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Net zero principles position paper

About this document

This paper sets out expectations in three key areas to guide water company planning on net zero. It details our expectations for action in relation to:

- net zero target setting;
- scope of action on net zero; and
- prioritising the reduction of Greenhouse Gas (GHG) emissions.

In particular, this paper explains why we consider that company net zero targets should align with national government targets, why company action on net zero needs to encompass both operational and embedded emissions, and why companies should prioritise the reduction of GHG emissions before using offsets. We also outline our next steps.

This paper is intended to inform water companies' net zero planning and stimulate discussion with us on how we can support the sector in reaching net zero targets.

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1. Introduction

In our strategy, '[Time to act, together](#)', we committed to strengthening the sector's approach to climate change mitigation and adaptation, building on the companies' previous commitment to achieving net zero emissions by 2030 and pushing them to do everything they can to be ready for the challenges climate change will bring¹. This involves ensuring companies meet long-term challenges whilst delivering more for customers, society and the environment.

The UK water sector consumes 3% of the electricity the country produces and is responsible for about 1% of UK GHG emissions, which in turn represents nearly a third of UK industrial and waste process emissions. Water companies have a key role to play in the overall context of the UK and Welsh governments' target of net zero emissions by 2050, and proportionally have a big role to play in decarbonising the activities of 'Water Supply, Sewerage, Waste Management and Remediation' sector, which is the fifth largest emitter of GHG emissions².

It is commendable that water companies have reduced gross operational emissions by almost 45% between 2011-12 and 2018-19. Whilst this is largely down to the decarbonisation of the electricity grid, it is important to recognise that without greater energy efficiency, renewables generation and demand reduction actions, emissions would have increased significantly³.

We are supportive of the companies' work on net zero, including the ambition encapsulated by WaterUK's 2030 Routemap⁴. We view the Routemap's 2030 target for operational net zero as an important step toward the goal of net zero by 2050. However, to ensure net zero is achieved by 2050, companies will need to go beyond what is proposed in the Routemap, tackling both operational and embedded emissions in parallel and covering all operational emissions.

In developing their approaches to net zero, companies will need to ensure their plans are clear, transparent and capable of being understood by stakeholders. This is crucial as it will allow stakeholders to appropriately support and challenge companies on their path to net zero, with a focus on achieving best value for customers and the environment.

In our recent consultation - [PR24 and Beyond: Creating tomorrow, together](#) - which set out Ofwat's vision for customer engagement at PR24, we outlined some key issues the industry should consider when deciding on how it could to move to net zero. In particular, we

¹ Net zero refers to achieving a balance between the amount of greenhouse gas (GHG) emissions put into, and the amount taken out of, the atmosphere. GHG emissions refer to the 'Kyoto basket' of the six most powerful GHGs. These are Carbon dioxide, methane, nitrous oxide, F-gases (hydrofluorocarbons and perfluorocarbons) and sulphur hexafluoride.

² As defined and detailed in the HMT, '[Net Zero review: interim report](#)', 2020.

³ Water UK, '[Net Zero 2030 Routemap](#)', 2020.

⁴ From this point onward in the paper, it is simply referred to as the 'Routemap'.

mentioned the need for companies to consider long-term government targets on net zero, the need to consider both operational and embedded emissions in parallel to ensure the 2050 net zero target can be met, with the primary focus at PR24 needing to be on driving GHG emissions down, rather than offsetting them. Responses from companies to this document demonstrated broad support for these proposals.

We recognise that there are many challenges to achieving net zero and we want companies to be in the best position possible to be able to respond to those challenges. As a result, in this paper we make clear our thinking in three key areas that are crucial to the achievement of net zero.

- We expect companies' plans to align with national government net zero targets.
- Action on net zero should address operational and embedded emissions in parallel.
- Companies need to prioritise the reduction of GHG emissions before the use of offsets, as set out in the GHG Management Hierarchy⁵.

It is important that we are clear on these key issues so that companies can plan appropriately for their net zero strategies, particularly as they develop their plans for PR24.

⁵ The [GHG Management Hierarchy](#), as detailed by the Institute of Environmental Management and Assessment (2020 version), is a framework organisations can use to guide the scoping and strategic planning of their energy and carbon management activities.

2. Net zero target setting

We expect company net zero plans to be clearly linked to national government targets

To achieve net zero in a phased manner by 2050, the UK government has agreed to a series of interim targets, notably an overall 78% cut in UK emissions by 2035, with the Welsh Government committing to a cut of 89% by 2040⁶. The UK government, through its Industrial Decarbonisation Strategy makes it clear that industrial emissions will need to reduce by two-thirds by 2035 if the UK is to achieve net zero by 2050. However, the UK government, through its recently published Net Zero Strategy has updated this expectation to a 63–76% reduction.⁷

In April 2019, Water UK published its Public Interest Commitment setting out that water companies in England will aim to achieve net zero carbon emissions by 2030. In November 2020, Water UK launched its 2030 Net Zero Routemap setting out at a high level how the water sector in the UK could reduce GHG emissions through behavioural changes in terms of consumption/demand, the adoption of innovation and technology, and the use of offsets. However, the Routemap does not address emissions from the use of chemicals, embedded emissions, or disposal of sludge to land. This means the focus of the Routemap is partial with it not being clear how net zero will be achieved by 2050 or how interim net zero targets, that do not align with the timeframe of the Routemap, will be achieved⁸.

In turn, interim government targets, such as the 2035 target, should be viewed by companies as a steppingstone that should be used to plan and monitor their action on net zero. This longer-term approach will help net zero based expenditure to be phased beyond PR24 and in doing so help to achieve best value for customers and the environment.

We acknowledge that some companies are proactively adopting and working towards the requirements of the Science Based Targets initiative (SBTi)⁹, which is designed to provide companies with a clearly defined path to achieve net zero by 2050. Where companies are using such an approach, we still expect them to be clear on how this will allow them to achieve net zero in line with national government targets. We want companies to do this so as to ensure they are clear on how they are contributing to achievement of national

⁶ UK Government, [The Carbon Budget Order](#), 2021. Welsh Government, [The Climate Change \(Interim Emissions Targets\) \(Wales\) \(Amendment\) Regulations](#), 2021.

⁷ HMG, '[Net Zero Strategy: Build Back Greener](#)', Oct 2021.

⁸ We acknowledge that the Routemap was published prior to national governments adopting the 6th Carbon Budget recommendations of the Climate Change Committee (CCC). As we currently understand it, WaterUK is currently reflecting on a possible update to the Routemap.

⁹ The [SBTi](#) defines and promotes best practice in emissions reductions and net zero targets with a view to showing how much and how quickly organisations need to reduce their greenhouse gases in line with the Paris Agreement ie, to limit global warming to well below 2°C above pre-industrial levels ideally limiting warming to 1.5°C. Currently, this is aligned with the need to achieve net zero by 2050.

government net zero targets, which will help stakeholders to better understand the impact of their actions on net zero.

Our approach does not prevent the industry from going ‘further faster’. We welcome companies' ambitious plans to achieve their own nearer-term targets. However, this should not be at the expense of levels of reduction achieved, operational and embedded emissions being addressed in parallel, or ensuring value for both customers and the environment. Irrespective of the approach adopted, companies are encouraged to make use of recognised national and international approaches and standards to ensure company actions and reporting on net zero are robust and verifiable.

We consider that focusing on each government's 2050 net zero target, and the interim 2035 and 2040 targets respectively, represents the most effective way forward for achieving net zero for the following reasons:

- **Sustainable, long-term, well-informed investment decisions are encouraged.** Companies will be better placed to identify the best long-term value options with long term targets, and, with phased expenditure, they can ensure investment is well-timed and water and wastewater services remain affordable for customers, particularly as the cost of carbon will increase over time.
- **Innovation into long-term solutions is encouraged.** Focusing investment on innovative and long-term solutions will enable better outcomes for customers, society, and the environment. Investment in some short-term outcomes may be suboptimal for longer term goals and limit wider potential benefits.
- **It ensures companies are able to focus on reducing both operational and embedded emissions in tandem**, which can create opportunities for companies to integrate responses to reducing carbon, creating efficiency gains and cost savings from synergies.
- **It allows companies to take an adaptive planning approach to emissions reduction**, leveraging potential future opportunities as they become feasible.
- **Eliminates the need to rely on offsetting to meet nearer-term targets.**
- **There is more scope for cost-savings** from learning-by-doing.
- **Adoption of longer term more holistic and circular economy nature-based solutions** that are strongly recommended by the SBTi are facilitated.

3. Scope of company action on net zero

We expect company action on net zero to encompass both operational and embedded emissions

The UK and Welsh governments' 2050 commitment to net zero requires the reduction of both operational and embedded emissions. Therefore, actions to address both sources of emissions must be implemented in parallel if the industry is to achieve net zero by 2050. To date, the focus of the water industry has mainly been on reducing operational GHG emissions, with the 2030 Routemap only covering operational emissions. If the water industry is to achieve net zero, it must also deliver reductions in embedded emissions i.e., those emissions associated with the building and/or installation of a built asset, including emissions caused by the extraction of materials and the manufacture/processing, transportation and assembly of every product and element in the asset¹⁰.

We want to avoid the risk that a purely operational focus could lead not only to embedded emissions being neglected, but actions taken to reduce operational emissions leading to an increase in embedded emissions. This risk is exacerbated by poor reporting masking increases in such emissions. Ensuring both operational and embedded emissions are considered in parallel and robustly reported on will help to avoid this.

To help further encourage delivery of net zero, we intend to introduce a common operational GHG emissions performance commitment (PC) at PR24, with the same definition as our [regulatory accounting guidelines](#)¹¹. We are also looking at the practicality of introducing a common PC for embedded GHG emissions, building on companies reporting in their annual performance reports.

We expect companies to develop plans to reduce both operational and embedded GHG emissions both to 2030 and beyond to 2050 for the following reasons:

- Both operational and embedded GHG emissions must be reduced **for government net zero targets to be achieved**.
- Requiring action on both types of emissions will help to **ensure one source of emissions is not acted and reported on to the detriment of the wider environment** and future generations.
- A parallel approach to reducing both operational and embedded emissions will help to **safeguard against decisions being taken in isolation** such that operational emissions are prioritised ahead of action on embedded emissions **risking the unnecessary early replacement of assets to reduce operational emissions**.

¹⁰ WBCSD and WRI, [The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard](#).

¹¹ Ofwat, ['PR24 and beyond: Performance commitments for future price reviews'](#), November 2021.

- **Innovation and cost savings can be maximised** with solutions which address both sources of emissions.

Progress on the reporting of GHG emissions

More comprehensive reporting will better enable companies to demonstrate their progress on net zero, make informed decisions about actions to take, and justify future investment. Consistency of measurement approaches is also crucial to compare and contrast progress. This is why we have developed and adopted standardised mandatory reporting of operational emissions for 2021–22 onwards, and plan to introduce standardised mandatory reporting of embedded emissions. We recognise that embedded emissions are more challenging with less well-established approaches to reporting. We will work with the sector with the aim being to introduce a form of mandatory standardised reporting on embedded GHG emissions for 2022–23, subject to consultation. We have signalled these requirements and intentions through the most recent changes to Ofwat's [Regulatory Accounting Guidelines](#).

4. Prioritising reductions

We expect companies to prioritise the elimination and reduction of GHG emissions before the use of offsets

We know that companies, as part of their strategic carbon management plans, are looking at offsetting as an additional way to indirectly cut their emissions. The GHG Management Hierarchy encourages companies to reduce GHG emissions by firstly focusing on eliminating emissions by preventing GHG emissions across the lifecycle. It then encourages companies to reduce their GHG emissions, through optimisation and efficiency. This is then followed by a focus on the use substitutes such as renewables and low carbon technologies. Finally, residual emissions should be compensated with the use of offsets, such as the planting of trees¹². We consider this sequencing of action on GHG emissions best practice and the approach that companies should adopt.

We expect companies to be able to clearly demonstrate that they are following the GHG Management Hierarchy, with offsets being used as a last resort. We consider that offsetting is only appropriate in situations where actions to reduce emissions are prohibitively expensive or unfeasible in the short term. Where emissions are unavoidable, actions to reduce them should first be in line with the principles of a circular economy. That is, emissions should be removed via innovations in waste management, for example, using sewage sludge as an alternative to fossil fuel-based fertilisers or the capturing of ammonia to produce fertilisers. Only when these options have been exhausted, should offsets be used to remove residual emissions. Where offsets are proposed, we expect companies to be clear over the role offsetting will play in their long term 2050 net zero plans, and how the activity aligns with the company's functions, to justify investment.

Where offsets are proposed, we expect companies to be clear on the impact they will have on the reduction of GHG emissions both in the long and near term, with offsets being treated like any other asset. As a result, robust approaches to the reporting and verification of offsets will need to be developed, including how they will be monitored to ensure they perform as intended¹³. Depending on company usage, we may look at issuing further guidance on the reporting and verification of offsets.

Effective and robust monitoring in the area of offsets will also be important in enabling reallocation or trading of such assets in the future, particularly if technological advancements make their use obsolete for a company. Additionally, where the use of offsets is proposed, it is expected that they will at first directly benefit the area and communities in

¹² IEMA, '[GHG Management Hierarchy](#)', 2020.

¹³ As an example of useful guidance in this area, we recommend companies consult the '[Oxford Offsetting Principles](#)', 2020.

which the company operates. Customer engagement and support for the use of such offsets should be made clear.

We expect companies to follow the GHG Management Hierarchy using offsets as the last resort for the following reasons:

- **Prioritising the reduction of GHG emissions** is central to the achievement of net zero, particularly since the scale of emissions reductions needed to achieve net zero is greater than the offsets available.
- **A reliance on offsets may hinder innovation and the growth of the circular economy** by allowing potentially poor and inefficient practices to persist and that distract from the long-term solutions needed to reduce emissions.
- **We want to encourage sound investment decisions** and to steer companies to focus on process changes and technological innovation to address emissions problems. Allowing poorly substantiated offsets risks undermining this goal.

5. Next steps

We will continue to engage with companies, and would welcome working with Water UK, to develop further our thinking on key aspects of our net zero policy and how we can collaborate as a sector to face the challenges of net zero. This will include engaging with companies on how we can best facilitate the transition to net zero, for example through our approach to cost assessment at PR24.

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