



Waterwise
344-354 Gray's Inn Road
London
WC1X 8BP
2nd February 2022

Dear Sir/Madam

The Second National Infrastructure Assessment: Baseline Report

Many thanks for the opportunity to comment on the NICs baseline report. We have focused our response on the aspect of the report most closely related to Waterwise's vision that water is used wisely, every day, everywhere; namely Challenge 3, Q10.

Challenge 3: Heat transition and energy efficiency – the Commission will identify a viable pathway for heat decarbonisation and set out recommendations for policies and funding to deliver net zero heat to all homes and businesses.

Question 10: What evidence do you have of the barriers and potential solutions to deploying energy efficiency in the English building stock?

There is a major opportunity in the next decade to reduce energy use and carbon emissions from the English building stock if we consider improvements to energy efficiency and water efficiency together:

- Hot water usage within English housing stock contributes 16-20% of total domestic energy consumption¹ with around 4-5% of the UK's total greenhouse gas emissions coming from household water use (excluding space heating). This equates to over 2.6 kg CO₂e per home per day². About 12% of a typical gas heated household's energy bill is from heating the water for showers, baths and hot water from the tap³⁴.
- Modest reductions in household water use of 5-6% could deliver annual emissions savings of around 1.3 MtCO₂e. This is a bigger saving that was actually achieved in the whole UK housing sector in 2017-18 or in 2018-19.
- As well as needing to decarbonise energy we also face a water supply deficit of over 4 billion litres per day⁵. Demand reduction needs to deliver around half of the shortfall to secure resilient water supplies. Water efficiency can help with both climate mitigation and adaptation.

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/2013.pdf

² <https://www.waterwise.org.uk/knowledge-base/net-zero-and-the-role-of-water-efficiency-waterwise-2021>

³ <https://energysavingtrust.org.uk/advice/saving-water-at-home/>

⁴ <https://www.bbc.com/future/article/20200326-the-hidden-impact-of-your-daily-water-use>

⁵ <https://www.gov.uk/government/publications/meeting-our-future-water-needs-a-national-framework-for-water-resources>

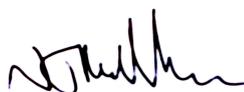
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In developing its heat decarbonisation pathway we want to see the NIC highlighting the link between saving water and saving energy together with the opportunity for water efficiency to contribute to reducing energy use and carbon emissions. We have included three recommendations below that the NIC could include in the heat decarbonisation pathway being developed.

1. We want to see the NIC promoting the **whole house approach** to retrofit as recommended by the Construction Leadership Council in their National Retrofit Strategy⁶. The pathway should consider water efficiency alongside energy efficiency thereby helping address both the need for energy decarbonisation and the need to secure resilient future water supplies. As part of the pathway the NIC could promote consideration of a **Water Performance Certificate** for buildings to sit alongside the Energy Performance Certificate.
2. We want to see the NIC encouraging **greater join-up between energy and water in-home advice programmes**. This could ensure the delivery of far greater overall value per visit and provide a more effective experience for householders. Currently:
 - Water companies undertake thousands of virtual and face-to-face home visits each year as part of their efforts to improve resilience of water supplies⁷ Last year in London over 55,000 households were assisted through Thames Water's smart home visit programme.
 - Likewise there are thousands of home energy efficiency visits. For example, AgilityEco helped over 115,000 households across the UK in 2019-20.
3. We want to see the NIC recommending the development of an **accredited integrated water and energy efficiency training course** for organisations and people providing efficiency advice and interventions to households. Waterwise and National Energy Action have already joined forces to start the development of joined up training but need funding to progress and promote it.

We would welcome the opportunity to discuss our response further with the NIC. Over the next six months we will be finalising a new UK Water Efficiency Strategy which will include a strategic objective to improve the links between water and energy when it comes to retrofit. If you have any questions on our response please do get in touch.

Regards



⁶ [National-Retrofit-Strategy-Version](#)

⁷ <https://www.groundwork.org.uk/projects/smarter-home-visits/>



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Who is Waterwise

[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.