a national campaign to raise public awareness.