

Defra Environmental targets consultation- response form

Biodiversity on land

- 1) Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'? (Agree/Disagree/Don't Know)
(If disagree) What additional indicators do you think may be necessary?

We agree that the targets will be a good way to measure the change in biodiversity health. Using 1000 proxy species which inhabit most UK habitats will give a fair indication of species abundance across the country. We would welcome confirmation whether mammal species are included in the 1000 indicator species as the list does not mention them specifically. There are a number of references to invertebrate and bird surveys in the report but limited information on mammals.

- 2) Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target? (Agree/Disagree/Don't Know)
(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

We agree with this target of a 10% increase which is in line with the requirements under planning regulation for a 10% biodiversity net gain associated with developments. It makes sense that this is also the national target for species abundance, however, a 10% increase could be challenging to achieve in 12 years when the increase in species abundance will only follow the creation and establishment of associated suitable habitat, and will vary dynamically, depending on climatic conditions, predation, disease etc. The static target may need to be more fluid or based on longer term abundance statistics to account for natural fluctuations in particular species. In addition, we believe that a robust dataset was applied and statistical analysis was completed to create a baseline for this target and all limitations have been identified and appropriately mitigated. Due to the difficulty in determining species abundance of all species across the UK, we believe that this target is a reasonable proxy for all species.

- 3) Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England level GB red list index? (Agree/Disagree/Don't Know)
(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

England-level GB Red list Index species improvement is a reasonable way to assess the change but, as mentioned in the consultation, the change will be negligible due to the number of already 'Least Concern' species. We think that consideration should be given to removing these species from the calculation so that small changes can be seen in the more sensitive species. The consultation suggests that the calculation will be carried out every 10 years. Our suggestion would be to undertake an assessment at the 5 years point to understand whether the target is on track to be met. This means that changes can be made to the initiatives if the data is suggesting that the target is not on track to being achieved.

- 4) Do you agree or disagree with the level of ambition 'in excess of 500,000 ha' proposed for the long-term wider habitats target? (Agree/Disagree/Don't Know)
(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

We agree in principle with the level of ambition of this target although we are concerned that less than half of the experts used in the study group believed that this was achievable. We also have outstanding questions on how the target will be measured. We would welcome further information regarding how data will be gathered and held to demonstrate the size of habitat when it is created outside of protected sites. We would also welcome further clarity on how this habitat will be protected after creation if it is outside of an existing protected site. After reading the consultation documents, we believe that there is potential that water companies will be mandated to improve land under their ownership under WINEP. If this does come into effect, it will not align with the price review process and therefore there is a risk of a lack of funding for this in AMP8, and therefore there will be no progress towards achieving these targets on company land before April 2030.

We believe that it would be useful if there was a national priority land use matrix applied across the UK to help local areas focus efforts where it is most beneficial. We welcome the opportunity to be involved at local level consultations in order to understand the impact on the company at a smaller scale.

- 5) Do you agree or disagree that all wildlife rich habitat types should count towards the target? (Agree/Disagree/Don't Know)
(If disagree/Don't know) Are there any habitat types that you think should not count towards the target? What reasons can you provide for why these habitats should not count towards the target?

We disagree that all wildlife rich habitat types should be included. We think that arable field margins are risky to include as these habitats are more easily changed and they could have high value as arable land depending on the market or weather. As a result, the presence of this habitat type will require more frequent assessment to ensure that the habitat type still exists.

Biodiversity in the sea

- 6) Do you agree or disagree with the level of ambition proposed for the Marine Protected Area target? (Agree/Disagree/Don't Know)
(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

We agree with the level of ambition proposed for the target. The lower end of the estimate from the evidence report (70%) has been proposed due to the high level of scientific certainty in achieving the target level by 2042. This appears to be a reasonable proposal however we would suggest that the ambition is reviewed every 5 years as new information becomes available and the effectiveness of implementing management measures is better understood. We would welcome confirmation that there will be no new legal requirements on water supply and wastewater companies as a result of the implementation of this target and the associated management measures.

Water quality and availability

- 7) Do you agree or disagree with the level of ambition proposed for an abandoned metal mines target? (Agree/Disagree/Don't Know) (If disagree) What reasons can you provide for why the government should consider a different level of ambition?

No response

- 8) In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments. Do you agree or disagree that this approach would strengthen the national target? (Agree/Disagree/Don't know).

We broadly agree on the importance of setting out ambitions and targets for reducing nutrient pollution from agriculture in individual catchments.

(If disagree) Why don't you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target?

(If agree) Why do you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? What factors should the government consider when setting these targets?

'A one size fits all' approach with one single national target is unlikely to be effective unless it is supported by local targets. Each catchment has its own diverse land use (e.g., arable, livestock, mixed); along with unique characteristics (e.g. underlying geology) and associated vulnerabilities. It is important to define targets around the key local sources of diffuse and point source agricultural pollution, alongside specific measures/enforcement to meet those targets. It may be the case that in certain catchments, targets need to be more stringent due to ecological importance (e.g. chalk streams and/or public water supply) and offset alongside catchments with less stringent targets.

Factors for consideration could include: catchments with vulnerable drinking water supply; ecological importance (e.g. chalk streams, statutory designations, bathing waters, unique flora/fauna).

- 9) The target needs to allow flexibility for water companies to use best available strategies to reduce phosphorous pollution, including the use of nature based and catchment based solutions. Do you agree or disagree that the proposed target provides this flexibility? (Agree/Disagree/Don't know). (If disagree) What reasons can you provide for why the target doesn't give this flexibility?

No response

- 10) Do you agree or disagree with the level of ambition proposed for the nutrient targets? (Agree/Disagree/Don't know).

We agree with the ambition of the target that has been set for reducing nutrient pollution from agriculture. Interim targets may be appropriate to ensure that the level of ambition remains suitable and frontloading of the measures may be required to receive the greatest effect/benefit from implementation of the target. However, there is no mention of, or targets set around nutrient pollution of groundwater and the targets set do not consider the lag effect of diffuse nitrate pollution to groundwater and subsequent impact to chalk streams and public water supply. The strategy defined to meet these targets is not ambitious enough.

(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

The proposed strategy does not appear to position enforcement of regulations such as Farming Rules for Water with a high enough priority. Current regulation, and associated enforcement, has not been successful in reducing nutrient pollution to the water environment to the extent, and at the speed required, to meet this ambitious target. Although there is mention of increasing capacity at the Environment Agency, the emphasis is on advice, rather than targeting polluters and preventing point source pollution primarily.

Regenerative agriculture will have a significant role to play in meeting these targets and focus should be given to identifying and determining at the catchment/local scale, where regenerative agriculture measures could provide the greatest reduction in nutrient losses and building greater resilience in these catchments. The government should set a greater level of ambition for supporting agriculture to implement more regenerative farming principles and resourcing regulatory bodies to gather evidence on their effectiveness to drive greater targeting through the various Environmental Land Management schemes going forward.

11) Do you agree or disagree with the level of ambition proposed for a water demand target?
(Agree/Disagree/Don't know).

(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

The level of ambition seems reasonable as the models used to develop this target were kept on the same trajectory as the targets already in place for water companies for 2050 (PCC of 110 l/p/d, reduce leakage by 50% on 2017-18 levels, 15% reduction in NHH water use). The target is also in line with our forecasted reduction in Distribution Input per head of population by 2037 compared to a 2019 baseline at a company scale.

However, the proposed metric for this target might be of concern to water companies. It is understood that DI over population has been used to give an indication of the level of water used per person in England, which makes the target relatable to all water users. This blankets leakage, household, non-household and other use under one metric which from a water company perspective is difficult to monitor as these are normally individual targets. We would welcome clarification regarding whether the 20% reduction refers to a 20% reduction within each component of Distribution Input or whether the 20% reduction applies to the metric as a whole. We would also welcome further information regarding how uncertainty related to forecasting population is accounted for.

Upon reading the detailed evidence report, it has been suggested that the Office of National Statistics (ONS) will be the source of the population data. Consistency in the use of population data might be an issue as water companies have applied other datasets such as ACORN or CACI. This could affect how companies monitor the target until 2036/37 as population may be forecasted differently.

We wish to request further information on the implementation of the proposed target and how it links up with recent outcomes on the consultations on measures to reduce personal water use, initiatives such as supply pipe adoptions, the upcoming consultation on mandatory water efficiency labelling and any changes to building and water fittings regulations.

From the ministerial statement of July 21, George Eustice outlined development of a roadmap in 2022 towards greater water efficiency in new developments and retrofits, including the exploration of revised building regulations and how the development of new technologies can contribute to meeting these standards. We would welcome clarification on whether the time taken to implement these initiatives has been accounted for and whether their contribution to achieving the proposed target on a national scale has been considered. There appears to be a set of legislation that is not yet statutory which we believe needs to be in place before the target is achievable and deliverable.

Furthermore, the proposed target is a national target. We would welcome further engagement regarding the potential for localised targets per water company. We also request further information regarding how the target will be monitored across different supply areas and whether the target will apply at a water company scale across England. Finally, we would welcome justification on the use of

2037 as the target year as it falls in the middle of an Asset Management Period (AMP). We would suggest moving the target end date forward to a more appropriate year such as 2034/35 so it is in line with the end of AMP. The target should still be achievable based on our current forecasted DI per head of population.

Woodland cover

12) Do you agree or disagree with the proposed metric for a tree and woodland cover target? (Agree/Disagree/Don't know).

We agree with the proposed target. Increasing tree cover has multiple benefits although this must be undertaken in suitable areas and therefore, if targets are divided up regionally, there needs to be recognition of soil type, geology, and other protected habitats. If the main driver for this target is carbon sequestration, we would welcome further clarification on whether other habitat types which sequester carbon have been considered.

13) Do you agree or disagree that short rotation coppice and short rotation forestry plantations should be initially excluded from a woodland cover target? (Agree/Disagree/Don't know)

We agree that commercial coppice should be excluded on account of them not offering the level of potential long term environmental benefits that would be achieved by more permanent plantations. Woodland managed on a coppice rotation for conservation should be included to acknowledge the ecological benefits they provide.

14) Do you agree or disagree with the proposed inclusion of trees in woodlands, as well as trees in hedgerows, orchards, in fields and in towns and cities? (Agree/Disagree/Don't know)

We agree that individual trees should be included although we note that their benefits will be harder to quantify depending on individual species. We were uncertain from the consultation documents on the methodology for capturing individual trees. Our interpretation from the consultation documents is that remote sensing will be used to capture a rough age of individual trees with a standard value applied.

15) Do you agree or disagree with our proposed level of ambition for a tree and woodland cover target? (Agree/Disagree/Don't know)
(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

We agree that the target of a 17.5% increase in tree and woodland cover is ambitious. The target must take into account tree disease, impacts of climate change on current native species, and whether there is suitable land to accommodate such cover. As a company, we are already committed to planting 100,000 trees under the Water UK 1 million trees driver. We would welcome further information regarding the contribution of water companies to achieving the target and whether there will be an expectation for utilities to plant additional trees on top of their existing commitment.

We would like to see a national level plan for achieving this increase in the most appropriate areas. This could link to a National 'land classification' exercise that determines what would be the most beneficial land use for an area so that local plans can then incorporate this in a more coherent way.

We would welcome the opportunity for involvement at local level consultations to understand where the Company will feed into the local process.

Resource efficiency and waste reduction

- 16) Do you agree or disagree with the proposed scope of the residual waste target being 'all residual waste excluding major mineral wastes'? (Agree/Disagree/Don't know)
(If disagree) What reasons can you provide for why the government should consider a different target scope?

Agree – Based on the detailed evidence report it seems sensible to concentrate efforts on residual waste (excluding major mineral waste) due to the environmental harm from the waste treatment typically associated with them. However, we suggest that the exclusion of major mineral waste from the target should be revisited once more robust evidence/research is available.

- 17) Do you agree or disagree that our proposed method of measuring the target metric is appropriate? (Agree/Disagree/Don't know)
(If disagree) What reasons or potential unintended consequences can you provide or foresee for why the government should consider a different method?

Agree – Based on the detailed evidence report it is agreed that using the treatment-based point of measurement appears to be the best option to measure the metric as this provides the most robust data set. However, being able to measure waste earlier in the management process (i.e. kerbside) would be beneficial as by the time waste reaches the treatment processes, opportunities to separate waste (e.g. into household and commercial waste) may have already been missed. Furthermore, we would welcome consideration of industry based targets which may be more appropriate for commercial waste streams.

- 18) Do you agree or disagree that local authorities should have a legal requirement to report this waste data, similar to the previous legal requirement they had until 2020?
(Agree/Disagree/Don't know)

Agree – This would be beneficial so that residual waste can be measured earlier in the management process before reaching the treatment stage.

- 19) Do you agree or disagree with the level of ambition proposed for a waste reduction target?
(Agree/Disagree/Don't know).
(If disagree) What reasons can you provide for why the government should consider a different level of ambition?

The detailed evidence report suggests that the impact of the potential future policies such as Collection and Packaging Reforms may cause a 25% reduction from 2019 levels. Therefore, the proposed target of 50% reduction on 2019 levels seems reasonable with additional measures in place to reduce residual waste. It may be beneficial to introduce interim targets to ensure that the target level is still appropriate and that the measures in place are sufficient to deliver it.

However, an area of concern is the contribution to the target of waste that is produced from essential activities. Wastewater and water supply only companies produce sludge as a by-product of water treatment processes that is either spread on agricultural land or is sent to landfill. We would welcome further information whether additional restrictions on sludge that is sent to landfill are likely to be implemented as a result of this target and whether new legislation from the Environment Agency will impact sludge spreading on agricultural land. In addition, we note that there are areas of the business where we produce waste products to fulfil our operational duties e.g. spoil produced from excavations to fix bursts or repair leaks, and initiatives are unlikely to reduce this in line with the target level. An

additional point that should be considered is that there may be a greater impact on us as a company as we gradually move from Groundwater abstraction to Surface water abstraction as more waste is likely to be produced.

- 20) Do you agree or disagree with our proposed metric for considering resource productivity? (Agree/disagree/don't know). If disagree- What reasons, or potential unintended consequences can you provide for why the government should consider a different metric and what data exists to enable reporting for this alternate metric?

No response

- 21) Of the possible policy interventions described, which do you think will be most effective to meet a resource productivity target? Please specify whether these policies would be most effective if implemented nationally or regionally, and whether measures should be product or sector-specific.

No response

Air quality

- 22) Do you agree or disagree with the level of ambition proposed for a PM2.5 concentration target? (Agree/Disagree/Don't know). (If disagree) What reasons can you provide for why the government should consider a different level of ambition?

We agree with the level of ambition of the target based on the information provided in the detailed evidence report. However, emission reductions alike to those modelled in the high scenario would be required to achieve the target and implementing actions to contribute to the target are likely to need significant investment and behaviour change on top of existing policies and technology turnover. Furthermore, the proposed target applies on a national scale. The consultation documents state that there may be the opportunity to consult on measures tailored to local areas and their sources and we would welcome the opportunity to feed into this process. We wish to request further information on the likely timescales for the consultation phase of the local targets for all of the proposed environmental targets. Finally, it is unclear whether further action, beyond measures that are already being implemented associated with Net Zero, will be required at an individual company scale to achieve the national target. We would welcome further clarity on this.

- 23) Do you agree or disagree with the level of ambition proposed for a population exposure reduction target? (Agree/Disagree/Don't know). (If disagree) What reasons can you provide for why the government should consider a different level of ambition?

We agree with the level of ambition of the target based on the information provided in the detailed evidence report and understand the inclusion of it to target areas that are already under the 10 micrograms per cubic metre target. Similarly to the annual mean concentration target, modelling suggests that the target is likely to be achieved with emission reductions akin to the high scenario, which relies significantly on developing policy pathways, investment and behaviour change. It is noted that the breadth and ambition of the targets will be assessed every 5 years and there is the potential for modifications as a result of this assessment.



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Dear Consultation Team,

Thank you for the opportunity to respond to the consultation on the Environment Act Targets. We are pleased to enclose our responses to the consultation questions in Appendix A.

Anglian Water has clearly stated its purpose to bring environmental and societal prosperity to the region we serve and so we were very happy to see the Government proposing action to protect the environment and enable nature's recovery through the Environment Act and the 25-year Environment Plan.

However, as they stand, we feel the targets do not do enough to ensure the right environmental outcomes and are concerned that Defra's proposed targets could risk embedding outdated approaches, increase carbon emissions, and have a detrimental impact on customer bills.

A focus solely on wastewater treatment in relation to phosphorus reduction would drive companies towards traditional concrete and chemical solutions, with ever-more intensive chemical use from a low-resilience supply chain. Simultaneously, it would undermine the ability of water companies to take forward partnership approaches that can benefit sustainable farming and enable sustainable housing growth.

The net result would be to undermine the embryonic development of environmental markets, delegitimise and take resources away from catchment-based planning, and make it much harder to take forward nature-based solutions. All of this would lead to negative impacts for billpayers, carbon, biodiversity, and public amenity and would appear to diverge significantly from the Government's stated policy ambitions.



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In line with discussions we have had with Water UK, environmental NGOs, and other stakeholders, we believe Government should adopt an approach that adheres to the following principles:

1. **We need an ambitious, long-term, overarching target** to guide and accelerate progress in the water environment. This target will act as a lodestar for environmental activity around waterbodies, setting a benchmark for all public and private policies, projects and plans – and allow the public to readily understand progress.
2. Targets should be set on the basis of the **outcomes needed to allow nature recovery**, with all subsidiary or interim targets designed in a way that supports that aim. An example of this could be an overarching target of at least 85% of waterbodies achieving good ecological status by 2040, and waterbodies legally designated for conservation to achieve high status by then.
3. It is critical that the overarching target is **supported by a National Improvement Plan (NIP)** that sets out all the actions needed to deliver it (including actions by Government and regulators). These actions should be based on an approach to burden-sharing that is fair, optimising for cost, risk and pace. It should include the need for education and incentives as well as other measures as part of a modern regulatory compliance strategy. The NIP should set out how different schemes and policies should work together and be informed by each other, including the role of regulation, enforcement, incentives and markets.
4. **Each catchment should develop their own plan**, informed by the ambition set by the national overarching target, and drawing on the tools available in the National Improvement Plan. Catchment-level plans should be the basis for all decision-making about local schemes, priorities and proposals when decisions are taken by water companies, regulators, and grant-makers.
5. To avoid perverse outcomes, **metrics should allow monitoring, evaluation and reflection** of all progress made.
6. Government should ensure that **all its decisions are consistent** with the points above.

Applying these principles to the proposed new water targets, we believe there is an opportunity to reframe these to:

1. Provide an outcome focused, single, easy to understand public metric to inform debate, which focuses the attention and encourages voluntary as well as mandatory actions.
2. Provide an umbrella for other interim goals, and give other processes (e.g., Local Nature Recovery Strategies, net zero, Environmental Land Management Schemes) and economic regulators something clear to aim and plan for.
3. Support a 'polluter pays' approach that brings in all contributing actors and ensures accountability.

4. Reduce risk by underpinning stability for interim targets (whether statutory or non-statutory), investment and planning.
5. Support innovation by setting a high-level ambition that enables the best value means of delivery of that ambition to be discovered.

Specifically, this would mean that Government should:

1. Move away from a target focused solely on “phosphorus reduction from treated wastewater” and instead target the desired **outcome** of improved river health by reference to Good Ecological Status which then brings all relevant actors into play. As currently proposed, the target would incentivise significant investment by water companies into environmentally irrelevant point sources, while neglecting much bigger impacts.
2. Adopt a target on water quantity that is framed around “total sustainable abstraction” that then applies to all abstractors, with clear interim targets and with a subsidiary Distribution Input (DI) target for public water supply providers.
3. In addition to this consultation, Anglian Water has responded to the recent storm overflow, biodiversity and nature recovery consultations in similar vein, highlighting that an outcome-based, catchment level approach is needed, and which would, if adopted, provide a platform for maximizing environmental benefits whilst keeping costs to a minimum. We feel strongly that all the areas addressed in various consultations should be strategically joined up and aligned with the approach to economic regulation, which Ofwat will be consulting on shortly.

We are very happy to discuss this approach further with you.

Kind regards,

REDACTED

Director of Strategy and Regulation
Anglian Water

Appendix A

Biodiversity Section

Biodiversity question: Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'? [Agree/Disagree/Don't know] [If disagree] What additional indicators do you think may be necessary?

Anglian Water is pleased to see biodiversity prioritised under the Environment Act and we have been acting for several years to enhance the biodiversity in our gift. However, we think that there are gaps in the combination of targets proposed which need to be addressed before they represent a complete measure for biodiversity.

We are also concerned about how the impact of climate change and other long-term environmental factors could impact these targets. This is not explicitly addressed in the text. Furthermore, considering the climate and biodiversity crisis we find ourselves in, we are concerned that the target timeline isn't ambitious enough.

In terms of the indicators we think are missing, we believe Defra should consider a distribution target, as well as an abundance target, as part of these measures. In addition, we acknowledge the reasoning behind not including protected areas (and that [protected areas alone may not be supporting nature](#)), but we think that there should be a protected areas target included or a commitment to develop one within a reasonable timescale.

Finally, there should be due consideration given to aligning the baseline of the targets proposed under the Environment Act with the baseline dates for BNG.

Biodiversity question: Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target? [Agree/Disagree/Don't know] • [If disagree] What reasons can you provide for why the government should consider a different level of ambition?

Given that this data is currently being reported on annually, we would expect government to publish interim updates on whether this target is on track, and if not, what corrective action it will take. This information will be useful to drive ambition to hit the targets.

Finally, as we have said, there should be due consideration given to aligning the baseline of the targets proposed under the Environment Act with the baseline dates for BNG.

Biodiversity question: Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England-level GB Red List Index? [Agree/Disagree/Don't know] • [If disagree] What reasons can you provide for why the government should consider a different level of ambition?

Anglian Water disagree with this target because the term 'to improve' is too vague to be measurable. We would like to see the term 'to improve' to be replaced with a fully thought-out and defined term which can be measured and monitored.

The current Red Lists are updated every 10 years on average, but for the List to be more transparent, meaningful and useful. Anglian Water would like this to be updated more regularly (at the very least at the start, end and middle of this period).

Finally, there should be due consideration given to aligning the baseline of the targets proposed under the Environment Act with the baseline dates for BNG.

Biodiversity question: Do you agree or disagree with the level of ambition of ‘in excess of 500,000 hectares’ proposed for the long-term wider habitats target? [Agree/Disagree/Don’t know]

Anglian Water agrees with this level of ambition as a minimum target. We also note that once all the Local Nature Recovery Networks have been established, this target might be exceeded, so we should therefore allow and encourage local ambition to exceed the national target.

Biodiversity question: Do you agree or disagree that all wildlife-rich habitat types should count towards the target? [Agree/Disagree/Don’t know]

- [If disagree/Don’t know] Are there any habitat types that you think should not count towards the target? [[peatland], [grassland], [heathland], [scrub], [native woodland], [hedgerows], [traditional orchards], [arable field margins], [estuarine and coastal water habitats], [wetlands], [rivers / streams], [lakes / ponds], [other habitat types that you think should not count towards the target]]
- What reasons can you provide for why these habitats should not count towards the target?

Not all wildlife rich habitats are the same, so the government needs to give more weight to priority habitats. We would also like to see a clearer definition of ‘wildlife rich habitats’ and for Defra to include sub-targets for areas which are already priority habitats. We think there should be more supporting guidance and information on priority habitats provided generally.

In addition, this target is just an area measure, meaning it doesn’t consider connectivity or attachment to other habitats.

Biodiversity question: Do you agree or disagree with the level of ambition proposed for the Marine Protected Area target? [Agree/Disagree/Don’t know] • [If disagree] What reasons can you provide for why the government should consider a different level of ambition?

Anglian Water has no comments to make at this time.

Water Section

Water question: Do you agree or disagree with the level of ambition proposed for an abandoned metal mines target? [Agree/Disagree/Don’t know] • [If disagree] What reasons can you provide for why government should consider a different level of ambition?

Anglian Water is happy to see other important industries being included in the solution to river water quality. It is crucial that all sources of pollution are targeted for the best outcome for rivers.

We do not have expert knowledge or experience working with metal mines, so we reserve judgement on the detail of the target at this time.

Water question: In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments. Do you agree or disagree that this approach would strengthen the national target? [Agree/Disagree/Don't know]

- **[If disagree] Why don't you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target?**
- **[If agree] Why do you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? What factors should the government consider when setting these ambitions**

Anglian Water supports a target on nutrient pollution but strongly believes that this should be tackled using an outcome focused, catchment-based approach as we mention above. This means not targeting pollution at individual sources, without environmental justification. A catchment-based approach that brings all actors into play is needed, partly because of large local and regional differences in agricultural practices, pollution sources and therefore levels of nutrients in each river, and partly because a single source approach will militate against partnership working, innovation, nature-based solutions and the development of environmental markets.

For the environment to benefit we need a place-based approach where local communities and experts are included in discussions and solutions. A target needs need to be clear on who the stakeholders responsible for delivering that target were and to ensure that genuine collaboration was incentivised.

We would like to see further detail about where and how the nutrients will be monitored (especially for diffuse pollution) because the location of the monitors would impact the reading and the potential solutions required. For example, if it were measured directly outside a water treatment works then solutions such as a wetland or collaboration with agricultural stakeholders would not be suitable. We would also like detail on interim targets at a catchment level

From an agricultural perspective, this target would need to fully consider the new farming rules for water and other relevant standards as well as how this target is balanced with the national need for sustainable food production. We are also interested in exploring how nutrient neutrality could be a tool to help achieve this target and have recently published a position statement² on nutrient neutrality in the Anglian Water region.

There is an opportunity to think more broadly and develop this target further and combine it with a soil health target. This could be a more holistic measure which could include other things like earth worms, organic matter etc and give a broader picture of the health of the catchment. This links to our core message: that all these targets must focus on the outcome for rivers or the environment and this includes opportunities to achieve multiple benefits.

Water question: The target needs to allow flexibility for water companies to use best available strategies to reduce phosphorus pollution, including the use of nature-based and catchment-based solutions. Do you agree or disagree that the proposed target provides this flexibility?

[Agree/Disagree/Don't know] • [If disagree] What reasons can you provide for why the target doesn't give this flexibility?

A one size fits all percentage reduction may be effective in galvanising support and momentum for a target, but it will not deliver the outcomes that the environment needs. The current approach risks embedding outdated approaches, increasing carbon emissions and driving up additional costs for customers. A focus on wastewater treatment will drive companies towards traditional concrete and chemical solutions and discourage companies from working to deliver better outcomes in partnership with other stakeholders.

Every catchment and river will have different amounts of phosphorus present and it might not be necessary to reduce this by 80% to achieve the outcome for the environment. Targets must be outcome focused and catchment-based to be successful in achieving the desired outcome for rivers.

We want to see a long term 'apex' target for water quality based on the existing measure of good ecological status (GES). GES is a well-known, proven and potentially powerful measure which delivers many of the attributes listed above. We acknowledge changes would need to be made to the GES design and ambition, but we believe that it provides a good outcome focused framework for targets. For example, we could set the target as *85% of waterbodies should achieve good health status by 2040*. This could act as single, easy to understand target and would align with the 2040/42 timescales of the other targets, allowing comparability. It would be outcomes-based, allow for catchment-based approaches, incentivize innovation and partnership solutions, have subsidiary interim targets and indicate where to go next after the Water Framework Directive ends in 2027.

The target must also consider what is technically achievable, e.g., if there are already low levels of phosphorus, it might be technologically impossible to reduce it by 80%. We would like clarity on whether 80% is related to the total discharge permitted amount rather than the actual amount discharged and where in the river this would be monitored (e.g., directly at the discharge point or further downstream).

The focus on larger sites might not be the most cost effective and environmentally beneficial, despite the fact there are not permits for our smaller works. There could be more low hanging fruit which benefits the catchment with smaller works which would be left out under this proposal.

We would also like to see this target developed further to consider linking it to phosphorus recovery not just reduction, based on a circular economy model. And finally, we would like to see plans to bring in regulations to manage the source of phosphorus, such as from household products. Dealing with it at source rather than treating it later is far preferable.

Anglian water is happy to see that the baseline will be set at 2020 levels, because considerable reductions have taken place since then.

Water question: Do you agree or disagree with the level of ambition proposed for the nutrient targets? [Agree/Disagree/Don't know] • [If disagree] What reasons can you provide for why government should consider a different level of ambition?

Anglian Water supports national targets to improve water quality and believes strongly that this should be tackled using a catchment-based, outcome focused approach, preferably using the well-known measure of GES (good ecological status). A catchment-based approach is needed because of large local and regional differences in agricultural practices, pollution sources and therefore levels of nutrients in each river. We would have liked to have seen a strong focus on environmental outcomes taken throughout the suite of targets, rather than a one size fits all model. The focus of these targets is input into rivers, rather than outcome for rivers. Historically the sector has used overarching river health or ecological status indicators, (RBMP/WFD, RNAGs, returning ¾ rivers back to natural state) but these seem to be excluded from the targets all together and we view that as a step backwards.

For the success of these targets, it is also crucial that environmental regulation is matched by economic regulation. It is essential that water companies are funded adequately to carry out this work and that the EA is adequately funded to carry out monitoring of water bodies in order to make outcome based environmental decisions. There is not enough monitoring happening currently to enable this. Targets must be set with a consideration of the timing of water industry AMP cycles to enable the inclusion of the funds needed to meet these targets in the business planning process.

We would like further information on how the targets will be enforced and what the role of the OEP will be in doing this. We have written to Dame Glenys Stacey to invite her to a meeting to discuss the role of the OEP and the constructive working relationship we plan to have with them.

We would also like to see clear links drawn between nutrient targets and biodiversity targets. There is opportunity for more joined up thinking between targets – which would follow naturally from a catchment-based approach.

As has been discussed in previous forums, from a wider river health perspective, the removal of the automatic right of developers to connect surface water to public sewers is a key change we need to see from government. We are aware that Defra are currently reviewing the implementation of Schedule 3 of the Flood and Water Management Act 2010 and have been in conversations with Defra and organised several workshops on the topic. This is an important change which we want to continue to keep momentum and focus on due to the potential benefits for river health.

Water question: Do you agree or disagree with the level of ambition proposed for a water demand target? [Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why government should consider a different level of ambition?**

Distribution vs total abstraction

Anglian Water is very pleased to see a national target on water demand. This is something we have worked closely with Waterwise to promote over many years. A national target is crucial to drive ambition, collaboration and funding on water efficiency, which goes beyond the influence of water companies.

We believe that this target should be driven by the outcome for the environment, therefore, we think this measure should encompass the total water abstracted from the river, not just the public water supply element. DI only covers 85% of the water abstracted from the environment within the Anglian

Water region, the rest is abstracted for other purposes, such as irrigation. **We would therefore like to see a measure which includes the total water abstracted and encourages greater collaboration between different abstractors.** As water companies already have ambitious targets to reduce leakage and PCC it is crucial that this national target really is national and has a wider reach than just water companies.

When it comes to maintaining our clean water supplies, all organisations and individuals have a responsibility to act, just like they do to reduce their carbon emissions under net zero targets. It is vital that a range of organisations and groups come together to deliver water efficiency and some of the most cost-effective options (like water labelling and building regulations) are outside of the control of the water industry.

Non household

Anglian Water are also pleased to see that non household (NHH) water demand reduction has been included in this target, this is a crucial addition. The Retail Wholesale Group (RWG) are working collaboratively to ensure that non households are included in the national effort to drive down demand, and this target will enhance the importance of this work further. We are pleased to hear that the RWG was included in discussions about the 9% reduction target, this enabled them to confirm that it was a realistic figure. We are working closely with our retail colleagues to develop a water efficiency programme; however, **there is currently no regulatory driver for retailers to pursue water efficiency. This is an area where government could strengthen the framework and incentives to include the water retail market in water demand reductions.**

Catchment based vs national target

Anglian Water believes that all the targets in the Environment Act should be designed to focus on the outcome they are trying to achieve for the environment. Therefore, in the same way that a water quality target should be relevant to a particular water body, a water demand target could also be focused on sustainable level of abstraction for each catchment. A catchment-based approach would result in the best outcome for rivers, as each river would have a different level of sustainable abstraction (as the EA have acknowledged via their sustainable abstraction programme), and therefore a different need for demand reduction (rather than a set 20%). However, we also appreciate that there is a need for a headline target which the whole country can rally behind and aspire to. We propose that there is both a national, headline target which the public and businesses can galvanise behind, while applying a catchment based, sustainable abstraction approach to abstraction.

Per capita vs absolute

At Anglian Water social and environmental prosperity is our purpose at the heart of everything we do and is enshrined in our company Articles of Association. We have already volunteered to be more ambitious on our abstraction reduction than was expected and we are committed to delivering an extensive WINEP (Water Industry National Environment Programme), two new reservoirs, sector leading smart metering roll outs and leakage reduction. We think that the environment shouldn't bear the burden of growth. However, we also must balance a public interest commitment to supply potable water to meet public demand.

Consistent approach with current frameworks

As we have said, this ambition needs to be truly national, and driven by government and all stakeholder groups, not just water companies. However, we would like to ensure that any targets would consider the targets, groups and plans which already exist in the water sector. We would like to have a clear view on how the existing regional groups and plans as well as the National Framework and RAPID compliment these targets. Similarly, we think that reductions in PCC and leakage which have already been made in recent years should be included in this target and a baseline set in line with other targets, at 2018 or 2020 for example. This is because water companies are all at different places in the journey of reducing demand, and some companies will have already tackled the easiest options to achieve reductions and will find making further reductions from this point much more difficult and expensive.

There should also be a consistent approach across the Environment Act and the sustainable abstraction programme carried out by the EA to reduce unsustainable abstraction, as this programme is well underway and has similar objectives.

An opportunity for water reuse

The water demand target and the Environment Act is a big opportunity to drive and promote water reuse as a way of reducing demand. The target should emphasise the potential for using the technologies that are already on the market and for innovation towards finding alternative water sources and exploring water reuse to reduce raw water abstraction.

Affordability

Finally, we have some reservations about the speed of this ambition and associated costs. Anglian Water's draft Water Resources Management Plan for 2024 is aiming for a PCC of 110 by 2050, and 115 by 2037 (this includes a government led water efficiency labelling scheme). It is important to consider the pace of change and whether the environmental outcome we are seeking to deliver is linked to 2037 or whether other time periods can be considered. As has been said, water companies already have incentives and drivers to reduce demand, if water company plans must be accelerated to meet this national target, they need to be funded in addition to current projections.

27 June 2022

Our ref:

Your ref:



REDACTED

BY EMAIL ONLY

Suite D, Unex House
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Peterborough
PE1 1NG

T REDACTED

Dear Sir/Madam

Consultation on Environment Act 2021 Environmental Targets – Natural England Response

Natural England is the Government's statutory adviser on the natural environment established under the Natural Environment and Rural Communities Act 2006. Natural England's purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We welcome the opportunity to respond to this consultation on environmental targets. These targets alongside the new measures in the Environment Act will be vital, placing nature recovery alongside carbon reduction at the heart of government priorities and will play an important role in driving the delivery of the 25 Year Environment Plan (Environmental Improvement Plan). We look forward to working with the government and our partners to help deliver these targets and to drive forward nature recovery from the national to the local level.

This scale of recovery will require all elements of a healthy ecosystem to be in place and thriving. The statutory targets therefore need to be both comprehensive and ambitious, working to reinforce and complement each other. We are very pleased to see ambitious targets proposed for addressing loss of species and for expanding woodland cover. There is scope to expand, and in places strengthen, the targets and thereby provide a better weighted suite of targets; and to include qualitative targets to bolster the action-based targets, including the addition of a qualitative Protected Sites target.

There is a risk that a less balanced and more limited range of targets will not drive all of the actions required to deliver nature's recovery. Alongside the risk that the pursuit of a narrow set of priorities could result in perverse or unintended consequences if these are pursued at the expense of the health of whole environmental systems.

We also note these targets do not cover the full breadth of the Environment Improvement Plan (EIP). It is therefore important that the review of the EIP by January 2023 ensures that the EIP's goals, targets and

indicators are suitably ambitious and compliment, and integrate with these new statutory targets to deliver a broader range of environmental improvements and associated benefits for people and for the planet. This will ensure that outcomes such as under the Beauty, Heritage and Engagement goal in the existing plan work alongside these new targets to help deliver the government's long-term environmental aims.

Biodiversity

Species Abundance

We welcome the target to halt the loss of species abundance by 2030 and the continuation target to increase species abundance by 10% by 2042, which we feel can be achieved through conservation action at a scale and intensity not seen before.

Although we consider the evidence and projections used to set the species abundance target to be the best available, the impact of the long-term target ambition (as worded) is dependent upon reaching the short-term abundance target to halt decline by 2030. If we were to fail to halt loss of species abundance by 2030, a 10% increase from 2030 levels will not necessarily represent a net improvement of 10% from when the targets come into force in 2022.

One option to ensure that the intended progress is made would be to ensure that abundance in 2042 would be a net increase on 2022 levels (when targets become law). This would align with the 25 Year Environment Plan ambition "to leave the natural environment in a better state than we found it". Another option would be a target that makes provision for identifying an alternative baseline date should halting decline by 2030 not be achieved, ensuring that the 10% increase by 2042 is still one of gain. The first of these options would help to make the target for the recovery of species abundance more specific and would make it easier to see what that target constitutes from the start. The target trajectory and associated indicator should also be carefully monitored to support its delivery.

Natural England would wish to see a review of the D4 indicator in (species abundance) to ensure that it adequately represents the breadth of England's biodiversity. At present it comprises 1,071 species (approximately 2% of UK species) covering a limited number of taxonomic groups and is considered an indicator of the health of widespread species in England. Marine species are particularly under-represented in the indicator as are most freshwater groups. Despite most species in the indicator being terrestrial, certain groups that provide important ecosystem services are also missing, such as fungi for decomposition and bees for pollination. Species diversity is indicative of the health of the natural environment, so it is vital to avoid a perverse scenario whereby action is confined to a narrow range of species within the indicator and consequently we fail to achieve wider nature recovery.

We would like to see the species abundance indicator reviewed at the earliest opportunity so that it better represents the breadth of species and a wider range of taxonomic groups; and represents an effective framework to measure and monitor the underlying health of the natural environment. This should run alongside appropriate investment in new structured monitoring schemes, allowing the inclusion of better-quality abundance data for more groups.

The UK Centre for Ecology & Hydrology (UKCEH) research has shown that a higher number and wider spread of indicator species will reduce the disproportional influence of some taxonomic groups over others, rather than adding any form of weighting which could lead to misleading results and interpretations. We agree with UKCEH's recommendation that no weighting should be used.

Species Extinction

We welcome this target and its level of ambition. Further work is needed on developing the underlying indicator so that it is representative of all red-listed taxonomic groups.

We believe that the IUCN Red Listing system applied at the GB scale is the most suitable framework for determining the conservation status of our threatened native species (Outcome Indicator Framework D5 indicator). Red Lists and the Red List Index (RLI) are assessments of species extinction risk, following internationally accepted methods. The index summarises Red Lists to provide a measure of average extinction risk for multiple species. Although the index values require expertise to interpret, they show relative change over time and therefore a trend which can be used to assess progress.

A preliminary indicator has been produced and comprises the following high-level taxonomic groups: mammals, birds, reptiles, amphibians, invertebrates, vascular plants, bryophytes (mosses and liverworts), lichens and fungi. The invertebrate group alone draws from 25 GB Red Lists, spanning a wide range of habitats. Nevertheless, we would like to see the indicator strategically expanded in future years to address taxonomic gaps in red listing, particularly the imbalance caused by the lack of Red Lists for marine species groups.

We are content for the England-level RLI to be used to monitor progress towards this target. The index uses GB statuses for species that occur in England but is based on an assumption that the level of threat at GB scale is the same as at England scale. For groups that have been assessed at both GB and England scales most species show the same threat status, for example nearly 80% of plants. When reporting against the indicator we would welcome information in addition to the composite RLI value. For example, the RLI trends of individual taxonomic groups are likely to differ from one another and this information can be useful in understanding pressures and directing conservation effort.

We understand that the index is useful for monitoring long-term trends but can be insensitive to change over shorter time scales. This is partly due to methodology but also because Red Lists are generally updated on a ten-year cycle. Evidence suggests that a more frequent cycle of reassessment would not make the indicator substantially more sensitive (species seldom change in threat status over short periods), although a rolling programme of Red List updates will be needed in the future to maintain the index.

Wider Habitats

The successful delivery of the species abundance and extinction targets will be dependent upon the large-scale restoration of habitats and ecosystems across England. Strong statutory targets are therefore also required to drive fundamental work to create and restore large and connected areas of land where natural processes can operate effectively, and a wide diversity of species can flourish. This supports the UK government's commitment under the Convention of Biological Diversity to protect at least 30% of our land and sea for nature by 2030. Our Protected Sites network will be critical to delivering these connected aims, in addition to land in the wider countryside.

We support the inclusion of an action-based wider habitats target, although the current proposal for a minimum target of 500,000 hectares which includes a wide range of qualifying habitat types is readily achievable.

The current level of ambition of a minimum 500,000 hectares is equivalent to the delivery rate of the Biodiversity 2020 ambition which delivered 260,469 hectares of new habitat between 2011 and 2020 outside of SSSIs. These delivery rates however have not stemmed the continuing declines in species abundance. We feel there is a need to be more ambitious to deliver the level of change we need for nature recovery, particularly as there is strong evidence that one of the main reasons species are declining is loss of habitat. By increasing the extent of habitats, improving the quality of existing ones (including our

Protected Sites) and reducing off-site pressures such as water and air pollution, species populations will increase and become more resilient against climate change.

To meet our international pledge to ensure the Convention on Biological Diversity (CBD) commitment of 30% of land delivering for nature by 2030 (30 x 30), somewhere in the region of 1.5 million hectares of wider habitat (outside of existing Protected Sites) will need better protection and improved conservation management. Whilst there will be a portion of this which will be deliverable by ensuring better long-term management of existing habitat, there will also be a requirement for an ambitious programme of restoration and creation to provide new high quality, wildlife-rich habitat. Strong delivery at the landscape scale, supported by a robust wider habitats target will be essential to achieve the necessary level of ambition, particularly where there are multiple and sometimes competing demands.

Some habitats are also easier to deliver at scale due to the types of incentives and delivery mechanisms available (woodlands, arable field margins and coastal habitats). Because of the level of ambition of the target, there is a risk that the target becomes dominated by these habitat types at the expense of the more open habitats that will be needed to deliver the Nature Recovery Network and to drive wider nature recovery and connectivity. We would therefore propose that the target figure could be raised to a minimum of 750,000 hectares, so that there is “room” in the target for the open and mosaic habitats that will be essential to help deliver the Nature Recovery Network and species targets.

Based on estimates from the new agri-environment schemes, Biodiversity Net Gain, Peat Action Plan England, Woodland Creation Offer (EWCO) and other Nature for Climate Fund delivery mechanisms and the current definition of wildlife-rich habitat, we are confident we could achieve this higher ambition. This higher target would also help us to meet Government’s net zero target and other commitments in the 25 Year Environment Plan such as creating new areas where the public can enjoy the natural environment.

We agree in principle with the wildlife-rich habitat types set out in the consultation document, with the caveat that only wildlife-rich habitats that conform to the set of principles in the Evidence Pack should count towards this target and should not include any lower quality habitats. The list of habitats, whilst not being comprehensive, reflects the breadth of habitats that will be needed to support nature recovery.

The principles defining what will count as wildlife-rich habitats need to be carefully applied to ensure that this target effectively maximises the delivery of key habitats to support nature recovery and the species abundance targets, particularly where such habitats are not otherwise covered by other delivery mechanisms or drivers. Non-priority habitat, such as scrub habitats (beyond section 41 of the NERC Act) in particular, have received less attention over the years. These habitats can provide refuge and resources for a multitude of species whose populations are decreasing and can be of strategic importance, for example by connecting-up smaller areas of habitat into a habitat network.

It is imperative that the separate and ambitious woodland cover target achieves not only delivery of net zero ambitions and increases in domestic timber production, but that this significant new woodland and tree establishment substantively drives nature’s recovery. To avoid over dominance of woodland delivery under this target further clarity is needed on what activity under the woodland cover target will also meaningfully deliver new wildlife-rich habitat.

We would therefore propose that only native woodland (i.e. greater than 80% native species) should count towards the wider habitats target, as native tree and shrub species are better able to enable the recovery of our native wildlife. Commercial conifer plantations or woodland with less than 80% native species, whilst contributing towards the net zero target and with the potential to have some biodiversity benefits (if appropriately designed and located), should not contribute.

Arable field margins can be created and removed cyclically by farmers and therefore may not be maintained in the long term. While they can provide benefits for biodiversity while maintained, we advise that only the net increase at the end of a period should count, not those already removed.

Protected Sites

Natural England supports the ambition to review and to bolster the effectiveness of our Protected Sites as set out in the government's recent Nature Recovery Green Paper. The existing framework has successfully protected species and habitats from loss and destruction in many places, but it hasn't by itself stemmed the decline in biodiversity, nor has it prevented the disconnection from nature that so many experience.

Protected Sites are our most important extant areas for nature and should form an ecologically coherent network of sites that provide the core for a wider network for nature recovery. This needs to reflect the dynamism of natural systems and be able to respond to the challenges of a changing climate.

Our Protected Sites on land and at sea make up over a million hectares of terrestrial and freshwater areas and our terrestrial Protected Sites represent about 8% of the land area of England. Improving the quality and connectivity of these sites as well as creating and restoring wildlife-rich places in the wider countryside, is fundamental to delivering Lawton's aims and recovering nature. Protected Sites will play a vital role, alongside the wider habitats target, in driving forward delivery towards the ambitious species targets and the 30x30 Convention on Biological Diversity commitment.

Protected Sites already have a recognised rigorous scientific framework for monitoring and assessing their condition. This framework provides critical intelligence on environmental quality and whether this is improving or deteriorating over time. The delivery of action-based targets alone does not necessarily equate to improvements in the overall health of our environment. A qualitative target is key to assessing and understanding the progress we are making with nature recovery.

There is also a risk that a more limited range of targets could result in perverse or unintended outcomes, which in turn could affect delivery of other targets. Co-ordinated action needs to be driven forward across our Protected Sites and wider habitats to ensure we achieve all of the biodiversity targets.

We therefore recommend that a Protected Sites target is introduced as soon as is practically possible which reflects the current 25 Year Environment Plan goal to restore 75% of our one million hectares of terrestrial and freshwater Protected Sites to favourable condition by 2042. This would give statutory weight to this critical component of nature recovery.

Marine

We support this target and agree with its level of ambition. Natural England's work with the Joint Nature Conservation Committee (as outlined in the Evidence Pack) provided the evidence for this 70% target. This evidence was based upon the current condition of the habitats and species afforded protection within our Marine Protected Area network; and scientific literature-based estimates of how long it would take for habitats and species to recover from a damaged state to favourable condition. The features that cannot be brought into favourable condition by 2042, because they are slow to recover from human impacts, will be in the process of recovering from unfavourable condition to favourable condition.

We would note that effective management of human activities within the Marine Protected Areas will need to be put in place by the start of 2025 at the latest, to allow recovery of these sites by 2042.

Water

Natural England's rationale for conserving freshwater ecosystems is focused on the critical importance of natural ecosystem function (physical, hydrological, chemical and biological). There is need for co-ordinated action across the water and biodiversity targets at scale to restore our freshwater and water dependent habitats and species to achieve the Water Framework Directive and 25 Year Environment Plan commitments, including improving at least three quarters of our waters close to their natural state. This requires us to achieve reductions in pollution in parallel with other improvements through action targeted and prioritised across a range of delivery mechanisms in catchments.

The proposed targets will help to achieve the outcomes required, but action will need to be carefully spatially targeted to help deliver the species abundance and habitats targets and to restore the condition of Protected Sites.

Our Protected Sites have been impacted to varying degrees, timescales and by different sectors and the solutions needed to address specific issues vary in specific localities. We would therefore welcome the associated development of specific targets for catchments. River Basin Management Plans set out the hydrological requirements for Protected Sites and their targets and actions already planned help achieve them. These committed measures however are not enough in themselves to achieve the targets and the Plans do not currently secure the additional delivery required to secure recovery of these sites. Natural England would welcome the inclusion of catchment specific measures in the revised 25 Year Environment Plan in relation to water and the interlinking pressures that will achieve more for nature recovery and favourable condition for these sites. This would provide a mechanism to drive progress which could be reported on an annual basis.

Natural England is also doing more to understand the impacts of toxic and emerging chemicals on Protected Sites. Where this is an issue, we will need to work closely with those sectors to reduce these impacts. Pesticides are also a significant issue for the recovery of some sites and will need to be tackled to achieve nature recovery.

Abandoned metal mines

We welcome the addition of an abandoned metal mine target to tackle the long-standing pollution caused by these sources. Metals can have significant impacts on Protected Sites and species and this target will enable the action required to reduce the risk of this.

In some instances, metal-rich sites are important because of their toxicity and "specialist" species have developed tolerances to the metals resulting in rare and distinct communities, some of which have been notified as SSSIs. For example, *Pohlia andalusica* is a nationally scarce species found on metalliferous ground as part of a wider species assemblage and is part of the species at risk under the extinction target. Such species require metalliferous substrates to be exposed and stable, and water flow in streams to be at a natural rate to maintain humid conditions and exposed banks: a key factor for populations of these bryophyte flora. We would therefore welcome the continued consideration of these species' requirements in remedial plans to achieve the target.

Nutrient pollution from agriculture

We support the target for the reduction in nitrogen, phosphorous and sediment contribution from agriculture. Nutrient pollution from agriculture is a significant pressure for different freshwater habitats including standing waters, rivers, estuarine, wetlands and coastal habitats.

The target should reflect the scale of reductions needed for Protected Sites and to deliver for wider habitats and species. We believe this needs to be spatially applied to drive the changes needed. A “flat” delivery of 40% reduction in nutrient pollution across the piece will contribute towards nature’s recovery, but it will not provide favourable condition on all our Protected Sites. There is a wide distribution in the catchment reductions of nutrient inputs needed for different freshwater habitats, with the majority requiring between a 20 - 95% reduction. This evidence underlines the need to drive action in a spatially targeted way to benefit freshwater habitats for nature recovery.

Spatially targeting the reduction target could also have positive implications for nutrient neutrality which is required in catchments where Protected Sites are already failing their objectives. To avoid nutrient neutrality conditional measures for new developments, there needs to be certainty that actions are in place and being delivered to achieve favourable condition.

Nutrient pollution from wastewater

We support this target and believe that the 80% reduction of phosphorous from wastewater is a good level of ambition. We note that limiting the phosphorous pollution from wastewater treatment works based on size through the application of technically achievable limits (TAL) could be a challenge for our current 25 Year Environment Plan Protected Site condition target. Many wastewater treatment works in smaller more rural catchments are small, serve less than 2,000 people and we would seek to consider TAL in some cases.

In managing different sources of pollution, we need to be mindful of the impact of our interventions. For example, reducing phosphorus pollution at Wastewater Treatment Works is helpful but increased chemical dosing could have negative impacts on ecology; so these impacts would need to be well understood. We would suggest that further spatial targeting of what action is required at a catchment level across sectors would help support Protected Sites.

Water demand

We support the target to reduce water demand, but it is our view that a spatially targeted approach is also needed to reflect the challenges facing water resources for the Protected Site network and the spatial and temporal variability of water stressed areas across England. This would allow more stringent actions to be applied in areas which are currently water stressed and/or have the potential to become water stressed in the future. A spatially targeted approach will also better accommodate predicted population growth, which is likely to be spatially significant and will exacerbate this pressure.

The sole use of the proposed metric of distribution input per head of population to measure the target could have limitations. By integrating a per capita factor into the metric, the target does not guarantee that there will be any reduction in water removed from the natural environment as any water savings made through demand or leakage reduction are used to potentially supply a growing population. Similarly, these impacts may be spatially significant and could disproportionately impact certain areas of England, such as in the south and east which are projected to have the largest population growth.

We also note that the proposed target only applies to water supplied through water companies’ public water supply networks. This therefore excludes all other sources of abstraction such as agricultural irrigation and industrial uses, which have been identified as having an ongoing impact on many designated sites.

All available demand reduction measures should be objectively assessed for their efficacy and feasibility, for the full range of housing stock and demographics present in England. This will then inform decision making allowing the most effective and appropriate targeting of demand reduction techniques to be used across the full range of locations and water resource scenarios.

Woodland

The increase in woodland cover sought under this target represents at least a tripling of existing planting rates. We consider this a good level of ambition to enable effective integration of trees and woodland within the landscape. As well as enhancing carbon storage and sequestration, new woodlands and trees have a pivotal role to play in supporting the recovery of nature, injecting much needed structural complexity into our landscapes.

Where and how we establish these new wooded habitats and trees profoundly influences their value for carbon, nature and the delivery of the wide range of other public benefits sought from so significant a land use change. If planted appropriately standing trees can provide a net carbon sink, but if planted inappropriately they can cause the release of carbon through water loss and soil erosion. If poorly sited, afforestation can damage peat forming communities that have the ability to continue to accrue and store ever more carbon in situ for millennia. Delivery towards the target must ensure that we avoid planting the wrong type of woodland in the wrong place, as this can be detrimental for the target's wider nature recovery aims through the destruction of existing priority habitats, such as the functionality of peatland and areas which support populations of rare and threatened species assemblages (e.g. ground-nesting wading birds).

We would urge that the current focus on the right tree in the right place established in the right way is maintained and that we work to ensure that proper pre-planting/establishment checks are in place. We would also support measures to remove inappropriately sited trees when necessary to help restore the functionality of important ecosystems such as peatlands and to also support the open habitats that will be required under the habitats target, by following the [Open Habitats Policy \(2010\)](#).

The proposed target is also a simple quantitative one and does not differentiate between broadleaves and conifers, native versus non-native species, or different types of woody habitats. We believe to meaningfully understand the role of the woodland target in enabling delivery against the species and wider habitats targets, additional data needs to be readily available at a far finer level of granularity. In the short term to 2025, it is recognised this will be needed to inform monitoring and evaluation of relevant activity funded under the Nature for Climate Fund.

Whilst we need significantly higher levels of all types of tree cover, including sustainable production focused plantations to reduce our dependency on imported timber, the maxim "it's a marathon not a sprint" is relevant to establishing new wooded habitat of high value for nature which will also provide carbon storage. The design of new woodland habitats, and how they are established substantively influences their value for nature. We consider that natural colonisation and well-designed planted schemes can make a substantive contribution to delivery of the biodiversity targets.

The principal focus on achievement of the 25 Year Environment Plan tree planting target has so far been on woodland planting and large-scale forestry. Whilst such activity is vitally important for goals such as increasing domestic timber supply, there is significant scope to complement this by integrating many more trees outside of woodlands into our farmed landscapes without necessitating whole scale land use change. These treed landscapes, be they hedgerows, scrublands, riverside trees, wood pastures or orchards, have significant nature value contributing to the habitat diversity within our landscapes. They also enhance the landscape permeability for both woodland and non-woodland species. We therefore welcome the fact that inclusion of the tree canopy measure within the target enables the important contribution of Trees Outside of Woods, orchards, wood pastures, hedgerows and within successional scrub habitat (including as a consequence of natural colonisation) to be recognised.

Natural colonisation also offers considerable benefits, especially on sites close to existing native woodland or alongside old hedgerows which can provide a ready source of seed or suckers. Structurally complex mosaics habitats of scrub, open habitat and young trees, that provide plenty of 'edge' habitat and a diverse

array of niches for invertebrates and birds are important for nature recovery. An abundance of thorny shrubs which flower profusely under the relatively open canopy also supply food for insect pollinators and berry eating birds.

We would agree that trees that are excluded from the permanency requirements should not count towards the target. Some plantations are already excluded from these requirements and the Government's Nature Recovery Green Paper is consulting on further adjustments to this requirement.

Air

The two proposed air quality targets are limited to human health protection, which is not part of Natural England's remit.

Air pollution also causes major damage to natural habitats and species, as outlined in the Government's Clean Air Strategy and 25 Year Environment Plan. Our shared evidence base (Nitrogen Futures, a partnership project initiated by Defra) indicates that a significant number of SSSIs and wider habitat areas exceed environmental thresholds (critical loads) for nitrogen impacts. This significant exceedance is predicted to continue into 2030 and 2040 unless substantial further action is taken to reduce atmospheric nitrogen deposition for these ecosystems. Without this further action it will not be possible to fully achieve our biodiversity objectives and targets.

There are many opportunities already available to help drive progress, for example through the Environment Act, Air Quality Strategy review, new regulation under the Clean Air Strategy, Future Farming and Countryside Programme and Shared Nitrogen Action Plan pilots. However, Nitrogen Futures has identified that there needs to be a significant uplift in ambition to drive the scale of action needed at a national and local level. Planned work under the Nitrogen Futures project will help to identify the nature of further action needed to meet biodiversity targets.

Research shows Ammonia plays a critical role in the formation of PM2.5, with 39% of PM2.5 derived from Ammonia (Gu et al. 2021 DOI: 10.1126/science.abf8623). If delivery of the target can reduce sources of ammonia emissions, there are co-benefit opportunities to improve habitat recovery towards the Environment Act and 25 YEP targets, alongside mitigation of PM2.5 pollution to improve human health.

We would welcome strong measures in the revised 25 Year Environment Plan relating to air pollution and ecosystems and enhanced integration between environmental targets to close the delivery gap. This will enable nature recovery, deliver Protected Site objectives and maximise synergies with water quality and soil health.

Peoples Enjoyment of the Natural Environment target

We would advise that a statutory people's enjoyment of the natural environment target is kept under review and progress is maintained to develop the indicators required to measure delivery against such a target.

The current goals of the 25 Year Environment highlight the essential benefits people receive from the natural environment. We would welcome the continuation of strong measures in the revised 25 Year Environment Plan that support the rationale for a people enjoyment target in the future. This is an important and developing area of government policy, linking wider government priorities around health, skills development, physical activity and levelling up; to pro environmental behaviours and investment in nature's recovery.

Building people engagement into the other Environment Act targets and embedding nature into other Government strategies will help integrate environmental improvement with benefits for people. Further development of the indicators in the 25 Year Environment Plan will also be vital to secure ongoing commitment and sustainability of the current programmes of Green Social Prescribing, Green Infrastructure Framework and improving access to the outdoors.

Yours faithfully

REDACTED

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NFFO RESPONSE TO THE ENVIRONMENTAL TARGETS CONSULTATION

Questions: • Would you like your response to be confidential? [Yes/No] No

We propose targets to:

- *increase species abundance by at least 10% by 2042, compared to 2030 levels.*
- *improve the England-level GB Red List Index for species extinction risk by 2042, compared to 2022 levels.*
- *create or restore in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites by 2042, compared to 2022 levels.*

Questions:

- **Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'? [Agree/Disagree/Don't know]**

Don't know.

Difficult to know what species abundance will look like in 2030 given climate change and the northward shift of fish stocks.

The UK Red List is not available at the present time (putative date September 2022).

What proportion of the different categories of landmass does this represent?

- **[If disagree] What additional indicators do you think may be necessary?**

Questions: Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target? [Agree/Disagree/Don't know]

Sounds reasonable but subject to caveats on climate change.

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

Proposed target

- *improve the England-level GB Red List Index of species extinction risk by 2042, compared to 2022 levels.*

Questions:

- **Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England-level GB Red List Index?**
[Agree/Disagree/Don't know] Do not know since the UK Red List is not available
- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

Proposed target

- *to create or restore in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels*

Questions:

- **Do you agree or disagree with the level of ambition of 'in excess of 500,000 hectares' proposed for the long-term wider habitats target? [Agree/Disagree/Don't know]**

Don't know, cf. supra.

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**
- **Do you agree or disagree that all wildlife-rich habitat types should count towards the target? [Agree/Disagree/Don't know] Agree**
- **[If disagree/Don't know]**
- **Are there any habitat types that you think should not count towards the target? [[peatland], [grassland], [heathland], [scrub], [native woodland], [hedgerows], [traditional orchards], [arable field margins], [estuarine and coastal water habitats], [wetlands], [rivers / streams], [lakes / ponds], [other habitat types that you think should not count towards the target]]**
- **What reasons can you provide for why these habitats should not count towards the target?**

Target proposals for biodiversity in the sea

The problem Under the Marine and Coastal Access Act and Habitat Regulations we have designated a series of Marine Protected Areas (MPAs). However, at present there is no time bound target for MPAs and their condition, which is crucial to restoring wider marine biodiversity. MPAs are designated to protect certain features, such as a reef or sandbank. Their objective is for their designated features to be in favourable condition, i.e. good health.

We have established an ecologically coherent network of MPAs across 40% of English waters to conserve our important, representative and vulnerable features (both habitats and species). We are now focussed on ensuring these sites have the required management

measures in place to reduce the impact of potentially damaging activities and improve the MPA network's condition. 15

Proposed target

- 70% of the designated features in the MPA network to be in favourable condition by 2042, with the remainder in recovering condition, and additional reporting on changes in individual feature condition.

Why we are proposing it at this level

The MPA target reflects that recovery timescales depend on the biology of the feature and its biogeography (sediment type, depth, hydrodynamics, climate), and potential challenges of implementing effective management measures.

The proposed percentage of 70% for the target has a high level of scientific certainty that biological recovery rates are not overestimated. Recoverability is determined using our understanding of current condition and the ability of a protected feature to recover, based on the best-available evidence. The recoverability assessments are based on the assumption that all damaging activity is prevented by 2024 at the latest. Given slow growth and/or reproduction rates (for example maerl beds can take 50 years or so to recover), the remaining 30% of features may not have recovered by 2042, but we want to ensure they are on a recovering trajectory. Although these slow recovering species and habitats may recover quicker than assumed, setting the target at this level also allows for any challenges in implementing entirely effective management measures across all our MPAs.

Questions:

- **Do you agree or disagree with the level of ambition proposed for the Marine Protected Area target? [Agree/Disagree/Don't know]** Don't know. The Consultation is a static document based on how it expects UK waters to be regulated in 2024. We do not yet know what the management measures will be for a large proportion of the MPAs (let alone HPMAs which do not count) nor the costs that may be needed for enforcement and monitoring, particularly in offshore waters. In addition, as the Impact Assessment makes clear factors such as climate change induced alteration are not taken into account. There is a need for flexibility in any target that is set.

The marine ecosystem is dynamic and cessation of pressures will not necessarily mean that it will return to its original point of departure but will proceed from the point when the pressures stop, thus benefitting some aspects more than others under a new regime.

This is a very static document for a dynamic environment.

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition? Cf. supra**

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The NFU represents 55,000 members across England and Wales. In addition, we have 20,000 NFU Countryside members with an interest in farming and rural life.

Defra consultation on environmental targets Response of the National Farmers' Union of England & Wales

Introductory remarks

- **Farmers are willing to continue to play a huge role in meeting the environmental challenges of our countryside, alongside providing food for the nation.**
- **Any approach to achieving environmental targets must be flexible to meet the needs of agriculture and the environment, sitting alongside plans for food production. As the recent publication of the Government Food Strategy sets out, domestic food production is a vital contributor to national resilience and food security.**
- **Our vision for environmental improvement is based on a preference for land sharing (the delivery of multiple outputs and benefits from the same land parcel), not land sparing (the re-purposing of farmland to deliver new outcomes) and must represent viable business propositions, in harmony with the production of food, fibre and energy.**
- **In addition, optimal environmental outcomes should seek to improve nature, enhance air and water quality and to build soil health.**
- **However, it is worth bearing in mind that many sectors of the economy contribute to the quality of the wider environment and farmers, while they have an important role in the countryside, are only part of the picture.**
- **We believe that any new targets must consider the current landscape in which we are working and the ability of farming to deliver. We must strike a balance between maintaining the high levels of environmental protection we currently enjoy alongside appropriate levels of regulatory equivalence with trading partners to maintain the smooth flow of trade in agri-food products;** and ensuring a degree of regulatory autonomy so that our regulations are designed to take into account the specific conditions and challenges of the UK's farmed environment.
- **Climate change is also a risk to farming and food production. Technological advancements will have a very important role to play to help build our resilience, but also increase our outputs which will need investment in research and development.**
- **We are conscious that we may see privately funded markets developed to deliver some of these new environmental targets. Such potentially fast-evolving and still-nascent**

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environmental markets will require principles to ensure they are developed with integrity.

These principles include

- Environmental markets must work alongside the domestic production of food, energy and fibre.
- Public policy and government initiatives must support the development of private markets.
- Environmental markets require clear rules and standards to allow farmers and buyers to participate with confidence.
- Markets should be accessible across a range of farm sizes, tenures and business structures.
- Farmers must be fairly rewarded for the delivery of environmental goods.

Targets of interest to agriculture

• **The proposed targets that are particularly relevant to agriculture are**

- Biodiversity
 - Halt the decline in species abundance by 2030.
 - Increase species abundance by at least 10% by 2042, compared to 2030 levels.
 - Improve the England-level GB Red List Index for species extinction risk by 2042, compared to 2022 levels.
 - Create or restore in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites by 2042, compared to 2022 levels.
- Water quality
 - Reduce nitrogen, phosphorus and sediment pollution from agriculture to the water environment by at least 40% by 2037 against a 2018 baseline.
- Tree canopy and woodland cover
 - Increase tree canopy and woodland cover from 14.5% to 17.5% of total land area in England by 2050.
- Air quality
 - Annual Mean Concentration Target ('concentration target') – a target of 10 micrograms per cubic metre ($\mu\text{g m}^{-3}$) of PM2.5 to be met across England by 2040.

Achievability of the targets

- **The NFU's view is that any new targets must have a clear evidence base for inclusion, have a clear baseline, be achievable, measurable and affordable, and have the right supportive policy mechanisms in place.**
- **We also need to know how new targets relate to and interact with existing targets that are already in place, of which there are a number.**
- **There is no doubt that the proposed targets are highly ambitious in nature** – not only in terms of the proposed percentage improvement, reductions, creation, etc., but also in terms of the proposed timescales in meeting these.
- From our reading of the information presented in the evidence papers and impact assessments, it is evident that **there is a high degree of uncertainty as to whether the biodiversity, water quality for agriculture and woodland cover targets that are relevant to agriculture's contribution can be met, and are therefore potentially unachievable.**
- We note from the consultation documents that **Defra itself also seems to raise serious questions over the whether the water quality for agriculture target is achievable and can be demonstrated.**

Land use

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- **We are concerned about the highly ambitious programme of land use change and management to achieve a number of the targets, including woodland cover target (3 % land use change), and the long-term species abundance target (by implication a 5 % land use change) but particularly water quality in agriculture target (20 % land use change) and the subsequent significant impact on the food production, food security but also land values.**
- **Therefore, it is concerning to us that these proposals appear to conflict with food production requiring a long-term or irreversible change to the productive capacity of farmland, such as tree planting, re-wetting and re-wilding.** These proposals are particularly challenging to the tenanted sector who are land managers, but not landowners.
- **The NFU is also worried this could severely impact marginal areas and specific farming sectors, including for example upland livestock farmers.**
- **In addition, it is unclear how these proposals for land use change to meet these targets sit alongside each other (does one help deliver the other in combination) or consider other current drivers for land use change outside of the target setting process (such as nutrient neutrality and housing and commercial buildings, transport and communications infrastructure).**
- **The challenge is how these various land-use demands co-exist, if indeed they are able to, alongside the primary objective of our members' businesses to produce food, fuel and fibre for the nation and beyond. Given the finite land area of the UK, and the importance of UK food security in volatile times, it is important that our countryside remains a multifunctional and dynamic space.**
- **Our strong view is that government must focus on land sharing to deliver food and environmental delivery through policies like the Environmental Land Management scheme (ELMs), and not adopt an approach that risks undermining the social fabric of rural communities.** Rewilding, for example, ignores the fact that our iconic farmed landscapes are valued by the many who make 4 billion visits to the British countryside each year.
- **On tree planting, the NFU wants to see the right tree in the right place, more recognition for trees outside woodlands that can be incorporated into a farmed landscape and the continuation of the core business of producing food and fibre alongside tree planting.**

ELMs

- **We note the extent to which Defra places significant emphasis and expectation of participation in ELMs and uptake of different options or measures in ELMs to deliver on the environmental targets.**
- **With the Sustainable Farming Incentive (SFI) scheme still at development stage along with the wider ELM offer, all due to be more available in 2024, it is impossible to say if uptake of ELMs will meet the level of ambition to deliver.**
- **In the interim, to secure higher levels of engagement, ELMs must be simple, deliverable and offer an incentive to the farmers managing the countryside.** The majority of farmers are more likely to engage in ELMs where it works with the farming systems and complementing food production.
- **We are already seeing the very ambitious nature of these targets feeding through into the ELMs Sustainable Farming Initiative (SFI) standards. As already stated, we must be flexible to meet the needs of agriculture and the environment, sitting alongside our plans for food production.**

Impacts on agriculture

- **It is also of concern to us that the impact assessment does not consider the impact of individual policies, as such who would bear these costs and what impact would this have**

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on individual businesses, land use change and food security. These are huge gaps in the analysis. Affordability to the agriculture sector must be a key test, yet it appears to have been ignored.

- For the water quality in agriculture target, our own NFU analysis shows that the 20% reduction in agricultural land use, as modelled by Defra as their most ambitious policy option, translates into an estimated loss in UAA (England) of circa 1.7million hectares, which in turn causes the farming industry to lose circa £1.2billion in Total Profitability, in 2021 current prices.
- For nitrogen, agriculture is being asked to carry the full weight of responsibility while water companies are asked to do nothing, despite water companies contributing between a quarter and a third of all nitrogen pollution. The arguments put forward for not setting a nitrogen target for water companies – the high-cost of reduction measures and the lack of evidence for environmental impact – apply just as much to agriculture.

Laying of the Statutory Instrument

- We are concerned about the tight timescales that the Defra is operating within post the close of the consultation. We note the need for the environmental targets to be laid as draft Statutory Instruments by 31 October 2022. **This current timetable does not allow enough time for Defra to give careful consideration to the consultation responses and adequate time to rethink whether these targets are achievable and affordable.**

Biodiversity on land

Suite of biodiversity targets

Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'? [Agree/Disagree/Don't know]

- **[If disagree] What additional indicators do you think may be necessary?**

A combination of biodiversity targets could help to provide a more holistic measure of changes in species and habitat health, as well as capture the interlinking nature of the targets. The Environment Act sets out the requirement for a target to halt the decline in species abundance by 2030, with the consultation proposing a further two species specific targets and one habitat target:

- Increase species abundance by at least 10% by 2042, compared to 2030 levels.
- Improve the England-level GB Red List Index for species extinction risk by 2042, compared to 2022 levels.
- Create or restore in excess of 500,000 hectares of a range of wildlife-rich habitats outside protected sites by 2042, compared to 2022 levels.

However, having more than one target for biodiversity presents a huge step change in the level of conservation ambition and assumes an ambitious and fast-paced set of actions needed to meet the targets.

In addition, **the NFU is particularly concerned about the ability of government to meet these targets both collectively and individually given that:**

- **There is high degree of uncertainty about the responsiveness of biodiversity to the specific policy actions and what those individual policies would be.**

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- **The target outcomes are reliant on a high level of adoption of environmental land management practices (80% of farmed land by 2042) delivered primarily through the developing Environment Land Management scheme (ELMs). We question whether this is realistic or achievable.**
- **At this stage, the impact assessment does not consider the impact of individual policies, as such who would bear these costs and what impact would this have on individual businesses, land use change and food security. This is a huge gap in the analysis and very concerning.**

Given this uncertainty the NFU is unable to agree or disagree with this proposal.

So, although we agree with the principle that a combination of biodiversity targets will be needed to measure changes in biodiversity over time, there are too many uncertainties in the responsiveness of biodiversity to specific policy actions, too heavy a reliance on ELMs to deliver the outcomes and too many gaps in the impact assessment to give us reassurance that the proposed targets can be met and are affordable to the agriculture sector.

2030 and long-term species abundance targets

Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target? [Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

The NFU welcomes the inclusion of a target that recognises the broad range of species that can be found across the country, including on farmland. In this respect, there is much to be learnt from the implementation of the Government's Biodiversity 2020 Strategy, including that

- **There needs to be a clear measured baseline and an ability to assess progress and delivery against the target.**
- **The proposed target needs to be deliverable, which requires a good understanding to the effective interventions required.**

As set out in the biodiversity evidence report, the modelling illustrates that the 2030 target to halt a decline in species abundance will be highly challenging to meet, and as a result so would any longer-term increase. 76% of the experts involved in the target's development were confident that a decline could be halted by 2037 – 7 years after the short-term target goal. **On the basis of the advice provided by the experts set out in the evidence report, the NFU is concerned about how achievable the abundance targets are, particularly in the timeframes outlined.**

Further, we note that the evidence reports outline that there is a high amount of uncertainty about what the wider factors are that will affect the achievability of target. There are substantial evidence gaps and conceptual barriers to projecting how species abundance might change. For example, certain species will be impacted by external pressures out of our collective control e.g., climate change leading to a different species mix, hunting along migration routes in other countries, disease, or predation. For some species the actions required to improve their outcomes, with research required to fill these knowledge gaps. Therefore, the inclusion of these species as indicator species in this target could be counterintuitive.

We note that according to the target modelling, 68% of farms would need to adopt farming practices akin to higher level stewardship to halt and reverse the decline in farmland birds by 2030. The implication is that at least 5% of that farmland would be taken out of active food production (5% being the threshold for the higher level countryside stewardship wildlife offers). The Impact Assessment reports that by 2042, 80% of farmland would need to be in hedgerow, arable or grassland Sustainable Farming Initiative (SFI) agreements to deliver the species abundance target. This is based on a report based on the SFI pilot (that was available at the time). The SFI scheme being launched in 2022 is quite different, with different actions and payment rates. These

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are highly stretching targets and brings in to question whether the targets are SMART. **With the SFI scheme still at development stage along with the wider ELM offer, all due to be more available in 2024, it is impossible to say if uptake of ELMs will meet the level of ambition to deliver.**

To deliver the species targets, the impact assessment identifies that the most substantial cost to government will be in the cost of supporting environmental land management approaches. **ELMs is not due to be fully rolled out until 2024, but to deliver government ambitions, it has to be developed in conjunction with the agricultural industry. To secure the higher levels of engagement ELMs must be simple, deliverable and offer an incentive to the farmers and growers managing the countryside.** So, to be successful ELMs requires:

- High uptake across farmland. The majority of farmers are more likely to engage in ELMs where it works with the farming systems and complementing food production.
- Financial support for environmental maintenance and not just creation. For example, hedge maintenance comes at a cost but delivers for net zero and the wider environment, providing wildlife corridors and supporting pollinators.
- Fair reward. Payments need to offer a fair reward and an incentive for participation, going beyond the current 'income foregone' calculation.
- Recognition that farms are dynamic businesses and needs to reflect those different structures and tenures to ensure inclusivity. With around 30% of farmland in some form tenancy and an average tenancy length of 3 – 4 years, land tenure arrangements can be a barrier to participation in environmental schemes, particularly where the scheme is multiannual.

Despite the impact assessment recognising the costs this target would have on government, it is of concern to us that the impact on micro and small businesses has not been quantified, neither has the impact of future policy that will be needed to deliver these targets. This is incredibly worrying given that the level ambition needed to deliver this target not only relies on the uptake of agri-environmental schemes by farming businesses but also references a need to reduce wider pressures including pesticide use to achieve these targets. This is a very broad statement which could have serious implications on these businesses. The NFU is concerned that if through these targets further policy is needed to deliver the outcomes what the impact will be and if this will be seen as collateral to achieving government delivery.

Given the evidence provided in accompanying report, the impacts not accounted for in the impact assessment, as well as the targets reliance on ELMs, the NFU is worried that this target is too ambitious, and we question whether it is achievable or deliverable.

Long-term species extinction risk target

Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England-level GB Red List Index? [Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

The NFU has long advocated that we should support species that are already present before we seek to introduce new species. So instead, we believe that we should aim to prevent the loss of species, as such a bespoke target approach to rare and threatened species could be beneficial in driving action to reduce biodiversity loss.

The development of a new Red List Index has the potential to focus attention on nationally important species. There will need to be consideration given to how this aligns with existing tools such as the section 41 species (Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England).

The creation of the list will need to build on the principles used for IUCN Red List. This global list tracks changes in overall extinction risk. For the new national list to be used as a deliverable target there will need to be an assessment of whether the extinction risk can be changed for the species listed. An assessment of section 41 species carried out for the Biodiversity 2020 strategy found for the majority of species listed further research was needed to identify effective interventions required to halt decline.

As noted in the consultation, and of concern to us is that the index contains a vast number of species and uses data that are updated infrequently allowing only long term trends to be tracked. This will make it difficult to create a deliverable target that can be monitored in intervening years. It would require multiple interventions for multiple species over many years that, if successful, may only have a minor impact on the health of the over list due to the vast number of species included.

Without full knowledge of the new index, the species included, and the actions required to deliver the aim of a reduced risk of extinction it is impossible to say the target is deliverable or SMART.

Long-term wider habitats target

Do you agree or disagree with the level of ambition of ‘in excess of 500,000 hectares’ proposed for the long-term wider habitats target? [Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

We note that the medium level of ambition outlined in this target is action rather than an outcome-based approach. As outlined in the evidence report, less than half (48%) of the stakeholders involved in the target testing weren't confident the proposed habitats target could be created by 2037, the original 15-year timeframe. We further note that these actions and the ability to achieve this target is dependent on the uptake of schemes and initiatives, specifically targeted action by landowners and managers e.g., Environmental Land Management schemes (ELMs), woodland creation and through Biodiversity Net Gain.

According to the evidence documents, it is expected that ELMs will deliver up to 325,000 ha of habitat outside of protected sites by 2042, which is some 16,250 ha per annum. If the uptake of ELMs and other initiatives form the backbone of this target and the level of ambition, it is vital that the schemes are fit for purpose and provide sufficient support to farmers and land managers to incentivise habitat creation alongside sustainable food production. As we set out in our response to the question in relation to 2030 and long-term species abundance targets, **with much of ELMs still at development stage and a relatively small numbers of agreements in place it is difficult to say if uptake of these schemes will meet the level of ambition to deliver this target. ELMs is not due to be fully rolled out until 2024, but to deliver government targets ambitions, it has to be developed in conjunction with the agricultural industry. To secure higher levels of engagement, ELMs must be simple, deliverable and offer an incentive to the farmers and growers managing the countryside.**

By not specifying the balance between restoration and creation, the location or split between habitat type, the target is providing flexibility as policy, initiatives and private funding develop and adapt. It also means it is unclear how the target will be achieved, bringing into question whether it is deliverable. Although scenario 2 in the evidence report still indicates that large-scale habitat creation and 'rewilding' would need occur to deliver 500,000 hectares of wildlife rich habitat. The impact of this creation needs to be considered, as do any future costs to businesses and individual farming sectors (e.g., uplands) of delivering a legally binding target. **Our strong view is that government must focus on land sharing to deliver food and environmental delivery through policies like ELMs, and not adopt an approach that risks undermining the social fabric of rural communities. A policy of rewilding also ignores the fact that our iconic farmed**

landscapes are valued by the many who make 4 billion visits to the British countryside each year.

We are conscious that land sharing can be applied appropriately at different scales, from the national to the regional or even local layout of a farm holding. So for example, field margins or removal of unproductive field corners may be considered as land-sparing at a field-level scale, however we see that as compatible with the concept of land-sharing at an individual farm enterprise scale.

The woodland creation target also plays a large part in achieving this target, with 140,000 hectares of woodland creation expected over the whole target period to 2042, this equates to over a quarter of this habitat target. As outlined in the [NFU Tree Strategy](#), the priority should be to incentivise management of existing woodlands, prior to planting new trees. **If woodland creation is to be encouraged, it is vital government address the policy barriers (e.g., permanency, tax, access for tenants) that prevent tree planting and incentivise long term woodland management.**

Given the developing nature of ELMs, as well as existing policy barriers which prevent tree planting, achieving this target comes with a high degree of uncertainty.

Do you agree or disagree that all wildlife-rich habitat types should count towards the target? [Agree/Disagree/Don't know]

The target needs to recognise the contribution of the wider farmed landscape in supporting wildlife. To that end, we welcome the inclusion of hedgerows and arable field margins. Historically, Defra has only counted hedges and arable margins that are within the agri-environment schemes. This seems disingenuous to activity across the countryside. For hedgerows there does need to be better data on hedge condition. The last national survey was in 2007 as part of the Countryside Survey.

Otherwise, the proposed target includes a broad range of habitat types, focussed on priority habitats and woodlands. Farming across these priority habitats tends to involve extensive farming systems. Whilst there is an ambition to create new habitats, most wildlife-rich habitat creation (excluding arable margins and hedges) would involve permanently moving land into extensive farming systems. This would reduce the land's ability to produce food. This underplays the need to produce food alongside delivering for the environment.

- **[If disagree/Don't know]**

Are there any habitat types that you think should not count towards the target? [[peatland], [grassland], [heathland], [scrub], [native woodland], [hedgerows], [traditional orchards], [arable field margins], [estuarine and coastal water habitats], [wetlands], [rivers / streams], [lakes / ponds], [other habitat types that you think should not count towards the target]]

- **What reasons can you provide for why these habitats should not count towards the target?**

Water quality and availability

Nutrient pollution from agriculture

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In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments. Do you agree or disagree that this approach would strengthen the national target? [Agree/Disagree/Don't know]

Our answer to this question would largely depend on exactly what such 'ambitions' would constitute and how these would be set. Unfortunately, the consultation does not provide this information and so we have set out our initial thoughts below. In our answers, **we assume that by the word 'strengthen', Defra means 'improve' rather than 'increase'; we would certainly not want to see the national target effectively raised by setting higher levels of ambition in individual catchments.**

- **[If disagree] Why don't you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target?**

As set out below, we strongly believe that the proposed national target is unachievable and, therefore, we would be concerned if setting ambitions in individual catchments effectively raised the national ambition. Many of the regulatory, voluntary, and land use change measures in the modelled policy pathways for the national target would inevitably be evenly distributed across the nation rather than targeted. Thus, a large, fixed proportion of the potential reduction in nutrient pollution from agriculture is spatially locked in and cannot simply be shifted from one catchment to another. And, therefore, it may not be possible to balance a higher level of ambition in some catchments with a lower level of ambition in others.

A further concern around setting ambitions in individual catchments is centred around what they would mean for individual farm businesses. Within any catchment, there will be some farms that contribute more to the issue than others through no fault of their own, be it as a result of their sector, system, or location. **Any catchment level of ambition would need to recognise this inherent variation within agriculture, bringing forward solutions that allow all farm types to persist without placing an unfair burden on others.** Our innovative work in the Poole Harbour catchment, where we are working with local farmers to develop a nutrient trading system, is an example of one such solution.

In addition, any ambition in an individual catchment must be set through a full and proper consultation process, particularly if a higher level of ambition is considered. As explored in detail below, overly optimistic policy pathways would not achieve the 40% reductions of the proposed national target, so there would be serious questions over the achievability of any greater ambition. With regulatory and voluntary measures expected to fall a long way short, the likely solution would be land use change to an extent greater than the 20% modelled in the evidence report. Clearly, this would have massive implications for local economies and communities, which would need to be given due consideration.

- **[If agree] Why do you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? What factors should the government consider when setting these ambitions?**

Again, as set out below, **we strongly believe that a national target for reducing nitrogen and phosphorous losses to water from agriculture lacks a sound rationale, given the localised nature of these issues.** Any national target for reducing nutrient losses from agriculture should be nutrient specific and factor in the many catchments across the nation where the evidence suggests little or no action is required. That is to say, any ambitions for individual catchments should have been set prior to this consultation and blended to set a corresponding national target. But, as we stand, any future ambitions for individual catchments would need to correspond with any national target that is taken forward beforehand.

Notwithstanding the concerns outlined above, we do broadly support the principle of some catchments having to do more on nutrient than others. For instance, where local water bodies are meeting good ecological status and any nearby protected sites are in favourable status, it is hard to justify why farmers should do any more than they are currently doing. In contrast, where these objectives are not being achieved and nutrient losses from farms are part of the problem, it is incumbent on the industry to do more.

Nutrient pollution from wastewater

The target needs to allow flexibility for water companies to use best available strategies to reduce phosphorus pollution, including the use of nature-based and catchment-based solutions. Do you agree or disagree that the proposed target provides this flexibility?

[Agree/Disagree/Don't know]

As the consultation document says, the disposal of treated wastewater accounts for between 60 and 80% of phosphorus pollution in our rivers. Phosphorous also happens to be the primary driver of eutrophication in our rivers and, therefore, the reason for many not achieving good ecological status. For these reasons, we welcome the level of ambition shown with this target and hope it encourages further action by the water industry. However, complementary action will need to be taken on the disposal of untreated wastewater, through the Storm Overflows Discharge Reduction Plan. It is unclear what percentage of phosphorus in our rivers that untreated wastewater accounts for, but it does add to the contribution of water companies and must be addressed.

We are concerned about the focus of water companies on nature- and catchment- based solutions as the best ways of reducing their phosphorus pollution – a strategy adopted by the Government, and this proposed target. At a time when phosphorus pollution from water companies is holding back progress on other targets, both around the environment and housebuilding, they must take the most effective actions now. And the most effective actions are not nature- or catchment-based; they are based on hard infrastructure. Moreover, with so many competing demands on land use, further pressure from water companies for nature-based solutions that take more land out of production is not a strategic approach and not welcome.

- **[If disagree] What reasons can you provide for why the target doesn't give this flexibility?**

N/A

Do you agree or disagree with the level of ambition proposed for the nutrient targets?

[Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why government should consider a different level of ambition?**

Broadly, we consider the level of ambition across the nutrient targets to be unachievable, inconsistent, and irrational. The NFU and its members are committed to building on past successes and further reducing nutrient losses to the environment from agriculture. However, this effort must be balanced with the need to produce food, fibre, and energy on farm, thereby protecting the rural economy and maintaining food security. Further action on nutrient losses from agriculture must also be taken in proportion to that from other sectors, particularly the water industry, and be fully justified with a sound rationale. Regrettably, the proposed nutrient targets appear to fail against each of these ambitions and are, therefore, not fit for purpose.

As a general point, we would like to highlight the important role that better soil health could play in helping reach environmental ambitions as well as improving productivity on farm. For instance, encouraging farmers to build soil organic matter by applying manures throughout the year would help improve soil structure, which would in turn help retain water, carbon, and nutrients in the soil.

And such benefits for soil health would have knock on effects for plant health, ensuring farmers get the most out of their crops.

Achievability

We note that, in the *methodology* section of the evidence report for the water targets, Defra clearly states that its approach to setting the targets involved showing their achievability and feasibility, using SMART criteria. Yet, in the *SMART objectives* section of the impact assessment for the agriculture target, the 'A' for 'achievable' is not addressed at all. Moreover, later in the impact assessment, it is openly admitted that the policy pathway used – the most ambitious scenario modelled in project WT1594 – would not be sufficient to deliver the target. In fact, the assessed pathway would not even achieve 30% reductions in nitrogen or phosphorus, or sediment for that matter. **Thus, the content of the impact assessment seems to raise serious questions over whether Defra itself believes the target is achievable and whether its achievability can be demonstrated.**

Our doubts over the achievability of the agriculture target are compounded by the highly ambitious nature of the policy pathway used for the impact assessment. For instance, we understand that this pathway would involve 85% of farmers taking voluntary measures to reduce pollution, such as those incentivised through the SFI and advised through CSF. However, this level of ambition does not seem to tally with the [70% uptake target for SFI](#) or the [60% uptake rate for CSF](#).

Moreover, the pathway envisages 85% of farmers making a range of systematic and capital-intensive changes to their businesses, including using anaerobic digestion to process livestock manures and creating artificial wetlands to capture runoff. It seems unlikely that such major changes could be made by 2037.

In addition to the uptake of voluntary measures, **we are equally sceptical and concerned about the scale of land use change built into the assessed policy pathway. We understand that the pathway would involve taking 10% of agricultural land out of production and converting it into woodland. In addition, we understand that the pathway would see a 10% reduction in stocking rates as well as the conversion of high-risk arable land into extensive grazing and all maize production replaced with winter barley - an extremely costly measure for affected farmers. Clearly, this pathway represents a highly ambitious programme of land use change and management but, more importantly, it would have a significant impact on the food production and food security.**

We note that the evidence report includes a turbo-charged version of the policy pathway in the impact assessment, but it only helps to illustrate how unachievable the proposed target is. The modelling retains the 85% uptake ambition for voluntary measures – discredited above – but envisages 100% compliance with regulatory measures and 20% of the highest-risk agricultural land being converted into semi-natural habitat or woodland. While the NFU would like to see full compliance with regulation, there is no industry in existence that can always lay claim to 100% compliance. Moreover, this scenario would involve boosting the uptake of cover crops from 13% in 2018 to 100% in 2037 – an optimistic scenario considering this measure is not a regulatory requirement and poorly incentivised through the SFI. **As for converting 20% of the highest-risk agricultural land into semi-natural habitat or woodland, this is not only unachievable – as the evidence report openly admits – but the impact on food production and security would be unthinkable.**

From recent discussions, we have learned that Defra may hope to make up some of the shortfall between the modelling and proposed target through the better use of measures like technology, breeding, and genetics. We would welcome a greater role for these measures, facilitated by further investment and regulatory reform: indeed, our members have been taking advantage of them for many decades. However, the potential impact of these measures before 2037 is likely to minimal

and difficult to evidence, which may be why they were not mentioned in the consultation documents.

Consistency

In considering the nutrient targets together, **there is a clear and obvious gap in their coverage; there is no target for reducing nitrogen losses from treated wastewater.** In terms of phosphorus, the targets broadly reflect the relative contributions of agriculture and water companies to the pollution issue, with the latter expected to do more in line with the new 'non-uniform' approach to fair share. But, **with nitrogen, agriculture is being asked to carry the full weight of responsibility while water companies are asked to do nothing, despite water companies contributing between a quarter and a third of all nitrogen pollution. The arguments put forward for not setting a nitrogen target for water companies – the high-cost of reduction measures and the lack of evidence for environmental impact – apply just as much to agriculture.**

Beyond the nutrient targets, **we note that there is no target proposed for the third largest contributor to water quality issues: pollution from towns, cities, and transport.** Affecting 18% of water bodies, such urban pollution should be addressed immediately and in proportion to other sources of pollution. Unfortunately, the consultation does not set out any level of ambition on urban pollution, let alone a proportional one. Like the issue of a nitrogen target for water companies, Defra seems to be taking an 'all or nothing' approach to setting targets, which is disappointing. We urge ministers and officials to think again and fill these gaps with transformative targets.

Rationality

We understand that the Environment Act makes provision for national targets on water quality, and that key agricultural regulation and voluntary schemes apply nationwide, but it is also important to acknowledge that water quality issues are particularly localised. For instance, Environment Agency data suggest that agriculture is negatively impacting 40% of water bodies, with phosphate losses only responsible for a proportion of these and nitrogen losses responsible for a small fraction. Clearly, this evidence stands at odds with a national target – unless it was the product of aggregated ambitions in individual catchments – and the largely national approach to rolling out measures. This policy is effectively asking farmers to act in many catchments where there is no nutrient pollution from agriculture and therefore irrational.

What is the impact of the agricultural land loss under the environmental water target on farm businesses?

The NFU has undertaken some analysis of the impact of the agricultural land loss under the environmental water target on farm businesses. Figure 1 below outlines the reduction in total Profitability in the Agricultural Industry¹, in England, across four scenarios, which provide a range of agricultural land loss:

- **0% agricultural land loss:** this is used as a baseline and is the total UAA (Utilised agricultural area) in England, in 2021.
- **10% agricultural land loss:** this has been taken from scenario 9 from Project WT1594. And takes 10% off UAA in England for 2021.

¹ Total Profitability in the Agricultural Industry is calculated by using Total Income from Farming (TIFF) less income from Inseparable non-agricultural activities, which are non-agricultural enterprises that are included within the business level accounts of farms, e.g., tourism and recreation facilities. Otherwise known as 'diversification'. This is because it is highly unlikely that land used for diversification would be converted into woodland.

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- **20% agricultural land loss:** this has been taken from Defra’s most ambitious policy pathway to achieve the water quality target for agriculture, which replaces the LUC scale in scenario 9, from Project WT1594, with a LUC scale developed by the EA.
- **30% agricultural land loss:** The NFU considers that to achieve the new water quality target for agriculture (to reduce nitrogen, phosphorus, and sediment pollution by 40% by 2037 from a 2018 baseline), land use change would need to be on a larger scale than the 20% recommended by Defra. Hence, 30% has been used as an upper scale scenario to test the impact on total Profitability in the Agricultural Industry.

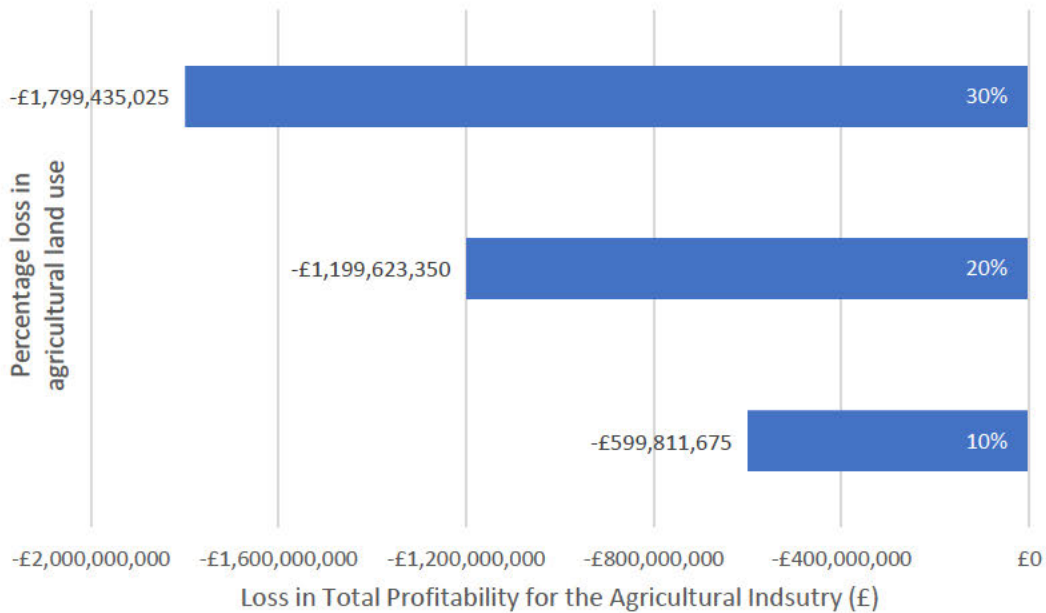


Figure 1: Loss in Total Profitability in the Agricultural Industry (£) due to a reduction in UAA (England)

Dividing the total UAA by the total Profitability in the Agricultural Industry across all farmlands in England for 2021, gives an income figure of £679 per hectare. A reduction of UAA by 10% (loss of circa 800,000 hectares) causes a loss of **circa £600million** in total profitability. At the other end of the scale, a loss of UAA by 30% (loss of circa 2.6million hectares) sees a loss of **circa £1.8billion** in total profitability.

A 20% reduction in agricultural land use, as modelled by Defra as their most ambitious policy option, causes an estimated loss in UAA (England) of circa 1.7million hectares, which in turn causes the farming industry to lose **circa £1.2billion** in total profitability, in 2021 current prices.

Table 1 outlines these reductions in hectares and total Profitability in the Agricultural Industry.

Table 1: Range of agricultural land reduction (0% - 30%) and the consequent loss in UAA (hectares) and total Profitability in the Agricultural Industry (£)

| Percentage loss in agricultural land use | UAA (England) in hectares | UAA loss in hectares | Total Profitability in the Agricultural Industry (£) England | Loss in total Profitability in the Agricultural Industry (£) |
|--|---------------------------|----------------------|--|--|
| 30% | 17,000,000 | 5,400,000 | -£1,799,435,025 | -£1,799,435,025 |
| 20% | 11,700,000 | 3,600,000 | -£1,199,623,350 | -£1,199,623,350 |
| 10% | 5,900,000 | 1,800,000 | -£599,811,675 | -£599,811,675 |

| | | | | |
|-----|-----------|------------|----------------|-----------------|
| 0% | 8,830,278 | 0 | £5,998,116,751 | £0 |
| 10% | 7,947,251 | -883,028 | £5,398,305,076 | -£599,811,675 |
| 20% | 7,064,223 | -1,766,056 | £4,798,493,401 | -£1,199,623,350 |
| 30% | 6,181,195 | -2,649,084 | £4,198,681,726 | -£1,799,435,025 |

Caveats of the analysis:

The loss in total Profitability in the Agricultural Industry calculated above (for all scenarios) does not include any reductions from land use change assumptions that apply on top of the conversion of land to woodland included in R+, which were defined in Project WT1594. These assumptions are:

- Converting arable to extensive grazing on land where there is a high risk of runoff,
- Reducing stocking rates of livestock
- All maize converted to winter barley

The reduction in total Profitability in the Agricultural Industry has been calculated as an average across the industry, where each hectare of land provides £679 of income for the farm business. However, this is unlikely to be the case across different sectors as land in certain sectors, is likely to be more valuable than land in other sectors. Additionally, the land chosen to be converted into woodland would likely be the less productive land on a farm, as farmers would not want to convert their more productive land.

It would also be more practical for farmers in certain sectors (Arable for instance) to target their land for conversion to woodland than others (Horticulture for instance). However, we have chosen to use an industry average as the Defra consultation does not target specific sectors for the policy pathway to achieve the water target for agriculture.

The loss in total profitability calculated here, is not a net loss as it does not include any financial benefits for farmers, of reduced cost in upkeep of the agricultural land which has been converted.

Hence the loss in total Profitability in the Agricultural Industry in all of scenarios analysed above (10% loss, 20% loss, 30% loss) are likely to have a margin for error and are likely to be overestimates. However, even if we reduce the industry profitability by half, there will still be a significant impact to the industry, under all scenarios. For instance, if we use the 20% agricultural land use reduction as an example, the loss in total Profitability in the Agricultural Industry is circa £1.2billion. When halved this still equates to a loss to the industry of circa £600million.

Water demand

Do you agree or disagree with the level of ambition proposed for a water demand target?

[Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why government should consider a different level of ambition?**

We note that this is solely aimed at Public Water Supply (PWS), with no other industries included. However, it is important to recognise that we need to ensure there is sufficient flow of water in the water environment to meet the needs of people, the environment and industry including the agricultural sector. The challenges that the agriculture sector is facing can be aligned with that of PWS, thus, reduced water availability going forward due to, for example, climate change impact and the impact of regulation is driving an intense focus on possible solutions to meet future deficits and demands. For the agriculture sector, work is underway to review this through regional and national programmes such as the National Framework for Water Resources.

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Woodland cover

Do you agree or disagree with the proposed metric for a tree and woodland cover target? [Agree/Disagree/Don't know]

The metric is the outcome-based approach used to measure woodland cover and includes tree cover outside woodlands. **The NFU is pleased to see that trees in fields (including agroforestry), hedgerow trees and orchards are included in the scope of this metric, but is disappointed biomass has been excluded. Short rotational coppices can be an attractive option to farmers, not only providing an income but also overcoming the permanency issue which often acts as a barrier to farmers planting trees. Exclusion of these could affect the ability of government to meet this target and does not recognise the biodiversity value of short rotational coppices.**

Do you agree or disagree that short rotation coppice and short rotation forestry plantations should be initially excluded from a woodland cover target? [Agree/Disagree/Don't know]

Since all other forms of trees are included in the target (including urban trees as well as woodlands, hedgerow trees, orchards, and trees in fields), some of which categories may contribute only marginally to the range of woodland benefits set out in the 25 Year Environment Plan, it seems quite illogical to exclude short rotation coppice and short rotation forestry plantations.

There is a very well-developed UK scientific evidence base that these forms of biomass energy crops provide multiple ecosystem services (early season pollen, cover, small mammal habitat, mitigation of diffuse water pollution) and they harbour large numbers of woodland edge species of plants and animals. The references below are just three among very many on this subject area:

- [Sage, R., M. Cunningham and N. Boatman \(2006\) Birds in willow short-rotation coppice compared to other arable crops in central England and a review of bird census data from energy crops in the UK.](#)
- [Haughton, A.J. et al. \(2009\) A novel, integrated approach to assessing social, economic, and environmental implications of changing rural land-use: a case study of perennial biomass crops.](#)
- [Rowe, R.L. et al. \(2011\) Potential benefits of commercial willow Short Rotation Coppice \(SRC\) for farm-scale plant and invertebrate communities in the agri-environment.](#)

In a changing agricultural policy context, farmers have a growing interest in diversification into new forms of land use, especially the perennial energy crop scenarios set out in the Government's Net Zero Strategy – since these may contribute relatively rapidly to farm incomes while remaining temporary and reversible use of agricultural land, unlike conventional woodland planting. Over the next 25-30 years, the likely area planted annually would be of a similar order to the projected area of new woodland described in the impact assessment and evidence report. In addition to the references above, there are a number of key review papers which include citations of biodiversity studies in both of the main perennial energy crops, miscanthus and short rotation coppice willow:

- [McCalmont, J., Hastings, A., McNamara, N., Richter, G. M., Robson, P., Donnison, I., & Clifton-Brown, J. \(2017\) Environmental costs and benefits of growing Miscanthus for bioenergy in the UK.](#)
- [Vanbeveren, S.P.P. and R. Ceulemans \(2019\) Biodiversity in short-rotation coppice.](#)

In addition, the [Carbo-Biocrop research](#) project led by Southampton University (2010-2015) found significant carbon benefits from perennial energy crops, including enhancement of soil organic matter compared with previous land use, as well as the displacement of fossil fuel emissions by the harvested crop feedstock:

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- [McCalmont, Jon P.; McNamara, Niall P.; Donnison, Iain S.; Farrar, Kerrie; Clifton-Brown, John C. \(2016\) An interyear comparison of CO2 flux and carbon budget at a commercial-scale land-use transition from semi-improved grassland to *Miscanthus x giganteus*. GCB-Bioenergy. Available online, doi: 10.1111/gcbb.12323](#)
- [McCalmont, Jon P.; Hastings, Astley; McNamara, Niall P.; Richter, Goetz M.; Robson, Paul; Donnison, Iain S.; Clifton-Brown, John \(2015\) Environmental costs and benefits of growing *Miscanthus* for bioenergy in the UK.](#)

Do you agree or disagree with the proposed inclusion of trees in woodlands, as well as trees in hedgerows, orchards, in fields, and in towns and cities? [Agree/Disagree/Don't know]

The NFU is pleased to see that trees in fields (including agroforestry), hedgerow trees and orchards are included in the scope of this target and the wide range of societal benefits these trees provide as well as the role farmers play in managing these features is recognised. Almost one-third of the 3.2 million hectares of the UK's forests and woodlands are on farmland.

Do you agree or disagree with our proposed level of ambition for a tree and woodland cover target? [Agree/Disagree/Don't know]

- **[If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

An increase in tree canopy and woodland cover from 14.5% to 17.5% equates to 415,000 hectares of tree cover by 2050, approximately 15,000 hectares of trees a year. This is extremely ambitious, if not unachievable, particularly when compared against a backdrop of current planting rates. The National Audit Office reported that tree planting in woodlands (a lower target which excluding trees in the wider landscape) that Defra faced significant challenges that it will need to address if it is to achieve its ambitious [tree planting] target. The Environment, Food and Rural Affairs (EFRA) Committee were equally concerned that the tree planting targets could not be achieved. This does not give any confidence that the proposed broader targets are deliverable. The evidence report for this target does identify several cultural and economic barriers to tree planting which would need to be overcome to incentivise land managers to plant trees. These include:

- The long-term nature and permanence of tree planting including the uncertainty about the possibility to revert to alternative land uses.
- Tenanted farms are less likely to engage in woodland planting due to the short-term nature of most farm tenancies, with two thirds of farms managed by tenants, this potentially excludes a large portion of land and farmers.

The NFU is pleased to see these barriers recognised in the consultation. However, we note with disappointment that the policy pathways to address these barriers are not outlined in the consultation. Without clear mechanisms to overcome these barriers, it is difficult to see how this target can be achieved.

The NFU has a clear vision of what is needed to ensure farmers can engage with tree planting in the years ahead and play their vital part in delivering for the climate. This thinking is set out in the [NFU Tree Strategy](#), launched in July 2021.

Ultimately, the NFU wants to see the right tree in the right place, more recognition for trees outside woodlands that can be incorporated into a farmed landscape and the continuation of the core business of producing food and fibre alongside tree planting. Existing policy, such as the existing tenancy clauses that prevent 30% of our agricultural land from engaging in tree planting schemes and the permanency element of planting trees, present challenges and need to be addressed.

Our concern about a tree planting and cover target is the lack of focus on the on-going management of trees. It gives a very short-term message for an activity that is a long term business commitment. In addition, the NFU would like to see incentives to bring existing woodlands back into management, and for this to be prioritised over new tree planting. Unmanaged woodlands are less beneficial for biodiversity, carbon or commercial purposes. Healthy woodland provides multiple environmental benefits, including cleaning our air - on average one hectare of UK woodland stores around 5.4 tonnes of carbon dioxide (<https://sylva.org.uk/downloads/Why%20manage%20woodland%20&%20who%20benefits.pdf>).

We also believe that there must be a separate support to ELMs scheme for large scale tree planting and woodland creation. This is in recognition of the complexity of the entire application process and the longevity of the commitment.

We need to be cognisant about the knock-on impacts of an increased drive for tree planting in some areas, which include could lead to non-renewal of existing farm tenancies and increasingly limited opportunities for the next generation of farmers.

If, according to the target modelling, 80% of the woodland planted will be native, this would result in approximately 150,000 hectares of priority habitat being created outside protected sites by 2042; all of which would be permanent.

The NFU is concerned that this target will result in land being taken out of agricultural production. As outlined in the evidence report, 3% of land would need to change to achieve this targets level of ambition. Further, we note that the consultation uses the Forestry Commission's Map Browser to identify 3.2 million hectares of low-risk land available for woodland, of this 13% (415,000 hectares) could be used to achieve the woodland cover target by 2050. This excludes all designated landscapes and according to the report is 'relatively conservative' in excluding moderate/good agricultural land. **However, the NFU is worried this could severely impact marginal areas and specific farming sectors, including for example upland livestock farmers.**

It is assumed that majority of the target will be delivered through ELMs. Given that ELMs is still in development this places high expectations on a scheme that is not designed. At the equivalent stage of scheme design Countryside Stewardship was due to deliver lower tree planting targets. Those lower planting targets have not been achieved. Previous agri-environment schemes have not supported trees outside woodlands. At this stage ELMs only appears to be aiming to support agroforestry, that fits in this category. To date, agroforestry has had limited uptake. With this backdrop, which outlines serious risks to delivery, it is ambitious to seek to increase tree cover outside woodland by at least 1%. There will need to be more innovation to support this aspect of the target delivery. The hedge standard in the SFI pilot, which requires a number of trees per 100m, is not the way to go. That will change the landscape, not fitting in with cultural heritage across areas of the country.

The evidence report identifies that woodland creation could partly be driven through Environmental Land Management schemes with further finance available through private markets. There is a lot of work required to develop the private finance markets as a viable additional funding stream. Defra has a role in enabling those markets by establishing standards and ensuring the funding models work for native trees, Defra's desired tree species, and more commercial species. It is therefore vital the schemes have been development in conjunction with land managers and offer both short- and long-term support to encourage tree planting and deliver this target.

Air quality

Do you agree or disagree with the level of ambition proposed for a PM2.5 concentration target? [Agree/Disagree/Don't know]

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We recognise that PM2.5 is an important pollutant and agriculture contributes to its atmospheric concentration, through both secondary and primary emissions. However, we also note that the contribution is very small – just 8% of UK manmade sources and 4% of all sources according to the evidence report – and there are already plans in place to address it. For instance, secondary emissions are being addressed through existing, stretching targets on ammonia reductions and associated measures in the Clean Air Strategy. We understand that Defra has no plans to increase ambition on ammonia in response to the proposed targets on PM2.5. In 1993, the already-small agricultural contribution to primary PM was cut by around two-thirds as the burning of crop residue was banned. Again, owing to the very small contribution of agriculture and the limited scope for further reductions, we understand that Defra has no ambition to further reduce primary PM emissions from agriculture. Therefore, as the PM2.5 targets are expected to have no additional impact on agriculture, we are not commenting on whether we agree or disagree with them.

[If disagree] What reasons can you provide for why the government should consider a different level of ambition?

N/A

Do you agree or disagree with the level of ambition proposed for a population exposure reduction target? [Agree/Disagree/Don't know]

[If disagree] What reasons can you provide for why the government should consider a different level of ambition?

N/A

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Date: 27 June 2022

Consultation Co-ordinator
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Dear Colleagues

Consultation on Environmental Targets

Thank you for the opportunity to respond to Defra's consultation on Environmental Targets.

Pennon Group is a FTSE 250 company and one of the leading businesses in the UK water sector, providing clean water and wastewater services across the Great South West, through South West Water, including Bournemouth Water, and Bristol Water acquired by Pennon Group in 2021.

Our response is primarily focused on the targets which we have direct responsibility to deliver against: nutrient pollution, reducing phosphorus loading from treated wastewater; and water demand – reducing the use of public water supply. However, as we also conserve and improve biodiversity through our activities and are planting trees across our region, we can also make a contribution to those targets so provide comments as relevant.

South West Water (SWW) has been a sector leader in the water and sewerage industry for a number of years. For the PR19 price review SWW was one of three companies that achieved 'fast track' status from Ofwat for its business plan, and is the only company to achieve this for two consecutive price reviews. This means that our business plans were of a high standard and ready to implement with limited intervention from Ofwat. We have since made a robust start to the regulatory period delivering c.80% of our performance commitments in the first two years, including in a number of areas where we are already meeting our 2025 targets.

SWW is one of five water companies to present proposals for investment in environmental improvements in addition to those in our PR19 business plan through the Green Economic Recovery programme. This additional investment was agreed with regulators in July 2021 and we are on track to deliver significant environmental improvements by 2025.

We have recently published our WaterFit plans for South West Water in which we have committed to reduce our impact on rivers. Currently 19% of the Reasons for Not Achieving Good Ecological Status (RNAGS) in our region are due to water company operations. We are accelerating delivery of our current phosphate removal schemes at wastewater treatment works which will see RNAGS in the region reduce by a third to c.12% by 2025. During the next price review, PR24, we will put forward plans to achieve zero RNAGS by 2030.

We have committed c.£10 million funding to help offset the impact of future housing development in the Rivers Axe and Camel catchments - £5.3m of investment already delivered, and £4.5m of new and accelerated investment – to support nature based solutions to reduce nutrient pollution in the area. Alongside improvements to local treatments works, this funding will build on our existing Upstream Thinking catchment management programme and will create up to 100 hectares of new woodland and wetlands, which will not only form natural buffers to improve water quality but also improve local habitats and help ecosystems thrive.

Bristol Water (BRL) has a strong environmental track record with the lowest levels of leakage in the sector and has been a leader in biodiversity net gain measurement, with long-term targets and supporting outcome incentives.

We are committed to protecting and improving the environment in our region and are very aware of our environmental impact and obligations. We recognise that the abstraction, treatment and delivery of drinking water, and the removal and safe disposal of wastewater all have implications for river and coastal water quality. We believe that environmental sustainability spans not only the practice of meeting environmental standards but also the drive to find new ways of working that deliver better environmental outcomes.

South West Water's award-winning Upstream Thinking programme delivers catchment management and peatland restoration which support biodiversity and improve habitats. Upstream Thinking was introduced in 2010 (following pilots from 2006) and was one of the first catchment management schemes in the UK, setting the standard for innovation and incentivising good water quality schemes. Catchment management is now universally accepted as best practice by stakeholders, including Ofwat, and formed a key part of all water company business plan submissions at the last price review. To date we have delivered over 95,000 hectares of catchment management and are on track to reach over 123,000 ha delivered by 2025, including 10,000 ha under our Green Economic Recovery programme. Through such activities we can contribute towards delivery of environmental targets beyond those that are core to our water and wastewater services.

Phosphorus removal from wastewater

We are keen to play our part in reducing the impacts of our activities on the environment, including increasing phosphorus removal at our treatment works where it is the most appropriate action to do so. However, we are concerned with the basis of the programme of work that is anticipated to be required between 2027 and 2037.

The programme assumed in the Impact Assessment Report requires action at more sites (2,400) than have already had phosphorus removal technology installed since the 1990s and yet the assumed cost is around 18% less than the £2.5bn efficient costs Ofwat allowed for phosphorus

removal at 700 sites during 2020-25.¹ Therefore, we urge that validated and checked assumptions are used to assess the reasonableness of the costed targets, to ensure that costs are not likely to be significantly more than assumed.

We believe there would be benefit in the introduction of a tradeable permit scheme akin to the EU Emissions Trading Scheme. The EU ETS has proven to be an effective tool in driving emissions reductions cost-effectively – installations covered by the EU ETS reduced emissions by c.35% between 2005 and 2019. Such a scheme would operate on a ‘cap and trade’ principle, caps would reduce over time to deliver reductions in nutrients to acceptable levels and could be set such as to be concordant with proposed Environment Act targets.

Tradeable permits would allow water and wastewater companies flexibility in asset solutions to deliver overall nutrient reductions, support holistic catchment management approaches encouraging all sectors, including water, agriculture, developers, and others to work together to deliver schemes and minimising the impact on customer bills. Permit trading would bring flexibility to deliver nutrient reductions and mitigation where it costs least to do so.

We also recommend removing the restriction the Environment Agency places on any water company that achieves less than a three-star annual Environmental Performance Assessment. These restrictions limit such companies from both taking the recommended approach to consider catchment-wide actions through flexible permitting and from installing nature-based solutions. Both will be needed to meet ambitious phosphorus reduction targets.

Water demand reduction

We support the overall objective of the target to reduce water demand. Hitting the target will require actions that are both within and outside the controls of wholesale water companies, including the pricing signals to encourage water savings, such as those provided in progressive bills and rising block tariffs.

A target based on Distribution Input over Population is sensible and transparent. However, we are concerned that the consultation fails to provide sufficient detail on how the target will be measured, and ask that this is considered carefully. There is a need to refine the detail of the measure and sub-measures including confirming:

- Baseline date for leakage - which is inconsistent between the detailed evidence report and impact assessments
- Baseline performance reporting approach for leakage – this should be a three- year rolling average to smooth out weather effects and to be consistent with Ofwat's current approach
- Approach and responsibilities to non-household customer consumption – this currently lies with water retailers and wholesalers, such as South West Water and Bristol Water, have no direct control over this. Bristol Water are however currently working on an Ofwat innovation fund project (Flexible Local Supply Systems²) looking at how the water abstraction and water treatment market could help to provide better incentives to non-households.

¹ Ofwat (2019), [Final Determination phosphorus removal feeder model](#)

² In association with Castle Water, RWE, Binnies and the University of the West of England

Overall, we would urge that a balance is struck to ensure that considerable investment to support one environmental objective is not at the expense of another. We are concerned at the wider carbon and chemical impact of some of the investment that will be needed to meet the targets around wastewater, and we are already observing some of these trade offs, for example, the rules introduced to reduce and prevent diffuse water pollution due to agricultural sources may result in future incineration which will impact on air quality at a time when changes to the Industrial Emissions Directive (IED) aims to improve air quality associated with wastewater processes.

We have provided further comments on consultation areas in the appendix. We hope you find our comments useful, please contact us if you would like further detail on any of the points raised.

Yours faithfully,

REDACTED

REDACTED

Regulatory Director, South West Water

E: REDACTED

APPENDIX

Target proposals for biodiversity on land

Taking care of the environment is no small task and we do our best to limit the environmental impact of our operations while also looking at ways we can make improvements to it. This involves finding ecologically sensitive ways of working and working alongside other agencies and organisations towards the shared goal of environmental protection. We employ an Environment Action Co-ordinator who researches where improvements can be made on our sites to make them better places for biodiversity.

For many years we have been working in collaboration with a group of regional conservation organisations researching and working to prevent potential sources of pollution from entering the region's surface waters, in a programme called Upstream Thinking. By reducing inputs into our rivers, we are both improving raw water quality, and bringing about additional benefits relating to the general health of the river and its ecology, and to agricultural productivity in the region. Our work has shown the importance of both peatlands and water bodies and we support both being habitat types that count for the land biodiversity improvement targets. Through the Green Economic Recovery programme we have extended our Upstream Thinking approach to include a further 1,000 hectares of intensive peatland restoration and 9,000 hectares of catchment management.

During the period 2020-25 we have a number of performance commitments, both reputational and financial, to demonstrate how we are protecting and enhancing biodiversity. These are:

- Biodiversity Compliance (SWW) - the number of category 1 and 2 pollution incidents that occur in special wildlife conservation areas (such as freshwater Natura 2000, Sites Special Scientific Interest (SSSIs), and Country Wildlife Sites (CWS)).
- Biodiversity Prevent Deterioration (SWW) - the number of installations that have been delivered to prevent or control the spread of invasive non-native species (INNS) at our sites.
- Biodiversity Enhancement (SWW) - the hectares under active improved catchment management as part of 'Upstream Thinking' project interventions. This includes: land within farms which have actions being carried out; areas of habitat improvement not in farm plans; and other Upstream Thinking actions not in farm plans.
- Biodiversity Index (Bristol Water) – a score based on the cumulative hectares and metres of habitat (e.g., grassland or hedges), and the quality of this habitat, across company sites.

For the 2024 price review, Ofwat is proposing to introduce a common performance measure for improving biodiversity. It is considering options to measure biodiversity on company-owned land and options to include land on which companies are working in partnership as part of their statutory functions. The details of the measure Ofwat will use will be published as part of the price review methodology, the draft of which will be published during July 2022. It would be beneficial if the measure set by Ofwat is also one aligns with the Environmental Targets set by Defra to aid consistency of reporting.

Target proposals to improve water quality and availability

Nutrient pollution from agriculture

It is important that all sectors play their part in reducing pollutants entering the water environment and the burden is shared fairly between sectors, following the principle of 'the polluter pays'. We recognise the importance of farming practices in protecting the environment and have been working with farmers through our Upstream Thinking programme, as described above.

We note that the benefit to cost ratio of reducing nutrient and sediment contributions is far higher than that of reducing wastewater phosphorus inputs. This highlights why we consider economic principles to reducing nutrients should be applied, allowing the most cost-effective means of reducing pollutants. It may be that some farms can more cost-effectively further reduce phosphorus levels compared to a high-cost wastewater project, and this should be facilitated through phosphorus permit trading.

We agree that that catchment specific targets will align with our and other water company approaches and will help focus attention where the need is greatest, revealing the most cost-effective approaches and locations for reducing nutrient inputs to watercourses.

Nutrient pollution from wastewater

We have recently published our WaterFit plans for South West Water in which we have committed to reduce our impact on rivers. Currently 19% of the Reasons for Not Achieving Good Ecological Status (RNAGS) in our region are due to water company operations. We are accelerating delivery of our current phosphate removal schemes at wastewater treatment works which will see RNAGS in the region reduce by a third to c.12% by 2025. During the next price review, PR24, we will put forward plans to achieve zero RNAGS by 2030.

We are willing to play a proportionate role in making further environmental improvements where it is the most cost-effective means of improving river health. But our wastewater treatment works are distributed widely across our region, mostly serving dispersed population centres. On average each of our treatment works treat the wastewater of less than 3,000 people. Our sites are typically much smaller than those of other water companies. Phosphorus removal processes are most cost-effective at larger treatment works benefitting from an economy of scale.

A proposed target of 80% removal, without saying how it should be applied, provides flexibility for using nature-based and catchment-based solutions. However, any flexibility is lost by the current arrangements whereby the EA limits companies with Environmental Performance Assessments of less than 3 stars in applying nature-based solutions or catchment level permitting. This produces perverse outcomes when the EA's stated intent of increasing use of NBS is thwarted by the EA's actions of restricting their use, resulting in traditional grey infrastructure solutions. This limitation needs to be removed.

We recommend using economic principles to address nutrient pollution – flexibility to move or trade permits will mean that pollution is abated at least cost. A successful example of pollution permit trading is the EU's Emissions Trading System (EU ETS). The EU ETS is the key tool for reducing greenhouse gas emissions cost-effectively. Auctions ensure that the polluter pays but pays an efficient cost. A similar approach could be adopted for phosphorus levels across each water catchment, allowing those with innovative solutions to remove phosphorus load at lowest cost.

Wastewater P removal so far has been installed where the benefit to cost ratio is highest. We expect unit costs to be higher in future than they have been in programmes to date as we move to less cost beneficial sites at which to apply removal technologies. Current technologies installed across our sites would mean disproportionate costs to meet the demanding targets being considered. Solutions other than the tried and tested removal technologies at our sites are not yet sufficiently mature to deliver the ambition in the draft targets, and innovation is needed to improve their reliability.

There is a step change of investment needed for the water sector to deliver the requirements of these environmental targets, storm overflow targets and other requirements of Drainage and Wastewater Management Plans and Water Resource Management Plans, with the increased expenditure to be sustained for the next 25 years. At the last price review our Board made a commitment to address water poverty by 2025 and we are concerned that the total level of investment required, coupled with limited flexibility to phase work beyond 2037 under these proposed targets, will reverse the progress made as the upward pressure on customer bills is likely to see a significant increase in the number of households in water poverty and struggling to pay their bills

We are also concerned over supply chain capacity and capability. We will work with our suppliers but the ability of them to step up to deliver such a large programme across the country may be in doubt. We note that the impact assessment assumed that to achieve an 80% reduction in phosphorus by 2037, it will be necessary to set phosphorus limits for about 2,400 treatment works compared to 1,700 committed to between 1995 and 2027). This is a huge programme of work, equivalent to 240 sites per year, compared to the 53 sites per year in the earlier 32 years of phosphorus removal programmes. An additional concern is robust and cost-effective chemical availability for such extensive phosphorus removal needs.

We have serious concerns over the details of the Impact Assessment of the target as outlined below. These should be reviewed to ensure a robust impact assessment underpins any targets that are set:

- We would urge the costs assumed in the Impact Assessment to be validated and checked so that we can all be confident in the targets and the costs of achieving them. The costs (almost all capex) allowed by Ofwat for the programme between 2020 and 2025 of phosphorus removal at 700 sites, serving a population equivalent of 14,151,000 in England and Wales was over £2.5bn (2017-18 prices), which is more than what is assumed for meeting the 2037 target across 2,432 sites. This is important, as it will affect the assessment of cost benefit ratios.
- There will be carbon and chemical costs as well as financial costs, both environmental disbenefits that need to be balanced with the environmental benefits of the solutions. Such externalities are not considered in the impact assessment, and we urge a holistic environmental assessment to be carried out in advance of confirming the target.

Water Demand

We support an objective to reduce total water demand and support the overall approach of a demand reduction target being measured through total Distribution Input over total population rather than solely focusing on per capita consumption (PCC).

We want to play our part in working towards an ambitious target, but the water sector cannot do it alone as is noted by the consultation. One of the key cost beneficial steps to achieving significant household demand reductions has been identified as mandatory water efficiency labelling for water consuming products. We are encouraged that this is now being adopted by Government as part of setting water demand targets. A mandatory water labelling scheme linked to minimum fittings standards has been in place in Australia since 2005. By 2017 it was already saving over 300 Ml/d of water and has reduced emissions by 11 MtCO₂e to date and household bills by \$1 billion per year.

We incorporate demand reduction proposals as part of our statutory water resources management planning processes. We have ambitious targets to reduce leakage (by 15% for South West Water and 21.2% for Bristol Water) PCC (by 9% for South West Water and 6.3% for Bristol Water) by 2025, and understand the costs and benefits of the approaches we are taking to meet those targets. The marginal costs of reducing leakage and PCC beyond the levels we have included within our WRMP are unknown.

PCC for our South West and Bournemouth regions for 2020/21 was around the industry average of 145 l/p/d. As has been well documented, this was a material increase on the three years prior, driven by hot weather events and compounded by Covid-19 restrictions increasing household consumption. Indications show that household consumption patterns and behaviours have not returned to pre-Covid levels and patterns. We would also note that during the pandemic we have seen a marked increase in the resident population of our South West Water region for both 2020/21 and 2021/22 of c.265,000 and it is unclear to what extent, if at all, this will reduce in the future, this has also resulted in an increased level of demand in our region.

We note that the consultation discusses the non-statutory sub-indicators of household consumption as measured by PCC, leakage and non-household consumption, with figures of expected reductions that align to the main target of reducing distribution input per population. However, we note a lack of consistency in describing these sub-measures across the Impact Assessment Report and elsewhere (see below), and a divergence from the approach now taken by Ofwat of monitoring both leakage and PCC on a three-year average basis. We believe that assessing these measures on a three-year average basis reduces the variability caused by one year of particularly favourable or unfavourable weather and would recommend application of this approach for these sub-measures.

The water demand measure includes the need to reduce non-household customer consumption to achieve this target. Following retail separation there is now very limited, if any, control that wholesalers such as ourselves have over non-household customers' consumption. Although the consultation states that "Activities to reduce non-household demand may be delivered by wholesale water companies", however the consultation also acknowledges the gaps in evidence for the non-household sector. We recommend resolving the non-household customer evidence gaps through consulting with retailers and wholesalers on the detail of any reporting definitions, assumptions, responsibilities, and accountabilities prior to promoting any specific targets.

We think that it is important for the government to recognise that water companies are not in direct control of the amount of water used by our customers and that we all have a role to play in supporting consumers to use less water. We believe that the government has a vital role to play in driving policy changes to support the delivery of these targets, including:

- Mandatory labelling of water efficiency on white goods
- Allowing all companies to consider compulsory metering and not just those in areas that have been designated as water stressed
- Tighter planning standards for new developments and enforcement of “water neutrality” principles in planning consents
- Incentivising manufacturers and innovators to reduce water consumption rates for household and commercial water using appliances
- That the same focus and investment is made in water efficiency as is made for energy efficiency for net zero.

One of the biggest challenges we face in reducing water demand is customer perception and their understanding of the value of water, and in how we work with customers and other stakeholders to educate them on demand management and the benefits of water efficiency. Our future water availability and keeping water in the environment relies heavily on customers, consumers and communities really understanding the value of water and by working with us to make sure we have a better, more resilient future. In order to achieve this aim, we will require collaborative working with other water companies and local authorities as well as action by government over the coming years. For example, as part of Bristol Water’s social contract we have focused on educating future generations about the efficient use of resources to minimise environmental harm and to meet the needs of future generations. Likewise, as part of the social contract we are supporting local and regional plans to address the challenges of society. We are working with the Bristol Green Capital Partnership and Bristol City Council to translate the Bristol Ecological Emergency action plan into practice.

We note some inconsistencies in defining the targets which make a material difference to the actions and investment we would need to prioritise to meet any sub-measures that support a statutory target. Those differences, between the Water Targets Impact Assessment Report³ and the Water Targets Detailed Evidence Report⁴ published as part of this consultation, are:

- The baseline for the water demand measure within Detailed Evidence Report (p32) in the medium scenario chosen is a 50% reduction in leakage from 2019/20 levels. This is not consistent with the 2017/18 leakage commitment and is not consistent with the Impact Assessment Report (p26) Option 2 (preferred) scenario which sets a baseline year of 2017/18 (p26) for leakage reporting.
- Relatedly, there was an industry average 7% reduction in leakage between 2017/18 and 2019/20. The 2019/20 baseline year within the consultation does not appear to have been uplifted to account for this reduction already delivered.
- The target year ‘2037’ is used without fully explaining the exact date when performance will be assessed against the targets. In some places in the consultation says ‘2037’, which could imply calendar year or financial year 2036/37. In others the target year is give as financial year 2037/38. We suggest a consistent basis is used across all targets to avoid ambiguity.

³ [Water targets Impact Assessment.pdf \(defra.gov.uk\)](#)

⁴ [Water targets Detailed Evidence report.pdf \(defra.gov.uk\)](#)

- The 2037 PCC target as stated in the Detailed Evidence Report (p32) in the Medium scenario is 122 l/p/d whereas the Impact Assessment Report (p26) states 132 l/p/d. This is a material inconsistency that requires clarification.

Target proposals for woodland cover

We support the aim of increasing tree and woodland cover and the inclusion of a wide range of vegetation and locations in the measure. We are already committed to and delivering a programme of tree planting. We will be planting a quarter of a million trees by 2025, to help combat climate change, support river health and create new wildlife habitats.

REDACTED

From: REDACTED
Sent: 11 May 2022 11:54
To: REDACTED
Subject: FW: Severn Trent support for the recent environmental consultations

From: REDACTED Rebecca Pow
Sent: 10 May 2022 17:00
To: REDACTED , Rebecca Pow
REDACTED

Subject: FW: Severn Trent support for the recent environmental consultations

Hi MCU,
Please could you log this for a response?
Best,
REDACTED

Department for Environment, Food and Rural Affairs | 2 Marsham Street | London SW1P 4DF |
REDACTED

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From: REDACTED
Sent: 10 May 2022 16:05
To: REDACTED, Rebecca Pow
Cc: Finkelstein, Tamara
REDACTED
REDACTED
REDACTED

Subject: Severn Trent support for the recent environmental consultations

ST Classification: UNMARKED

Dear Rebecca,

I am writing to welcome the government's proposals to reduce storm overflow use, set tough new environmental targets and to better protect Sites of Special Scientific Interest and similar land. I also wish to welcome the government's policy paper on nutrient neutrality.

The headline summary of our response is: we welcome the government's direction of travel, it complements well the initiatives Severn Trent is already pursuing but, in some areas, we think there is scope for the government to be even more ambitious.

I cover each consultation and nutrient paper in the four sections below.

Consultation on the Government's Storm Overflow Discharge Reduction Plan

We welcome the government's commitment to publishing a storm overflow road map in September this year and to the targets set out in the consultation.

The targets complement the approach ST is already taking with our [River Pledges](#) published last month. Amongst other things, we have committed to reducing our storm overflow use to an average of 20 times a year by 2025 and eliminating all harm any of our operations cause rivers (measured by the EA's Reasons for Not Achieving Good Status, or RNAGS) by 2030.

We consider the government's approach to be strong, but we also believe it could be strengthened further by:

1. Introducing a target for RNAGS reduction. Given ST has already committed to reducing RNAGS to zero by 2030, an industry-wide target to eliminate storm overflow and wastewater treatment works related RNAGS to zero by 2035 or 2040 seems reasonable.
2. Setting targets for other sectors to reduce their RNAGS targets too. The water industry accounts for around 20 percent of RNAGS; even if we were to eliminate all our RNAGS, most rivers would still not be at Good Status unless the other 80 percent are also addressed. We need all sectors doing their share of the heavy lifting.

3. Accelerating the target to reduce maximum storm overflow use to ten times a year from 2050 to 2040.
 4. Increasing the target for reducing storm overflow spills in 'High Priority' areas from 75 percent by the end of 2035 to 90 percent.
 5. Being as tough on the *causes* of storm overflow spills as on the spills themselves.
- i. remove the automatic right for developers to connect surface water drains to the sewage network (thereby encouraging them to recycle surface water)
 - ii. banning plastic in wet wipes, a major cause of sewer blockages.
 - iii. encouraging highways authorities to gradually reduce the amount of rainwater they release into the sewer network.

We note that the Chartered Institute for Environmental Management has recently called for similar changes to drive improved environmental outcomes.

Environment Act targets consultation

We welcome the range and intent of the Environment Act proposed targets and believe they represent an important step to a stronger environment. We particularly support the government's ambitious target to reduce phosphorus loadings from treated wastewater by 80 percent by 2037 (against a 2020 baseline).

The targets reflect the agenda that Severn Trent is already embarked upon. We are planting 1.3 million trees and working with around 9,000 farmers to enhance 5,000 hectares of agricultural land, including offering grants of up to £30,000 a farmer to help them to move to regenerative farming practices, reducing nutrient pollution flowing into rivers. Our existing plans also commit us to reducing the amount of water we put into the network per person.

Whilst we welcome the progress being made, we believe the government's approach could be strengthened yet further with the following enhancements and clarifications:

1. The targets should recognise that how things are done is as important as what is done – e.g. planting trees is important, but it is also important to plant them in the right place to enhance biodiversity, reduce flooding and sequester carbon. One option would be to combine targets with clear principles for planting that should be adhered with.
2. The government should review what can be done to strengthen the tree planting supply chain, currently a major constraint on progress.
3. Consideration should be given to the benefits of requiring woodland management plans – e.g. how will new and *existing* woodlands be sustainably managed?
4. Whilst we support the government's target to reduce distribution input (DI) of water into the public network, we think the target underpinning this outcome could be made more effective by dividing it across the parties with the power to make the change, specifically:
 - water companies should be held to account over leakage on our pipes (we have the levers to reduce this measure, we have much less direct control over the one-third of leakage that occurs on private pipes).
 - businesses should be held accountable for how much water they use through their normal reporting processes (water companies have no direct means to control this variable).
 - Critically, direct abstraction by industry and agriculture should also be included – this accounts for around half of all water abstracted in England; all sectors need to play their part if we are going to make a meaningful difference.

We would also welcome the publication of the impact assessment and detailed evidence report on the water elements of the targets (we note that the corresponding documents are available for biodiversity, waste and woodland targets).

Defra Nature Recovery green paper consultation

We very much support the government's determination to ensure that protective status remains fit for purpose. We are seeking to support nature recovery through our work with farmers, our planting 1.3 million trees by 2030 and our work to improve peatland bogs.

Our recommendations in response to the consultation are:

1. Whilst the government is right to want to streamline designations (e.g. SACs, SPAs and SSSIs), for clarity there should be a 'no deterioration' clause in the proposed harmonisation – the levelling should be upwards, not down.
2. The government should seek to establish a standard for industrial and commercial properties which wish to optimise their green spaces for nature recovery.
3. Financial compensation should still be considered if a change in standards (through harmonisation) places additional burdens on landowners/tenants.

Nutrient pollution: reduction the impact on protected sites

We very much welcome the government's new approach to nutrient neutrality. We especially welcome the idea of creating nutrient trading markets as a way to achieve environmental goals in the most cost efficient way possible. The idea of encouraging water companies to be able to sell 'nutrient neutrality' packages to housing developers and others is particularly welcome. We are already talking with Ofwat and others about ideas in this area.

I have no doubt that the water sector can deliver an enhanced package of measures that will make meaningful improvements to the environment and keep long term bills low. I also have no doubt we can deliver a more ambitious programme with only a modest *short term* impact on bills. The key is to continue Ofwat's focus on improving efficiency (the sector today is already unrecognisably more efficient than we were just 10 years ago, never mind at the point of privatisation), ensure that financially vulnerable customers are properly protected (we are soon to announce a doubling of our programme that offers discounts of up to 90 percent) and the continuation of the Ofwat 'payment by results' ODI framework. It will also be important to ensure that the water sector is tasked with targets within its control, but that other sectors share the burden with targets under their control.

I hope these comments are helpful and constructive. We absolutely believe the government is going in the right direction, and would simply encourage an even more ambitious approach. We are committed to working flat out to make a success of the programme.

If helpful, we of course would be very happy to meet to discuss further.

With best wishes

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DA
REDACTED

REDACTED

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SMMT FINAL Response to the Consultation on Environmental Targets

1. The UK automotive industry fully recognises the global climate emergency, and the significant contribution of the road transport sector to national and international carbon emissions and air pollutants. As such, the industry understands the critical role it will play in enabling the UK's transition to net zero by 2050 whilst also improving air quality in our towns and cities, through its investments and innovations, and the delivery of affordable zero emission vehicles across all transport sectors. Extensive investment by manufacturers in advanced powertrains, lightweight materials and aerodynamics means that new cars now emit, on average, -29.3% less CO₂ than models produced in the year 2000. Nitrogen dioxide (NO₂) and Particulate Matter (PM₁₀ and PM_{2.5}) emissions from road transport have reduced by 67%, 87% and 79% respectively.
2. Going forward, the UK automotive industry is committed to working with government on its pledge to end the sale of petrol and diesel engine vehicles, while ensuring that both household consumers and businesses are provided with affordable, desirable and practical zero emission alternatives. Vehicle manufacturers continue to invest heavily in zero carbon technology and, in 2021, sales of Battery Electric and Plug-in Hybrid vehicles more than doubled, meaning 1 in 6 cars sold were plug-in capable.
3. 2021 was the most successful year in history for electric vehicle uptake as more new battery electric vehicles (BEVs) were registered than over the previous five years combined.¹ 190,727 new BEVs joined Britain's roads, along with 114,554 plug-in hybrids (PHEVs), meaning 18.5% of all new cars registered in 2021 can be plugged in. This is in addition to the 147,246 hybrid electric vehicles (HEVs) registered which took a further 8.9% market share in a bumper year for electrified car registrations, with 27.5% of the total market now electrified in some form.
4. Following billions of pounds of investment into new technology by automotive manufacturers, more than 40% of models are now available as plug-ins. It is imperative that investment in charging infrastructure throughout the UK keeps pace with the commitment and progress already made by the automotive sector.
5. Vehicle manufacturers also recognise the impact of their industrial activities and processes on the wider environment, with many already embracing science-based targets for decarbonisation and sustainability, and many investing in significant energy efficiency measures and on-site zero carbon and renewable energy generation. Despite the impact of the Covid-19 pandemic on production efficiency, the industry still made vehicles using -14.2% less energy and -36.8% less water on average in 2020, compared to the year 2000.²
6. The automotive sector recognises the urgency with which air quality in our towns and cities needs to improve and protect the health of our citizen's particularly the most vulnerable in society. The deployment of clean vehicle technologies within the fleet has led to dramatic improvements in air quality particularly in cities where clean air zones were planned or have been implemented³. The Mayor of London reports a 44 per cent decrease in NO₂ concentrations since the introduction of ultra-low emission zone (ULEZ) policies in 2017⁴.
7. The SMMT is responding to the section on air quality only.

¹ SMMT, December & Full Year 2021 New Car Registrations, available at: <https://media.smmt.co.uk/december-2021-new-car-registrations/>

² SMMT 2021 UK Automotive Sustainability Report, available at: <https://www.smmt.co.uk/reports/sustainability/>

³ <https://airqualitynews.com/2020/10/13/leeds-clean-air-zone-is-no-longer-required-joint-review-finds/>

⁴ <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/mayors-ultra-low-emission-zone-london>

Air Quality

8. Proposed targets for PM_{2.5}:

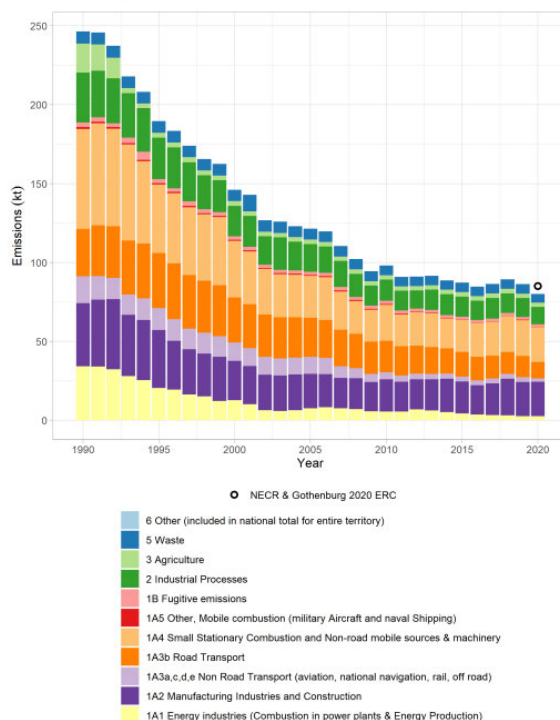
- **Annual Mean Concentration Target ('concentration target') – a target of 10 micrograms per cubic metre (µg m⁻³) to be met across England by 2040.**
- **Population Exposure Reduction Target ('exposure reduction target') – a 35% reduction in population exposure by 2040 (compared to a base year of 2018).**

9. Tailpipe PM_{2.5} emissions from road transport have decreased by 79 per cent since 2000⁵ due to increasingly stringent emissions standards and improved technology. Efforts to achieve net zero carbon and the shift towards zero emission transport will allow a further reduction in these emissions over time.

10. In 2020, 10 per cent of PM₁₀ emissions and 12 per cent of PM_{2.5} emissions were derived from road transport⁶ and according to Defra's data, these emissions are all from non-exhaust emissions either from brake, tyre or road wear. Vehicle technology for reducing tailpipe emissions has reduced so significantly that non-exhaust emissions are now the dominant source but remain low in comparison with other sources. Figure 1 shows PM_{2.5} emissions in the UK from 1990-2020⁷.

Figure 1: Total UK emissions by source sectors particulate matter <2.5µm (PM_{2.5}), 1990-2020

Figure E.S.1-5 Total UK Emissions by Source Sectors Particulate Matter < 2.5 µm (PM_{2.5}), 1990-2020.



⁵ <https://naei.beis.gov.uk/data/>

⁶ https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2203151456_GB_IIR_2022_Submission_v1.pdf

⁷ https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2203151456_GB_IIR_2022_Submission_v1.pdf

11. Whilst emissions of PM_{2.5} from road transport have reduced by 81 per cent since 1990⁸ and 79 per cent since 2000, there remains much commentary regarding the contribution of non-exhaust emissions with these now being proportionally larger than exhaust emissions. This is to be expected as vehicle technology and the use of diesel particulate filters have improved so much so that tailpipe PM emissions are negligible. SMMT are engaged at UNECE on an internationally recognised standard for the measurement of brake emissions and tyre emissions. A test method has been developed under the PMP IWG for brake emissions, but work continues to understand how electrified vehicles should be tested with the capability of regenerative braking reducing the demand on the foundation brakes. The UNECE has recently launched a task force focussed on determining the best methods for measuring tyre emissions, addressing concerns relating to production of particulates of varying sizes, polluting the air and water, from the tyre themselves, and the road surfaces the tyres interact with. Independent activity conducted by organisations such as JRC will provide valuable insight of the true emissions from these sources.

12. Concerns have also been raised regarding non-exhaust emission from BEVs potentially being greater than internal combustion engine (ICE) vehicles due to the additional weight. Research in this area remains limited and without an approved measurement technique cannot be fully verified to determine the robustness and accuracy of the results. SMMT motorparc data for 2020⁹ shows only 0.6 percent of vehicles on the road to be BEVs so we do not consider there to be enough BEVs on the road to fully determine the full effect of their impact on local air quality.

13. We recognise the uncertainty with current data used to determine the contribution of non-exhaust emissions to PM_{2.5} concentrations and advise this data is used with caution. **We welcome further engagement with Defra and the relevant teams within the Department for Transport on this issue.** Furthermore, some of the communication and messages within the public domain allude to increases in non-exhaust emissions with the introduction of heavier BEVs into the fleet. This is from a small number of unverified sources but still has the potential to undermine both government and industry efforts to achieve zero emission transport by 2050 if consumers do not have the confidence to purchase zero emission vehicles.

14. Air quality monitoring remains inconsistent across the UK; however, the most comprehensive network exists in London and is operated by the Environmental Research Group based at Imperial College. SMMT data shows the London boroughs that have the highest number of BEVs in use in 2021 to be the City of London (5.53%), Westminster (3.41%) and Camden (2.48%). Air quality monitoring data from each of these boroughs shows both PM_{2.5} and PM₁₀ concentrations to have decreased since 2016 whilst the proportion of BEVs has grown significantly.

15. SMMT supports initiatives to improve air quality and reduce population exposure to concentrations. and our members continue to invest in technology that reduces both CO₂ and air pollutant emissions. Reductions in NO₂ have been observed at roadside monitoring locations across the UK¹⁰. Further monitoring of PM concentrations will aid the analysis of roadside concentrations as the BEV parc grows and we strive to meet the UK governments net zero carbon ambitions.

⁸ <https://naei.beis.gov.uk/data/>

⁹ <https://www.smmt.co.uk/vehicle-data/motorparc-vehicles-in-use-uk/>

¹⁰ <https://www.aqconsultants.co.uk/CMSPages/GetFile.aspx?quid=feb92332-26f7-4989-b86a-21e5732a5404>

Figure 2: BEV Parc 2016 - 2021

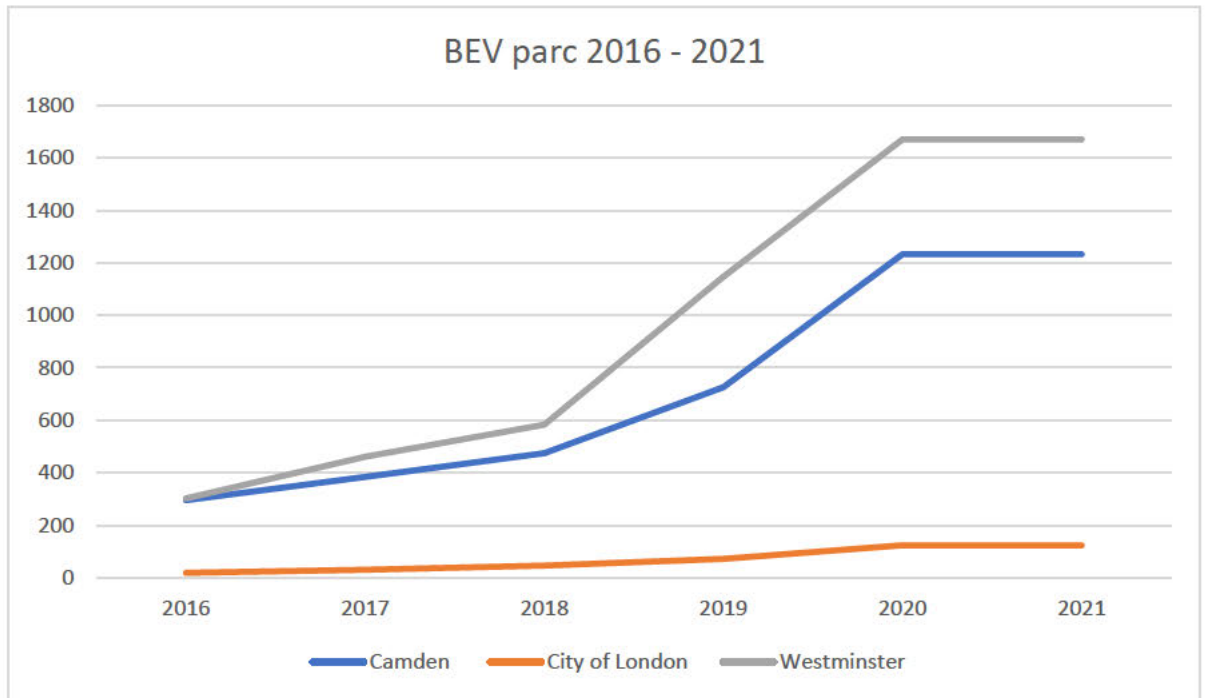


Figure 3: PM_{2.5} Concentrations 2016 - 2021

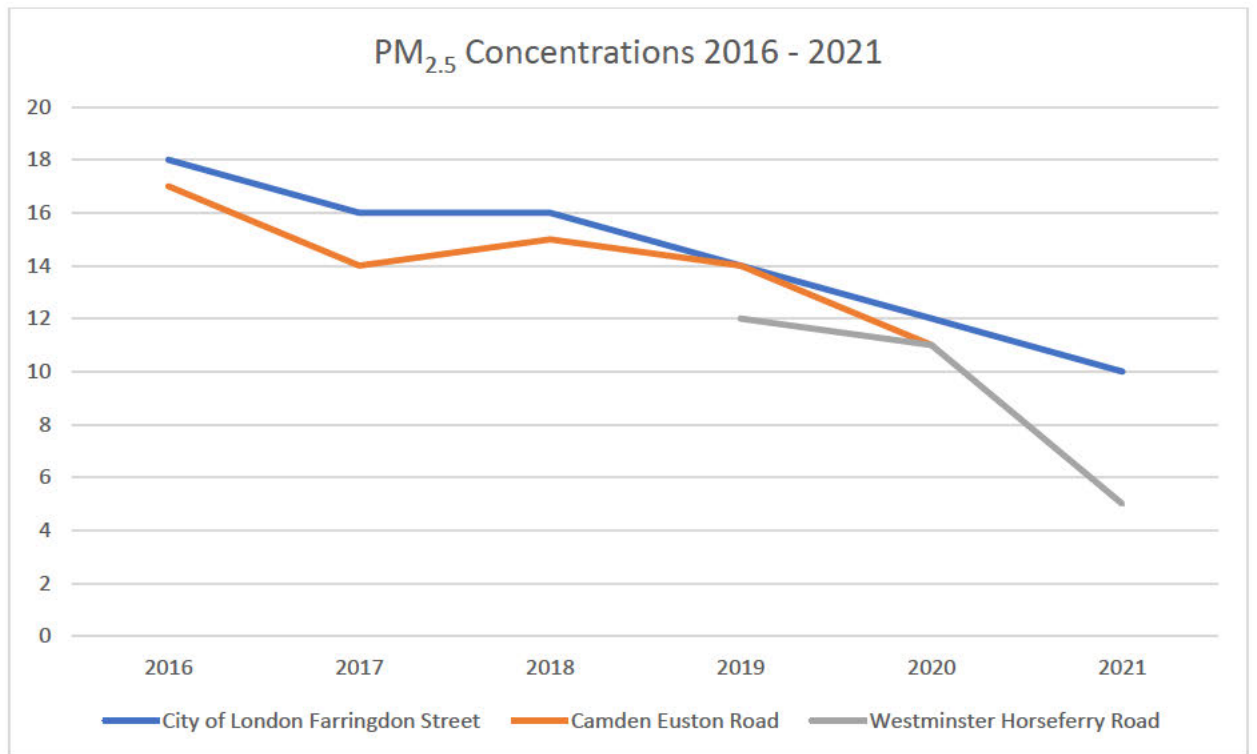
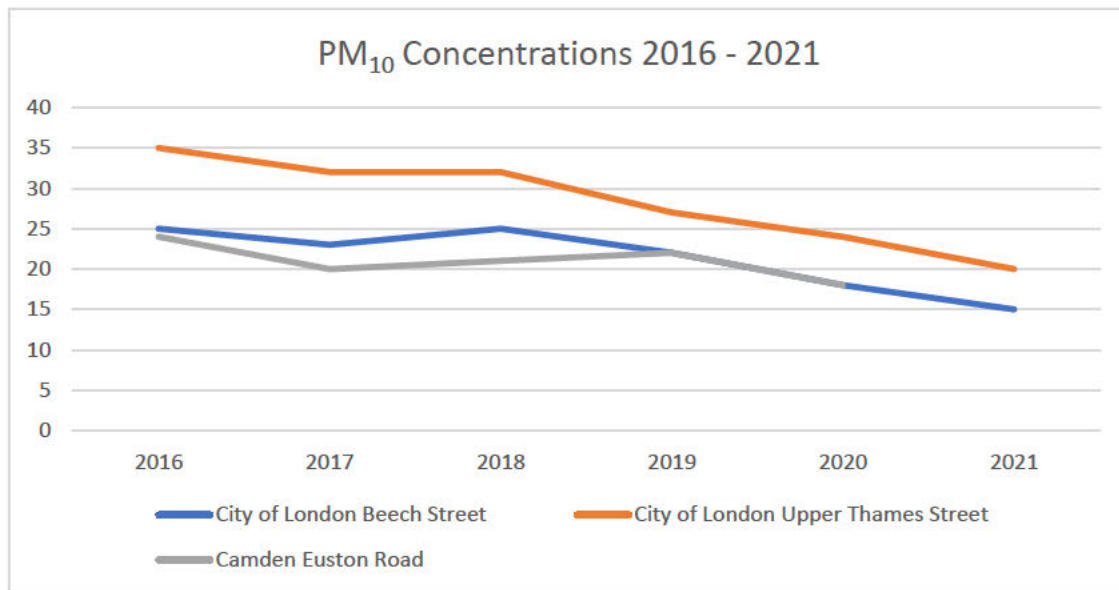


Figure 4: PM₁₀ Concentrations 2016 - 2021



16. The measured data from London sites suggest that a level of 10µg/m³ is achievable in some locations even at the roadside, however, there are various factors which must be considered when setting the target including geography and source of emissions. **All sources of anthropogenic emissions must be considered to ensure overall concentrations are reduced regardless of the date set to meet the target.**
17. The UK and Western Europe has recently experienced pollution episodes attributed to Saharan Dust¹¹. Events such as these and episodes of high PM concentrations¹² take place each year when the weather conditions are optimal and there is low dispersion of pollutants. Greater awareness for the general public is necessary to provide an understanding of the sources of pollution and to inform citizens on how best to protect their health.
18. Exposure reduction for the population can also be achieved through fleet renewal and supporting policies to allow both drivers of private cars and commercial vehicles to easily transition to low and zero emission mobility. The London ULEZ has demonstrated improved air quality for many residents as a result of changes in the fleet due to tighter emissions standards¹³.
19. **Actions to reduce population exposure to pollutants should be developed alongside other government policies to support the transition to zero emission mobility.** This should include the provision of electric vehicle charging points where there is currently less availability, support for modal shift through the Bus Back Better Strategy and greater consideration for traffic management schemes and place making initiatives.

Contact:

REDACTED

¹¹ <https://atmosphere.copernicus.eu/historical-saharan-dust-episode-western-europe-cams-predictions-accurate>

¹² <https://www.londonair.org.uk/londonair/guide/episodes.aspx>

¹³ <https://www.london.gov.uk/press-releases/mayoral/ulez-to-be-expanded>

- DEFRA -

Consultation on Environmental Targets

Consultation Response from SUEZ Recycling and Recovery UK Ltd

Submitted by REDACTED

on 27th June 2022

Submission by email: REDACTED

RESPONDENT INFORMATION

1. Your name?

REDACTED

2. Your email address?

REDACTED

3. Your organisation (if applicable)

SUEZ Recycling and Recovery UK Ltd

4. Would you like your response to be confidential? Please see the confidentiality and data protection section at the end of this document.

- Yes
- **No**
- If ticked 'Yes', please state why

PREAMBLE & INTRODUCTION

SUEZ Recycling and Recovery UK (SUEZ) are pleased to respond to this consultation on mandatory environmental targets, a topic we have followed closely since the earliest discussions about BREXIT, and an issue we have contributed to previous consultations on, in particular the scope and remit of the Environment Act, plus of course more sector specific dialogue around targets and policy reforms in the waste & resources space.

Getting the targets right, to balance ambition with delivery in light of NetZero commitments is key, ensuring that all sectors can begin to map out their transition to decarbonisation, and ultimately deliver ambitions for one planet living. We fully support DEFRA's mission to 'restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it' – there is no bigger issue facing society today.

We are also in complete agreement that the waste and resource area is one of the 4 primary focal points for the Environment Act, and as such should be set specific mandatory targets, and we have responded with this message on previous consultations, including DEFRA's Targets Policy Paper in August 2020 – we felt the criteria and principles to be applied to target setting were appropriate.

We welcome that DEFRA has adopted a systems approach to assessing how collectively the targets will drive the much-needed improvements in the natural environment. Using expert advisors and additional expert working groups is in our opinion the right approach for this complex task, however, the groups themselves may not be that representative of the sector and its ambitions.

SUEZ fully support the need for long term legally binding targets to drive the changes needed in terms of environmental protection, and these targets are also critical in terms of supporting both NetZero and green skills agendas. But perhaps DEFRA need to consider stretch targets for all of the proposed targets to ensure they remain ambitious and drive change sooner rather than later in all cases, although leaving the method of delivery up to the industry. Ambition is key if we are to really drive forward decarbonisation and circular economy agendas.

Furthermore, DEFRA should also consider the robustness of the baseline data that has been used to set targets whilst also considering whether the Apex targets are correct in all cases, for example, the Resource Productivity Target is key to driving a circular economy much more so than reducing residual waste and thus greater focus should be placed on resource productivity to drive this change, removing the reliance on the need for primary resource extraction which will also support the delivery of net zero. A target that just considers residual waste could miss an increase in consumption (for example buying more recyclable waste would be missed by a residual waste only target) and be adverse to the One World Living (OWL) targets central to reduced consumption.

Finally, SUEZ are concerned that new targets, metrics and reporting protocols will put increasing pressure on the regulator, and recent years have seen long delays in licensing, permitting and enforcement action by the Environment Agency, so will there be sufficient enforcement resource available to make sure this transition happens in a consistent and enforceable manner? Perhaps now is the time to review the regulatory framework to facilitate a more rapid transition around these priorities, including how end of waste is defined to make the take up of secondary resources easier for many applications.

In our experience, to be effective, environmental targets must:

- clearly and unambiguously capture the desired environmental goals*
- fit together to create a coherent framework that covers both the full range of environmental goals (in this case those within the 25-year Environment Plan) be accurately monitored at acceptable cost*
- identify suitable pathways for delivering significant improvements which reflect investment and business cycles*
- include interim targets to give business clarity and confidence around progress*
- have clear timelines for review and reforecasting which is predictable.*

Who are SUEZ?

As one of the UK's largest waste and resource management companies providing services to the public and private sectors, we collect municipal and commercial wastes and recyclates. SUEZ handles over 11M tonnes of waste and recyclable materials per year, collected from millions of households and tens of thousands of companies across the UK. Furthermore, SUEZ has delivered over £2 Billion in new infrastructure and service investment in the UK in the last 10 years as we have moved resources out of landfill to recycling and energy recovery.

SUEZ was until 18th January 2022 part of the SUEZ multinational group that operates from 18 Member States of the European Union through to Hong Kong and Australia, providing waste collection services to a population of nearly 43 million, and waste collections for over 500,000 industrial and commercial clients. Our parent company's shares are currently owned by Veolia but SUEZ in the UK is held separate from Veolia whilst awaiting final CMA determination of a competition investigation.

The SUEZ Group has experience of operating in a wide range of jurisdictions and policy frameworks, many of which involve alternative regulatory, fiscal and governance structures, and different targets driving investment and change. We have drawn on our SUEZ corporate experience when completing this response (drawing in expertise prior to our uncoupling from the SUEZ group) reflecting on what we have seen work (and fail) in other geographies in recent years.

In the UK, we have sought to be at the forefront of the waste & resources sector for a long time and continue to innovate with our partners in the value chain to ensure we lead the necessary innovations going forward.

SUEZ has also looked to actively contribute to the knowledge gap in the waste and resources sector and has published numerous reports (produced directly or through content & financially sponsored reports) which were free to reference and use the data and analysis presented.

For the purposes of this consultation SUEZ would reference the following reports;

- <https://www.suez.co.uk/-/media/suez-uk/files/publication/suez-uk-flexibleplasticpackagingvaluechainreport-2102-3.pdf> (NEW REPORT FOCUSED ON FLEXIBLE PACKAGING)
- <http://www.sita.co.uk/wp-content/uploads/2018/03/DRS-OnTheGo-Report-UK-1803.pdf>
- <http://www.sita.co.uk/wp-content/uploads/2017/08/SUEZ-AtThisRateReport-1509-web.pdf>
- <http://www.sita.co.uk/wp-content/uploads/2017/08/ResourcefulFutureReport-SUEZ-1609-web.pdf>
- <http://www.sita.co.uk/wp-content/uploads/2017/08/ReinventingTheWheel-1110-web.pdf>
- <http://www.sita.co.uk/wp-content/uploads/2017/08/DrivingGreenGrowth-SITAUK-120423.pdf>

We have worked hard in recent years alongside the Environmental Services Association (ESA), the Aldersgate Group and the Broadway Initiative to investigate a range of targets and their deliverability, and as such many of our comments will mirror and confirm the messaging you receive from these institutions.

SPECIFIC CONSULTATION QUESTIONS

Target proposals for biodiversity on land

1. Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'?

- **Agree**
- Disagree
- Don't know

If disagree, what additional indicators do you think may be necessary?

Halting the decline in species abundance by 2030 is a big ask and will impact on all sectors to some degree. SUEZ support this ambition and the longer-term intention to increase species abundance by 10% by 2042 and the creation or restoration of more than 500,000 hectares of wildlife habitats beyond protected areas by 2042. We will play our role through our own plans to maximise the biodiversity on all our sites, most noticeably our closed landfill portfolio (~2,000 hectares).

However, a target of just under 4% for the creation or restoration of wildlife rich habitats in England lacks ambition and is unlikely to deliver the restoration of biodiversity required. Furthermore, without a detailed plan related to their location, inter connectivity and long-term maintenance, especially in light of the impacts of climate change, the target is built on weak foundations.

In our opinion, consideration should be given to strengthening the red list index target as it is currently too vague, requiring an improvement by 2042.

Additionally, s the red list index improvement by 2042 is not sufficiently defined to be classed as a target and without specific details and quantum of change is unlikely to drive meaningful change.

2. Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

This target seems ambitious but ultimately deliverable. However, consideration should be given to the resource and monitoring process to allow appropriate interventions should it be determined likely that the 10% long term target will not be met.

3. Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England-level GB Red List Index?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

SUEZ are fully supportive of this target to reduce long term species extinction risk, although the improvement target should be quantified.

Appropriate resource and monitoring processes should also be implemented to support interventions where necessary should it seem likely that the long-term target may not be met.

4. Do you agree or disagree with the level of ambition of 'in excess of 500,000 hectares' proposed for the long-term wider habitats target?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

SUEZ support this target and can see specifically how our portfolio of former landfill sites could be utilised more fully to assist with delivering this target (in particular creating arable field margins and native woodlands, hedgerows, orchards etc.), alongside a number of new government led initiatives like the Agri-Environment scheme, Biodiversity Net Gain proposals and the Nature for Climate Fund.

However, SUEZ considers that the 500k ha floor is too low and the ambition of Government needs to be higher to help drive the restoration of biodiversity levels necessary for long term sustainability here in the UK.

5. Do you agree or disagree that all wildlife-rich habitat types should count towards the target?

- **Agree**
- Disagree
- Don't know

If disagree / don't know, are there any habitat types that you think should not count towards the target?

- Peatland
- Grassland
- Heathland
- Scrub
- Native woodland
- Hedgerows
- Traditional orchards
- Arable field margins
- Estuarine and coastal water habitats
- Wetlands
- Rivers / streams
- Lakes / ponds
- Other habitat types that you think should not count towards the target

What reasons can you provide for why these habitats should not count towards the target?

All habitats are important, and in many ways their individual values are less important than the consolidated cumulative benefits and the interconnectivity of the many habitats. Ensuring that habitats are connected, supportive and compound their respective benefits is essential. Recreation of habitats should be sensitive to pre-existing conditions but also ambitious with regards to re-establishing those important habitats where they have been lost or denuded.

Target proposals for biodiversity in the sea

6. Do you agree or disagree with the level of ambition proposed for the Marine Protected Area target?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

The evidence presented makes this target sound suitable in terms of ambition and timeframe. However, how will the other English waters be improved and over what timeframe?

Target proposals to improve water quality and availability

7. Do you agree or disagree with the level of ambition proposed for an abandoned metal mines target?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

This is sensible given it will be up to the Government to deliver these improvements as all old mines are no longer subject to previous operator/owner control.

Focusing on passive systems also seems the right area to prioritise in terms of resource needs and delivering an overall more natural outcome. Target areas should also be prioritised based upon the extent of the existing pollution and the appropriate resource to regulate the improvements should also be made available.

8. In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments. Do you agree or disagree that this approach would strengthen the national target?

- **Agree**
- Disagree
- Don't know

If disagree, why don't you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target?

If agree, why do you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? What factors should the government consider when setting these ambitions?

Targeting specific priority sectors is critical in making progress, but attention should not only focus on these 2 areas, hence the need for a wider target too. Agriculture is the main culprit when it comes to phosphorous, nitrogen and sediment contamination, whilst phosphorous from wastewater treatment is also a significant risk and source of contamination.

Consideration should also be given to appropriate regulation, resource to regulate and points of intervention should it look likely the target may not be met.

9. The target needs to allow flexibility for water companies to use best available strategies to reduce phosphorus pollution, including the use of nature-based and catchment-based solutions. Do you agree or disagree that the proposed target provides this flexibility?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons can you provide for why the target doesn't give this flexibility?

Agree but the regulation of the water companies must improve to ensure the target is achieved. This should also include strategic and tactical assessments of upper limits of allowable loadings of key contaminants which may require changes to allowance for sewage sludge to land for instance.

10. Do you agree or disagree with the level of ambition proposed for the nutrient targets?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

Agree, but consideration needs to be given to sufficient points of intervention to ensure the target is met and implications of the target not being met.

Water demand

11. Do you agree or disagree with the level of ambition proposed for a water demand target?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

In light of a clear need for society to live within its means (1 planet living) reducing public water consumption by 20% seems a valuable step in the right direction, but does it adequately address industrial water use, given the amount of water leakage associated with this.

Further, does it address leakage from supply pipes and other delivery systems which are the responsibility of private organisations who, in many instances, have utility status and responsibilities. Government will also need to address design standards for things like houses such that their water profiles are significantly reduced in all future builds.

Target proposals for woodland cover

12. Do you agree or disagree with the proposed metric for a tree and woodland cover target?

- *Agree*
- Disagree
- Don't know

If disagree, what metrics could be used?

This target is only a small uplift (%) but is an important step in getting UK land cover back into balance as well as contributing towards achieving net zero. The target will also support other policy aims should as the creation of nature recovery networks, although it must be ensured that the right action takes place in the right place and that trees are not just planted anywhere, at the expense of greater benefits through other interventions, for example other habitat creation.

13. Do you agree or disagree that short rotation coppice and short rotation forestry plantations should be initially excluded from a woodland cover target?

- *Agree*
- Disagree
- Don't know

If disagree, please make suggestions as to why not?

Agree, where these are temporary land transitions but they should be included where the land use is more permanent.

14. Do you agree or disagree with the proposed inclusion of trees in woodlands, as well as trees in hedgerows, orchards, in fields, and in towns and cities?

- *Agree*
- Disagree
- Don't know

If disagree, what alternative should be adopted?

Trees of all types are valuable for meeting overall environmental targets. Furthermore, trees will provide both biodiversity, educational and wellbeing benefits regardless of where they are planted, i.e. in rural or urban settings. The only consideration as per our earlier comment that the right trees are planted in the right place and there are no unintended consequences.

Trees provide important microhabitats, and their planting and growth has important complementary habitat benefits which also need to be fully accounted for.

15. Do you agree or disagree with our proposed level of ambition for a tree and woodland cover target?

- *Agree*
- Disagree
- Don't know

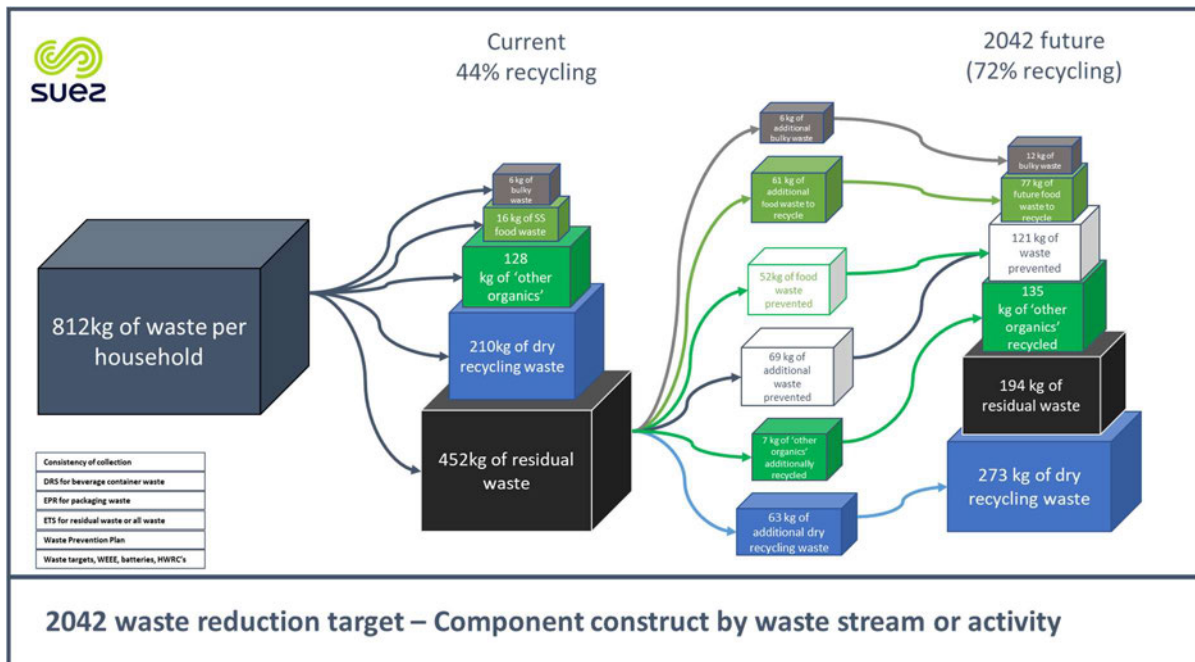
If disagree, what reasons can you provide for why the government should consider a different level of ambition?

As per comments above.

Target proposals for resource efficiency and waste reduction

SUEZ has considered in detail how a residual waste reduction target might be delivered based on current and proposed policies. SUEZ is however unable to deliver the proposed target performance through our own modelling by recycling improvements alone and considers that a targeted approach on waste prevention and minimisation is also required to make this target deliverable.

SUEZ has previously responded to consultations to the effect that Government policies and policy proposals are completely inadequate in this regard (waste prevention and consumption reduction). SUEZ does not believe that the currently proposed residual waste reduction target can be achieved through the currently established policy mechanisms (and those going through Parliament today) in England. The diagram below sets out the basis of this analysis for Household and Household like waste streams specifically.



16. Do you agree or disagree with the proposed scope of the residual waste target being 'all residual waste excluding major mineral wastes'?

- Agree
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different target scope?

SUEZ agrees that the inclusion of major mineral wastes would mask changes and focus on the remainder of the waste streams and dilute significant changes in those streams. For the purposes therefore of a residual waste reduction target it is important that these mineral waste streams are excluded. However, for the purposes of reducing mineral inert wastes, it is important that DEFRA continues to work to provide interventions that can reduce the production of these wastes as well. SUEZ considers that it is also important that C&D wastes that are not inert mineral wastes should be subject to future targets and a focus of new policy. SUEZ has some concerns that the inclusion of the diverse and less precisely defined C&D wastes in the residual waste stream (and thus target) could negatively impact on target attainment. As such, it is SUEZ's preference that two targets are set, one for household and household like wastes (HH & HHL) and one for C&D wastes such that each can be measured separately and the targets and interventions can be correctly established, measured, and reported. Ultimately, they can be combined to deliver on one statutory overall target (Apex Target).

For HH and HHL waste SUEZ considers that it is important to include all waste streams that go to residual waste treatment facilities, and that would include 'process loss streams' (residues) from waste treatment including sorting and recycling plants. SUEZ considers this is important as it better represents the actual volumes of residual waste as compared to a more simple but far less accurate assessment of 'delivered for' some form of treatment volume.

This would include residues from Anaerobic Digestion that need to be treated as residual waste. Residues that are not sent for residual waste treatment, such as Incinerator Bottom Ash (IBA) would not be classed as residual waste unless they were sent to landfill.

SUEZ accept that the principal purpose of the resource target is to reduce resource pressures on the environment by reducing the need for primary resource extraction. This means that waste prevention must be incentivised through the targets, as must the maximum recovery of recycled materials from waste sources.

The targets must be accompanied by strong action on end markets for secondary materials. The plastics packaging tax introduced in April is a good start, but we must go much further, both on plastics (by introducing an escalator on the recycled content threshold to encourage higher levels) and also by extending the principle of the tax to other materials.

17. Do you agree or disagree that our proposed method of measuring the target metric is appropriate?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons or potential unintended consequences can you provide or foresee for why the government should consider a different method?

Currently most targets are set and measured at the waste collection stage, but changing the point of measurement to the end-point of the waste journey will naturally include recycling residues since this is sent to landfill or sent to EFW, RDF and SRF. As such, measuring residual waste at the end-point with the exclusion of recycling residues will be more challenging. SUEZ thinks that all material flows that end up in residual waste treatment facilities should be included in the calculations for the targets.

DEFRA should declare the sources of data it intends to utilise in the calculation of the target and ensure that each one has the level of granularity required. Further, it should ensure that the proposed digital waste tracking (DWT) system captures all necessary data and improves the reporting granularity and frequency of that data.

SUEZ considers that the measure of residual waste per capita is more appropriate than one per household. A per household measure will be inaccurate when related to the number of people who live in a household, regarding Homes of Multiple occupancy (HMO's) and regarding the production of residual waste from business etc.

A focus on residual waste is important but as part of the context and construct of this target, the flows of other wastes also need to be fully understood. A residual waste reduction target that does not reduce resource consumption has failed and as such total waste per head should be measured and the proportion of recycling that counts towards any reduction should be carefully assessed to ensure that an increase in recycling is not masking an increase in resource consumption whilst driving down residual waste. Ultimately, SUEZ considers that a resource consumption target should be developed that delivers against a One World Living (OWL) agenda.

18. Do you agree or disagree that local authorities should have a legal requirement to report this waste data, similar to the previous legal requirement they had until 2020?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons or potential unintended consequences can you provide or foresee for why the government should consider a different method?

All parties in the waste chain should have a duty to measure and report and this includes Local Authorities. LA's collect waste from households and treat or have contracts to treat a proportion of that collected waste as residual waste. However, LA's also collect some wastes from businesses, and they should have the same measurement and reporting requirements as private waste contractors. Currently the facility waste returns will capture most of the data streams required to deliver data for this target. DWT will increase the granularity of reporting and help provide a reinforced foundation for this and any other target.

Reporting of data needs to be consistent across all actors in the value chain and across all parts of the value chain. A statutory target requirement should demand such consistency of all parties. This includes bringing exempt sites and activities into formal regulation and reporting and requires Government and regulators to significantly constrain the volume of waste in illegal hands. The Environment Services Association (ESA) has estimated that the amount of waste being managed illegally could exceed 2Mt per year.

19. Do you agree or disagree with the level of ambition proposed for a waste reduction target?

- **Agree**
- Disagree
- Don't know

If disagree, what reasons or potential unintended consequences can you provide or foresee for why the government should consider a different method?

The target is ambitious. SUEZ considers that the target is not achievable through recycling alone and that DEFRA policies on prevention, minimisation and reuse are currently inadequate to deliver against the target. To achieve a 72% recycling rate would require 93% of people to do 93% of the right things (recycling) 93% of the time which is a very high-performance rate. This rate is unlikely to be delivered at current level of performance and behaviour. Furthermore, without prevention, minimisation and reuse the target will not deliver the necessary resource consumption reduction required to establish a level of consumption equivalent to one world living standards.

SUEZ also consider it important to set meaningful interim targets that align with the policy matrix currently under refinement such that the success of those policies can be measured against this target.

SUEZ cannot comment in detail on the components behind the target as the supporting evidence is insufficient to do so at this time.

Resource productivity

20. Do you agree or disagree with our proposed metric for considering resource productivity?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons, or potential unintended consequences can you provide for why the government should consider a different metric and what data exists to enable reporting for this alternate metric?

SUEZ welcomes DEFRA's thinking to date around a resource productivity target, but SUEZ is concerned that a top-down approach is both unachievable and lacks sufficient granularity. The whole purpose of establishing a target is to provide direction and deliver progress at a local level. SUEZ considers (from analysis of its own data) that a GDP link to waste production has been established and that this link can clearly define sectoral and subsector performance, not through resource consumed but by resource wastage. We present a description of the nature of the data below along with examples of the relationships observed and our proposals on how such a metric could deliver real resource consumption and productivity improvements.

SUEZ considers that the calculating of resource productivity, measuring GDP and dividing it by raw materials consumption, assuming accurate data is available for both data points could be a pragmatic measure. However, this could have the unintended consequence of promoting growth of GDP rather than reducing materials consumption, and care must be taken to drive the right outcomes, whilst this approach has poor granularity.

SUEZ believe that additional clarification is required regarding the distinction between primary and secondary resources. In order to encourage recycling and uptake of secondary resources, only primary /virgin resources should be included when calculating the resource productivity metric.

However, SUEZ are disappointed that DEFRA have not presented more of their thinking on a resource productivity target given how critical this target is for driving a more circular economy and thus delivering a reduction in carbon production and wider resource use for the UK.

SUEZ would welcome the opportunity that this delay in presenting this specific target provides, perhaps by participating in a cross sectoral working group to run through possible targets, sub-targets and metrics that would support the transition that we all know is needed? However, it is unclear from the consultation document whether such a collaborative approach would be an option or even if there will be a consultation on this new metric in light of the feedback received to this point.

One way that reducing residual waste and increasing resource productivity could be achieved is by fully embracing the resource and waste management sector within the evolving Emissions Trading Scheme (ETS) as this would not only tax end disposal activities as carbon emitters, but could significantly incentivise the reuse, redistribution and recycling of many materials because of the carbon benefits that arise when these materials are not being created from virgin activities – textiles, plastics etc.

Quantifying resource consumption in the economy through measuring the waste it produces

The measurement of resource consumption has traditionally proven difficult as the mass flows of materials directly and indirectly consumed in the economy have proven to be very difficult to measure and relate to GDP. Furthermore, GDP as a measure of the economy does not measure all inputs (voluntary work for instance) and can be influenced by factors which could be seen to undermine its credibility as a useful measure for environmental purposes.

SUEZ shares many of the reservations with regard to the above methodology and has, through its extensive 'weight of waste collected data' been considering if a proven GDP link to waste produced could be an effective proxy measure of resource productivity. Although not directly linked to total resource consumed, measuring resource productivity through the wastes produced can give a far more granular, responsive and effective target to measure the relationship between waste and GDP and provide repeatable data on resource losses in the economy. This paper explores how the data is generated, provides examples of the insights produced and the basis on which this approach could be used as proxy for resource productivity.

Data

GDP data comes from the ONS data source and is matched to the corresponding SIC code groupings and where possible to the section, division, group and class subdivisions.

In 2007 SUEZ started to introduce on-board weighing data (OBW) to its waste collections from business. These involved installing specific equipment to the rear of its traditional collection vehicles that met appropriate standards of accuracy.

From 2007 to 2014 SUEZ gradually rolled-out weighing equipment across its collection fleet until most collections (be them residual waste, dry recycling etc) were weighed. In 2017 SUEZ introduced 'test weighs' for its commercial fleet whereas each vehicle did a test weigh when it left the vehicle depot and when it returned as an additional calibration check (beyond the required manufacturers calibration testing).

In 2021 SUEZ created a model using quality checked lift weighing data back to 2017. Since the creation of the model SUEZ has added updated data every 3 months, including new bin lift data and ONS data available at the time of the update.

The weighing data is on average accurate to 1-2 kg's.

Customer data such as customer name, location, bin type, waste type and date are collected with each lift ensuring the lift weight data can be assigned to the correct customer, waste type and date.

The model currently holds data on 20.854 million individual bin lifts.

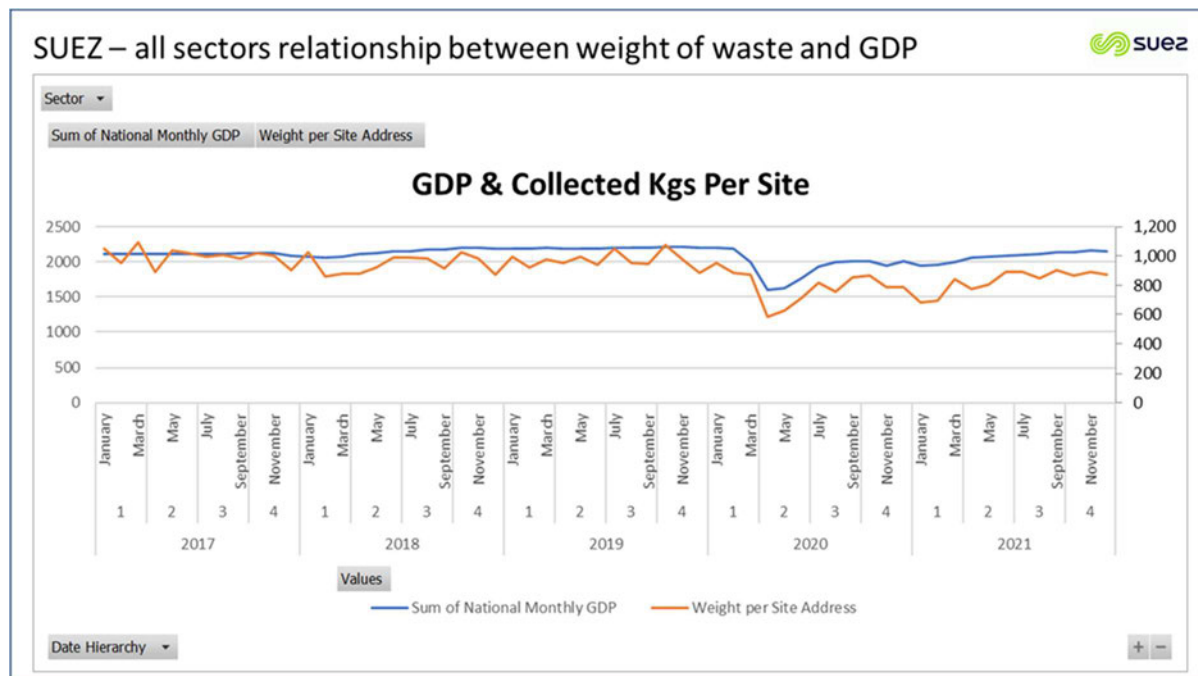
Model outcomes

The model was originally designed to allow SUEZ to understand the weight of waste generated by any customer and customer type and design and operate its waste collection services in the most efficient manner. Furthermore, it allowed SUEZ to benchmark customer types by business size, location and host community.

The headline categories built into the model are listed below:

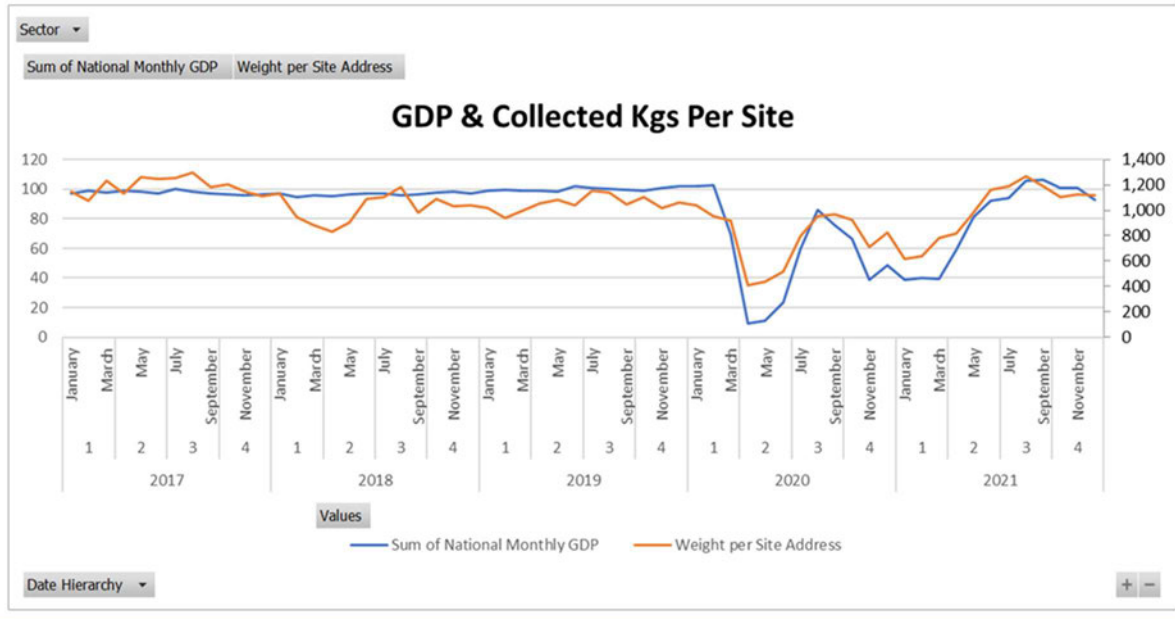
| <u>Geographic based sub classifications</u> | <u>Sector based sub classifications</u> | <u>SUEZ segments</u> |
|--|---|-------------------------------|
| NUTS Region | Section description | Individual bucket lists, e.g. |
| Rurality Classification (RU11NM) | Division description | Fish & chip shop, pub etc |
| Lower Layer Super Area Output Classification | Group description | Post code |
| Work Zone classification (wzc11nm) | Class description | Waste type |
| Local Authority classification (lacnm) | Sub class description | Size of company (S, M, L) |

SUEZ additionally sought to understand any relationship between GDP, GHI and GVHI and the waste produced by each type of business and its relationship to economic activity in its local host community. This latter work has clearly established a link between GDP and waste production in each sector. The graph below shows the relationship across all sectors combined and GDP at a national level. However, this masks significantly better understanding at more granular levels.



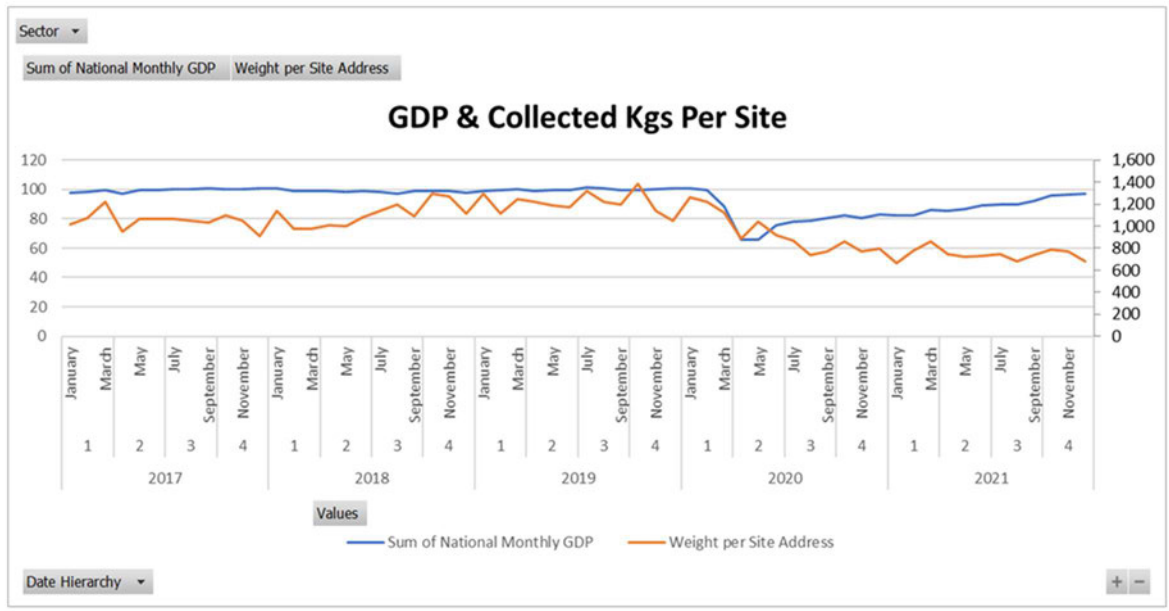
For instance, the Accommodation and Food Sector shows a close relationship to GDP at a national level as can be seen from the graph below. The relationship is especially pronounced during the first and second COVID pandemic lock downs and resultant recoveries.

Accommodation & food sector national relationship between weight of waste and GDP



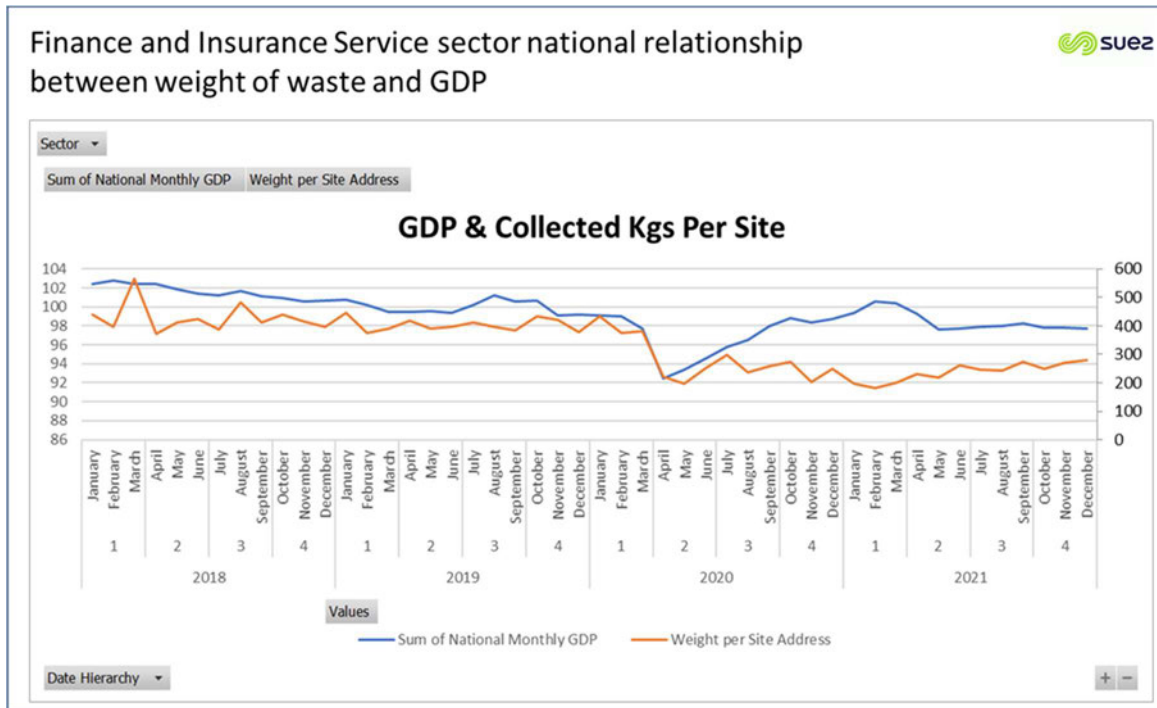
Whereas sectors such as Administration and Support Services show very different relationships between the weight of waste being collected (and therefore generated by each business in that sector) and GDP.

Administrative and Support Service sector national relationship between weight of waste and GDP



We can see that following the two pandemic shutdowns, the sector has broken the traditional relationship between waste and GDP with clearly divergent outcomes. SUEZ believes that this is partially as a result of the 'work at home' anchoring for at least some days of the week in this sector.

This trend is similar in the Financial and Insurance Services sector where there is a clear divergence between pre and post shutdown relationships between waste and GDP.

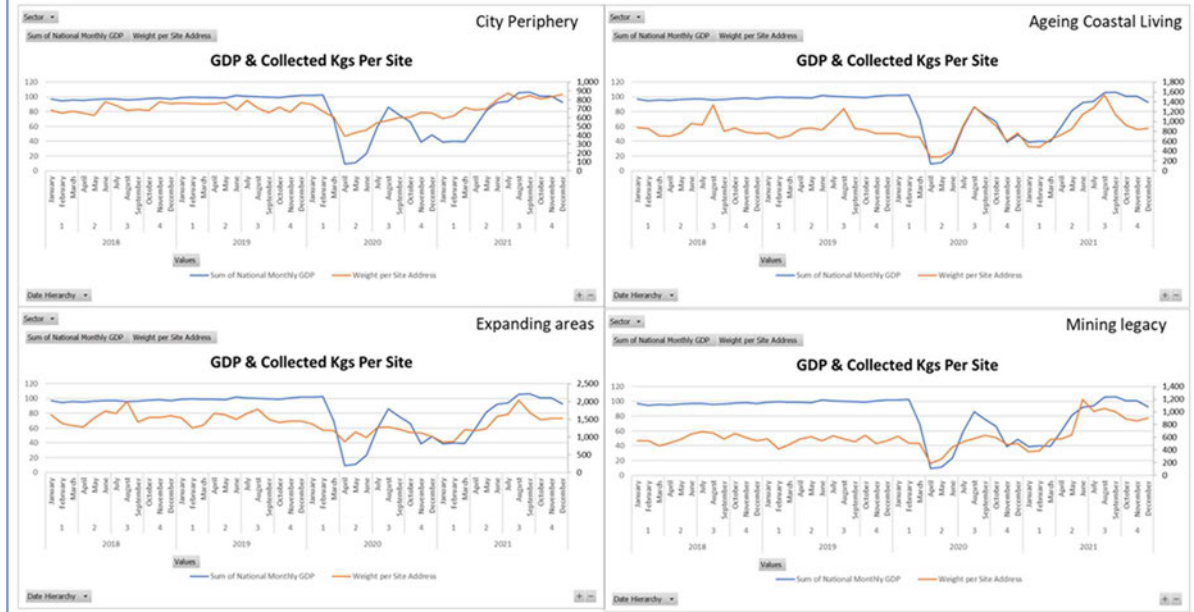


Manufacturing also shows a close relationship between waste production and GDP plus some new divergent trend appearing post the second COVID pandemic shutdown.

National relationships mask however regional and subregional variation. As the accommodation and food service sector has a close national relationship to GDP we have extracted figures for four Local Authority Classifications to show how different business reacted (by weight of waste) to GDP change at a local level, reflecting to an extent their host community. A comparison of 4 areas is shown in the following diagram.

It is clear that GDP and waste production can be related to very granular levels of business, geography and local host society and give consistent picture of resource loss.

Accommodation & Food sector Local Authority type examples relationship between weight of waste and GDP



Resource productivity measured through wasted resource

SUEZ considers that a measure of GDP against material waste gives an opportunity to establish an early proxy for GDP against resource consumption; gives an opportunity to measure the relationship between GDP and waste; and understand whether sectors (and their measured subdivisions) are linked or delinked in respect of waste and GDP. A sector that has positively delinked from GDP (i.e., as GDP rises it produces the same or less waste) must therefore be increasing its resource productivity. One that is linked to GDP or is negatively linked, i.e., increasing its resource consumption at a greater rate than the rate of change in GDP.

SUEZ considers that the simple expediency of adding bin lift weight to the planned digital waste tracking system could not only massively improve the UK understanding of business waste but also deliver a resource productivity measure that is both very granular (allowing sector and subsector allowances) and a reliable measure. Municipal waste already has the ability to understand waste to GDP links but could benefit from bin weighing to increase granularity below district level.

Both datasets and metrics would allow local and national government interventions to support increases in resource productivity as well as meeting wider environmental goals.

21. Of the possible policy interventions described, which do you think will be most effective to meet a resource productivity target? Please specify whether these policies would be most effective if implemented nationally or regionally, and whether measures should be product or sector-specific?

EPR reforms are the most likely to deliver a reduction in consumption of resources whilst driving increased value from quality materials flows back into secondary and tertiary use. However, the lack of additional financial support for business waste packaging is likely to significantly inhibit performance in this area.

UK ETS, once fully implemented across the waste and resource sector has the greatest potential for delivering a step change in value and value appreciation for waste. UK ETS applied to residual waste treatment alone will have limited impact on the upper tiers of the waste hierarchy. SUEZ has in the following diagram sought to show our thinking on this matter:



A carbon price applied to residual waste will push the waste components in residual waste into the next cheapest option, very much as the landfill tax did with the expansion of energy recovery. At a carbon price of £80/t CO₂e, this would equate to approximately £36/t on the gate for residual waste. A simple and muted push measure.

However, a carbon price applied to fibre or textiles could move the price dynamic by £100/t and £1036/t respectively, because of the savings in carbon from utilising the materials again rather than accessing virgin materials. This would undoubtedly drive prevention, minimisation, reuse and recycling and provide the foundation for a proper circular economy.

The Circular Economy has the scope to deliver real change in resource productivity, consumption and efficiency, but is a complicated transition to deliver for a variety of services, products and packaging. More effort is needed to make this a priority across Government departments. We look forward to hearing more about the Government's plan to realise the CE in its soon to be launched updated Waste Prevention Plan.

Target proposals for air quality

22. Do you agree or disagree with the level of ambition proposed for a PM_{2.5} concentration target?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

Reducing concentration is vital for protecting public health and this target is an appropriate next step in improving air quality. However, sufficient resources and intervention mechanisms should be made available to ensure progressive proactive steps are taken to achieve the target.

Further, regulatory focus should be biased to the largest sources. For instance, traffic creates a sizeable proportion of PM_{2.5}'s and needs to be addressed, even if the sources are many and diverse.

23. Do you agree or disagree with the level of ambition proposed for a population exposure reduction target?

- *Agree*
- Disagree
- Don't know

If disagree, what reasons can you provide for why the government should consider a different level of ambition?

Reducing exposure across the country is just as important as reducing the overall level of PM2.5 concentration.

_ END _

Submitted by REDACTED
REDACTED
REDACTED
REDACTED

at SUEZ UK) with technical input from REDACTED
and REDACTED
) and REDACTED
on 27th June 2022.

We (SUEZ) would welcome the opportunity to discuss our concerns, ideas, research and proposals with officers or board members from the DEFRA should the opportunity arise, particularly those concerning the Resource Productivity Target and our data sets.



Office of REDACTED
REDACTED

Environmentaltargets@defra.gov.uk

27 June 2022

Dear Sir/Madam,

Environment Act Targets - Consultation Response

Thames Water welcomes the opportunity to respond to the consultation documents issued by the Department for Environment, Food and Rural Affairs.

Thames Water provides water and wastewater services for 15 million customers across London and the Thames Valley. We are very conscious of both our reliance and impact on the environment. The water sector as a whole, and Thames Water specifically, has a very important part to play in protecting the environment and ensuring compliance with environmental law. As such, we welcome the government's vision of leaving the environment in a better state than it was found and are supportive of the outcomes that the targets are intended to achieve. We have focused our response on the areas most relevant to our business.

Summary of our response:

- We are strongly supportive of the need for a national water target, but are concerned that the metric Defra is proposing is insufficient to deliver the changes needed across society to safeguard London and the South East's future water supplies. Instead, we propose an 'X percentage (%) reduction in total abstraction levels by 2037' against an appropriate baseline.
- We agree that reducing nutrient pollution from individual catchments will strengthen the national target of reducing nitrogen, phosphorous and sediment from agriculture in the water environment.
- We strongly agree with the ambition behind the target of reducing phosphorous loadings from treated wastewater by 80% by 2037, however, we are concerned that the proposed target will not allow water companies sufficient flexibility to use the best available strategies to reduce phosphorous pollution and could prevent companies from investing in catchment and nature-based solutions. We would therefore suggest that targets should be tailored specifically to each local catchment.

We would also like to take this opportunity to emphasise that for water companies to successfully deliver these targets, there is a need for clarity from regulators (Ofwat and the Environment Agency) on how they will respond to, and encourage water companies, to meet these targets. Funding at Price Reviews must be sufficient (with necessary efficiencies made) to ensure that water companies can make the progress needed to meet the targets. It will also be essential that there are not competing regimes in place to target the same outcome.

We were pleased to see the high priority that is given to catchment and nature-based solutions (C&NBS) in the government's Strategic Policy Statement to Ofwat this year, and the focus on them in this consultation. We would welcome clarity on how outcomes associated with C&NBS will be regulated, given the inherent uncertainty around deliver timescales and quantum of benefit generated. It would also be helpful for water companies to understand how Ofwat propose to assess C&NBS costs submitted as part of Business Plans to determine if they are efficient, and to understand how their delivery will be assessed and regulated. Our experience in delivering these schemes has found that measuring benefits in the environment is challenging and full benefits can take a long time to fully mature.

I hope that our response is helpful in your consideration of the proposed environmental targets. Please do let me know if you have any questions or would like to discuss this further. Equally, our REDACTED would be happy to arrange a discussion between our teams on any of the issues raised.

Yours sincerely

REDACTED

REDACTED

Thames Water



DEFRA: Consultation on environmental targets

27 June 2022

DEFRA: Consultation on environmental targets

Response from Thames Water

Confidentiality

- We are happy for our response to be made public.

Target proposals for biodiversity on land

- Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'?

The proposed combination of biodiversity targets will be an effective way of measuring changes in the health of our biodiversity as they provide a holistic overview of the state of nature.

We would recommend that any targets set are as accessible and easy to understand as possible. This will empower local community groups, organisations, and businesses to take action that positively contributes to biodiversity.

There are some issues with these targets, such as the difficulty of establishing an accurate long-term species abundance target baseline, which will also need to be addressed. For example, the cost associated with establishing a baseline for a protected species or a habitat assessment is high and for some groups, could be prohibitively so. For example, a recent habitat assessment at one of our sites cost approximately £4500. Finding solutions to this will be important.

2030 and long-term species abundance targets

- Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target?

We agree that there is a need for an ambitious target to halt and reverse the decline in species abundance. This is particularly acute given that the 'England Biodiversity indicators: 2021 assessment' published by Defra showed that biodiversity is deteriorating in several areas, including the relative abundance of priority species. Although there are gaps in the proposed species abundance indicator, for example, fungi and fish which will not be counted, we recognise that there does need to be a targeted approach to which indicator species are monitored to ensure accessibility and that those selected may be adequate in measuring changes to species abundance. For example, measuring the state of macroinvertebrates will provide insight into the ecological health of a river and therefore fish abundance.

However, understanding whether this target is genuinely ambitious requires an accurate baseline of species abundance. Many organisations, including Thames Water, do not routinely measure species abundance as it is costly and resource-intensive, and would reduce the investment that we can make to improve habitats. For example, we have a target of enhancing biodiversity by 5% at 253 of our self-designated sites of biodiversity interest by 2025 compared to their 2020 baseline. However, this leaves approximately 7,750 sites where we only establish a baseline if we are developing the site.

In addition, there are problems with the accurate reporting of data for species abundance due to the large variety of ways that it is collected. For example, members of the public can record data through apps, community projects, or specialist species groups. Often this data isn't shared or

recorded in biodiversity records which makes it difficult to establish an accurate baseline, and this is again prohibitive when trying to determine whether the proposed target is ambitious enough.

There is also a question over whether the target is moving quickly enough, given that it only aims to halt the decline in species abundance by 2030. However, we are hopeful that progress will occur more quickly due to changes introduced by the Environment Act, such as the requirement for a 10% biodiversity net gain for new developments.

Long-term species extinction risk target

- Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England-level GB Red List Index?

We agree that the creation of a new Red list Index that is more representative of species in England as a target indication will be welcome, as it will expand the number of native species receiving protection, such as slow worms.

However, there will need to be a focus on training more people with specialist knowledge of these species to meet any species survey requirements. These skills are already in short supply and costs are high. For example, a recent great crested newt survey at one of our sites cost nearly £11,000. This is likely to rise significantly when there is a further shortfall of trained individuals able to complete them. Further cost increases could result in a greater proportion of funding being needed for surveys and a lesser proportion going to actions that will benefit habitats. Cost increases could also act as a barrier to entry for smaller organisations.

Long-term wider habitats target

- Do you agree or disagree with the level of ambition of 'in excess of 500,000 hectares' proposed for the long-term wider habitats target?

We agree that the ambition of 'in excess of 500,000 hectares' proposed for the long-term habitats target is sufficient. However, it is important that within these areas there are lots of different habitats with interconnectivity to help nature recover. There may also be difficulties in measuring linear habitats such as hedgerows and waterways, and guidance on this would be welcome.

- Do you agree or disagree that all wildlife-rich habitat types should count towards the target?

We agree that all wildlife-rich habitat types should count towards the target as this is the best way of helping nature to recover.

A significant drawback of DEFRA's biodiversity metric calculator is that it doesn't adequately reward some interventions which create diverse habitats. This can disincentivise the actions that will drive the most positive change by not providing as much 'value' per biodiversity unit. For example, the tool is heavily skewed towards grassland restoration so an area of land will give you more points for creating a good condition grassland. We recently created a new wetland on one of our sites in Aylesbury, where the local Nature Recovery Strategy identified a particular need for it. The Defra biodiversity tool resulted in the cost for grassland being £4,731 per unit, whereas wetland per unit was £13,091. Although wetlands creation was the right thing to do for the local habitat, it was not rewarded as such by the tool.

Therefore, the inclusion of all wildlife-rich habitats in this target is welcome, and we would support this principle being extended into related policy areas.

Nutrient pollution from agriculture

- In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments. Do you agree or disagree that this approach would strengthen the national target?
 - [If disagree] Why don't you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target?
 - [If agree] Why do you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? What factors should the government consider when setting these ambitions?

We agree that reducing nutrient pollution from individual catchments will strengthen the national target, and make the comments below in the context of our starting position that there is a need for an overarching target that ensures the greatest value is achieved from planned activities. All sectors should take responsibility for reducing their contribution in line with the polluter pays principle.

It is sensible to consider catchments on an individual basis so that those with the highest nutrient loads which are causing problems, for example in the production of potable water, can be targeted. It will also allow for a more bespoke approach to be taken. This is useful as targets will be able to take into account current land use, variations in typical crop types in different regions, historical investment, local climatic conditions, soil types and topography. Taking a catchment-specific approach is likely to drive the greatest reductions, and therefore make a greater contribution to the national target.

It is important that when setting these ambitions that there is parity of importance given to tackling groundwater as well as surface water. In the Thames Water region, we see high nitrate concentrations in raw water from many groundwater sources. When identifying the individual catchments that are to be targeted, we would encourage government to ensure that measures taken are proportionate to issues. For example, a catchment may have a high potential load of nitrate but if the nitrate is not reaching water sources this should not be prioritised ahead of an area with a smaller potential load of nitrate but a definite pathway with the nitrate reaching the water sources.

We would also ask the government to consider ways of driving improvements in nitrogen use efficiency, which would be a win-win situation, with less nitrogen application required in total, increased benefit to crops from the nitrogen that is applied, and less potential for leaching and losses to water. This may be through investment in research, or dissemination of findings of existing research, to support farmers to make the most efficient use of the fertiliser they do apply.

Nutrient pollution from wastewater

- The target needs to allow flexibility for water companies to use best available strategies to reduce phosphorous pollution, including the use of nature-based and catchment-based solutions. Do you agree or disagree that the proposed target provides this flexibility?

We strongly agree with the ambition behind this target and make the comments below in the context of our starting position that there is a need for an overarching target that ensures that the greatest value is achieved from planned activities. Furthermore, we do not believe that the proposed national target will allow water companies sufficient flexibility to use the best available strategies to reduce phosphorous pollution. Like all water companies, Thames Water has already taken significant steps in reducing phosphorous in wastewater: by 2020 we had installed treatments which reduced phosphorous discharges from 13.3 tonnes per day to 3.5 tonnes per day; a 74% reduction. The ambitious target

proposed in this consultation would mean making a further reduction of 80% by 2037 – this would mean releasing no more than 0.7 tonnes of phosphorous per day, representing nearly a 95% overall reduction in load.

Although we agree that reducing phosphorus concentrations in rivers is generally a desirable outcome, this target does not appear to consider local circumstances or considerations of disproportionate cost and is so stretching that there would be very limited opportunities to use catchment or nature-based solutions (C&NBS) to achieve them. This also appears counter to the Government's Strategic Policy Statement which pushes for the wider use of C&NBS, and is something that we welcome. Research into C&NBS for controlling phosphorus, including our own study in the Evenlode catchment, has found that they can offer better environmental and societal value than end-of-pipe solutions, but only in certain circumstances. They are well-suited as alternatives to intensive end-of-pipe solutions at small sewage treatment works (STWs), or in conjunction with basic end-of-pipe upgrades at small sewage treatment works. By setting such a stretching and overarching reduction target on the wastewater sector alone, the scale of the phosphorus savings required will necessitate the upgrade of all our medium and large STWs to the limit of technology, irrespective of local water quality conditions. At these sites, the relative cost-effectiveness of C&NBS is typically lower on a £/kg saving basis, even when considering wider environmental benefits.

However, we recognise that to drive progress targets can be helpful. We would therefore suggest that targets should be tailored specifically to each local catchment, considering the loads required to achieve the local water quality targets, costs, and benefits. We understand from discussions with the Environment Agency that there are plans to apportion the target between river basins – we would welcome confirmation that this is the intention, and we look forward to reviewing the evidence behind the target.

- Do you agree or disagree with the level of ambition proposed for the nutrient targets?

Disagree.

- [If disagree] What reasons can you provide for why government should consider a different level of ambition?

We support the need to improve river health by tackling excess phosphorous in water bodies which will benefit ecosystems and biodiversity. However, we are unable to support the target for several reasons:

- The target is non-catchment specific. Upgrades would be required in areas that are already meeting water quality targets.
- The level is so stretching that it provides little alternative other than upgrading treatment at all discharges of any significance to the limit of technology, including those recently upgraded to meet Water Framework Directive targets. Initial calculations show a further 105 STWs would need to meet an annual average concentration limit of 0.25mg/l at an estimated cost of £815 million CAPEX. It would also cost a further £30 million per year in ongoing costs. On top of the ambitious targets for addressing spills, this is likely to materially increase customer bills. The investment would also generate additional carbon releases and increase the quantity of sewage sludge produced.
- The targets do not appear to take into consideration disproportionate costs – our assessments for the Price Review in 2019 found that costs were very significantly greater than the benefits offered at some of the sites that would need to be upgraded.
- The targets are so stretching that we would have a very limited ability to accommodate growth without breaching no-deterioration requirements under the Water Framework Directive as we would already be using treatment processes at the limit of technology.
- To achieve such stretching targets, the volume of chemicals we use in the wastewater treatment process would increase significantly. There is currently an insufficient supply of chemicals in the

supply chain to meet this ambition and we would need to be sure of a reliable, increased supply going forward to ensure we could meet requirements. One of the main chemicals used in the process of treating phosphorus can have low levels of metal contamination – solving the phosphorus problem could cause other water quality compliance issues.

- The level of ambition for load reduction requirements is so stringent that it constrains options for catchment management solutions as it favours end-of-pipe solutions.

As suggested in the previous answer, we would support a target that is specific to each catchment considering the source apportionment between sectors and historical investment to address phosphorus. We would also welcome a target that would allow wider use of C&NBS, which as addressed above, are likely to be limited with a target of this level.

Water demand

- Do you agree or disagree with the level of ambition proposed for a water demand target?

We support the intention to introduce a national water demand target as it will raise the profile of water efficiency and make water efficiency a key business requirement (which currently only applies to wholesale water companies). This approach is already seeing progress with carbon reduction.

Reducing water demand is critical in the Thames Water supply area, London, and the wider South East of England region. We forecast over 2 million more people in our area by 2045, with up to 4 million more people by 2100. Changing weather patterns will reduce the amount of water we have to use by around 180 million litres a day in London by 2085. Unless significant supply-demand actions are taken, we forecast a shortfall between the amount of water available and the amount we need in the next 25 years and beyond. This shortfall requires greater demand reductions in parallel with new water resources and a national water demand reduction target is a critical component in doing this, as the UK Water Efficiency Strategy identifies.

However, the proposed 'Distribution Input per Capita' metric is insufficient to make the changes needed to safeguard London and the South East's future water supplies. We understand that the expert panel advising Defra recommended this metric, however, there were no representatives from the water sector on the panel, or anyone responsible for delivering the demand reduction agenda. As a company that is responsible for delivering demand reduction, we would instead recommend the use of an 'X Percentage (%) reduction in total abstraction levels by 2037', against an appropriate abstraction baseline year as a more effective target.

- If disagree, what reasons can you provide for why government should consider a different level of ambition?

We do not believe that the proposed 'Distribution Input per Capita' metric is an appropriate metric for a national target. Distribution Input (DI) is a wholesale water company-only metric, referring only to the potable water put into the mains water pipe network. DI does not include the thousands of separate abstraction points/licences, which take their water from the same surface and groundwater sources used to supply DI. This is particularly significant given that although Environment Agency data shows that a significant proportion of water licensed for abstraction in England is for public supply, the greater proportion is licensed for other purposes:

| | England |
|--|-------------------|
| Public water supply | 32.7% |
| Agriculture | 0.7% |
| Electricity supply industry | 49.9% |
| Other industry | 11.0% |
| Fish farming, cress growing, amenity ponds | 5.4% |
| Private water supply | 0.1% |
| Other | 0.2% ¹ |

Furthermore, in 2017, there were 18,655 abstraction licences in force across England. Of these 1,396 licences were for public water supply. The largest number of licences, 9,174, was in the spray irrigation category.²

DI also does not accurately represent the actual volume of water abstracted from the environment, as it does not include storage and treatment losses, which account for between 1-5% of water abstracted, depending on each water resource zone. By not including the thousands of non-water company abstraction licence water, and not seeking to address actual abstraction quantities, DI is not a true representation of a 'national' target. We note that Waterwise's response to this consultation, who was included on Defra's expert panel advising on this metric, supports DI only "on the proviso that the government and regulators bring forward wider policy action to encourage a similar level of demand reduction ambition from other non-Public Water Supply (PWS) abstractors as we are asking of PWS water users".³ We believe that a simpler way to achieve this would be to adopt an 'X Percentage (%) reduction in total abstraction levels by 2037' which would include everything that is abstracted from the environment.

We do not support the use of 'per capita' within the proposed national target metric. Dividing by population will create the same problems as experienced with Per Capita Consumption (PCC), in other words dividing a robust measured value by an estimated value will result in an estimated, poor quality and subjective output metric.

We do not believe that a DI or DI per capita-based metric (which includes household and non-household consumption, and leakage) will resonate with the key non-water company sectors that need to embed demand management as part of their core business (e.g., energy, transport, construction sectors etc). A DI per head metric is likely to be meaningless to businesses and is unlikely to drive changes in their planning, investment, and operations. We have engaged with business groups London First and the Thames Valley Chamber of Commerce, who represent businesses across the UK on this subject and whilst being supportive of a national water target, they have also expressed concern that any target should be as simple to understand as possible to drive change. They have permitted us to include their views below:

The Thames Valley Chamber of Commerce:

"The Thames Valley Chamber of Commerce (TVCC) understands the economic impacts of the current water situation and has long since pushed for the development and implementation of sustainable and resilient infrastructure to secure the future economic prosperity and future-proofing of this region. As such, TVCC supports the introduction of a true national target that considers all abstraction sources. The proposed metric of DI is difficult for all to understand and therefore, as the voice of Thames Valley businesses,

¹ <https://www.gov.uk/government/statistical-data-sets/env15-water-abstraction-tables>

² Number of abstraction licences in force by purpose and abstraction regional charge area: 2012 to 2017: <https://www.gov.uk/government/statistical-data-sets/env15-water-abstraction-tables>

³ Waterwise response to Environment Act Water Demand Reduction Target, June 2022: <https://www.waterwise.org.uk/knowledge-base/environment-act-water-demand-reduction-target-draft-waterwise-response-may-2022/>

TVCC agrees with Thames Water that targets produced should be as simple and easy to understand as possible, ensuring that households and businesses alike can identify the actions required and implement the changes necessary to drive water consumption down”.

London First:

“As the body that represents London’s businesses, we believe that the approach proposed for setting a national water target based on Distribution Input Per Capita will be overly complex and difficult for businesses to implement and may not achieve the Government’s goal on managing water demand. While we wholeheartedly support the drive to reduce water demand across the UK as an important part of building a more resilient water network and reducing water waste, we feel that a percentage reduction target over time against an agreed baseline would be far simpler for London’s businesses to understand and implement and so more likely to achieve the outcomes intended. A percentage target would also have benefits in terms of supporting cross-government collaboration and encouraging behaviour change across public and private sectors in the capital and UK wide.”

The inclusion of ‘per capita’ within a national target metric adversely links the actual water savings benefit to the environment to population growth rates. The higher the rate of population growth, the lower the actual benefit to the environment as a percentage of reduced abstraction.

As DI or DI per capita metrics include non-household and leakage volumes, they will be meaningless to household customers – and therefore unhelpful for companies carrying out customer engagement and target setting for the general population.

Regarding the three separate target areas (HH, NHH and leakage), that have been used to contribute toward the proposed overall national target, we are concerned that three entirely separate metrics have been used:

- Household = per capita consumption in litres/person/day
- Leakage = percentage reduction using Megalitres/day
- Non-Household = percentage reduction against the baseline year

This approach is disjointed and difficult for the multiple target audiences to understand and adopt. We recommend working with experts from the key sectors to help reshape a more appropriate single metric that could represent all parts and audiences. However, a percentage (%) reduction against an agreed baseline volume should be considered.

Given that a national target will be a mass-balance metric, influenced by a wide range of weather, population, societal and multi-sector variables, the national target metric used must not be transferred directly into water company performance commitments, as doing so makes companies accountable for the consequences of factors outside their control.

We also have concerns about each of the proposed individual target areas:

- Household:
 - There is uncertainty as to whether the 122 l/p/d value has been calculated from pre- or post-covid household water use projections
 - Our smart meter data shows that the majority of households already use less than 122 l/p/d (smart meter data shows ‘mode’ is approx. 115 l/p/d). We are concerned that

average PCC values may not encourage those who are already using less than the 122 l/p/d to further decrease their usage.

- PCC is reliant on estimated population data, therefore turns robust measured water use data into lower quality PCC estimated data.
- We recommend, therefore, that any household water-use target should not be based on per capita consumption.
- Leakage:
 - The proposed target appears to underestimate the water sector's existing commitment to reduce leakage by 50% by 2050.
 - We would support the national water demand reduction target by incorporating Water UK's agreed leakage reduction roadmap levels. The household and non-household usage reduction levels would then be in addition to the demand savings delivered by leakage reductions.
- Non-Household:
 - The proposed introduction of a separate non-household water-use target is welcome and the proposed '% reduction against a baseline year' will be simple for businesses to understand.
 - Whilst the proposed 9% reduction is in line with results from Thames Water's smart meter data and Smarter Business Visit savings, we would encourage it to be increased to 10%. This is still achievable through simple water efficiency improvement and internal wastage fixes (i.e., leaky-loo and urinal fixes) and is an easier value for businesses to adopt in their business plan and sustainability objectives.
 - In line with the recommendations from the Retailer-Wholesaler Group Water Efficiency Sub-Group, wholesale and retail water companies must be enabled and financed to assist in the short to mid-term delivery of NHH demand reductions. The metering and water efficiency activities by wholesalers and retailers will be vital in achieving any future NHH demand reduction target, before the target is adopted by the wider business sector, and prior to the proposed mandatory water label taking effect. It is also essential that any final % reduction NHH target is not directly imposed on wholesale or retail water companies, as they will only be a small part of the total national NHH demand reduction target delivery required.

Target proposals for woodland cover

- Do you agree or disagree with the proposed metric for a tree and woodland cover target?

We agree with the proposed metric but would welcome clarification that a specific proportion should be native trees.

- Do you agree or disagree that short rotation coppice and short rotation forestry plantations should be initially excluded from a woodland cover target?

We agree with the government's recommendations that short rotation coppice should not be included in the woodland cover target as it is a farm crop rather than a woodland habitat. This habitat does not contribute to climate cooling and the crop being felled every 3-5 years reduces the associated ecology. However, we believe that short rotation forestry plantations should count towards woodland cover targets as they contribute to a healthy woodland.

- Do you agree or disagree with the proposed inclusion of trees in woodlands, as well as trees in hedgerows, orchards, in fields, and in towns and cities?

We strongly agree that trees in hedgerows, orchards, urban areas etc should be included within this target. Although trees in urban areas may not offer the climate moderation benefits of larger forests, they offer other benefits including screening particulates, altering noise frequencies, and providing important shade.

Trees in agroforestry have traditionally been under-utilised and offer an opportunity to create more productive and more sustainable farming units. The only exceptions might be tree-based systems that are frequently felled (short rotation energy crops) or tree species that have damaging effects on their environment such as Eucalypts.

- Do you agree or disagree with our proposed level of ambition for a tree and woodland cover target? If disagree, what reasons can you provide for why the government should consider a different level of ambition?

We strongly agree that there needs to be an ambitious target for increasing tree canopy and woodland cover. This is essential to help moderate temperatures and maintain a more stable precipitation pattern.

We welcome the ambition to increase tree canopy and woodland cover to 17.5%. However, to achieve this there will need to be more incentives for landowners to plant trees. The new Environment Land Management Schemes that incentivise tree planting is an encouraging step forward but as discussed in previous questions, the Defra biodiversity net gain tool is heavily skewed towards grassland restoration, so the tool will reward creating grassland more than planting trees on the same size site.

Another concern is the availability of land suitable for tree planting. We plant approximately 20,000 trees each year, but we also struggle to identify suitable land as it may be needed in the future to upgrade our assets. This is likely to become a problem on a much bigger scale as suitable land will become harder to find with each passing year.



Viridor's response to Defra's Consultation on environmental targets

Viridor is one of the UK's leading resource recovery and waste management companies. Helping businesses and local authorities across the UK transform their domestic and commercial waste. Operation of 10 energy from waste (EfW) across the UK together produce enough electricity to power the equivalent of over 500,000 homes, our ambition is to build a world where nothing goes to waste.

In May 2021, Viridor published an ambitious decarbonisation plan committing to reaching Net Zero by 2040 and to becoming the UK's first net negative emissions waste management company by 2045. The best way to cut emissions is not to produce them in the first place. Therefore, a critical element of reducing the impact of recycling and waste management on the environment is simply generating less and ensuring that what is produced can be recycled and reused. Viridor is already investing in new state-of-the-art reprocessing facilities to turn waste back into raw materials. We have ambition to do more and to tackle the more challenging plastics such as films and, by doing so, to divert those materials from our EfWs. The UK Government's reforms of waste reduction, packaging design and recycling policy are critical. Viridor supports the Climate Change Committee's recommendations for increased ambition for a 70% recycling target by 2030 (rather than the current 65% by 2035).

Key points:

- The principal purpose of the resource targets is to reduce resource pressures on the environment by reducing the need for primary resource extraction. This means that waste prevention must be incentivised through the targets, as must the maximum recovery of recyclable materials from waste sources.
- If the targets are to be effective in delivering the circular economy, they must be accompanied by strong action to build demand for secondary materials. The plastics packaging tax introduced in April is an example of an effective instrument to build demand for recycled material but needs to go much further, both on plastics (by introducing an escalator on the recycled content threshold to encourage higher levels) and also by extending the principle of the tax to other materials.
- The residual waste target must be consistent with recycling targets. Given the Government's expectation that waste arisings will remain broadly flat going forward, then higher recycling rates will be required than those proposed in the consultation document.

- 1. Do you agree or disagree with the proposed scope of the residual waste target being ‘all residual waste excluding major mineral wastes’? [Agree/Disagree/Don’t know] • [If disagree] What reasons can you provide for why the government should consider a different target scope?**

Disagree

We agree with the exclusion of major mineral wastes as this will focus attention on where environmental impact is greatest. However the scope should also consider non-mineral wastes from other sources (beyond household and commercial) to ensure a holistic approach.

The exclusion of waste sent for anaerobic digestion (AD) is a concern as not all wastes treated at AD plants arise from separately collected food waste. The government is rightly seeking to reduce food waste and as such this should be included in total residual waste calculations until such time as separate collections are established. Irrespective of the end-of-life treatment option it remains important to measure and reduce the overall quantity of food waste in residual waste, in part to reduce the embedded life-cycle emissions and environmental impact associated with unnecessarily wasted food products. Consideration should also be given to the end products of AD as for some facilities the digestate is incinerated (mass balance) where contamination levels do not meet the required standards for PAS100.

- 2. Do you agree or disagree that our proposed method of measuring the target metric is appropriate? [Agree/Disagree/Don’t know] • [If disagree] What reasons or potential unintended consequences can you provide or foresee for why the government should consider a different method?**

Don’t know

The metric appears suitable, providing the scope is increased to capture AD and non-mineral wastes arising from beyond household and commercial settings. We would welcome further clarification on the data required from local authorities (LAs) and waste management companies to monitor progress toward the target. Also, clarity will be required as to who will be responsible for delivery of the targets and any shortfalls in reaching these targets. Current policy reforms to the waste sector are proposed out to 2030 however these ‘further policies’ alluded to in the consultation will require clarification and clear engagement with the sector to ensure these future targets can be met.

Policy interventions aimed at reducing residual waste have the potential to inadvertently increase contamination levels in recyclate coming from households. This is of most concern in urban areas where it is more difficult to determine who is responsible for the waste. Effective implementation of consistent collections and separate collections will be vital if these targets are to successfully increase circularity, whilst minimising contamination levels.

- 3. Do you agree or disagree that local authorities should have a legal requirement to report this waste data, similar to the previous legal requirement they had until 2020? [Agree/Disagree/Don’t know]**

Agree

- 4. Do you agree or disagree with the level of ambition proposed for a waste reduction target? [Agree/Disagree/Don’t know] • [If disagree] What reasons can you provide for why the government should consider a different level of ambition?**

Don’t know.

There is no detail in the evidence document regarding how modelled outcomes have been arrived at, hence it is unclear where the additional 13% recovery rate for non-household municipal waste comes from. The assumption that recycling rates will continue to increase year-on-year out to 2035 by a steady 1.43 percentage points does not reflect historical patterns in recycling markets, and appears ambitious.

If future municipal recycling rates are going to go beyond the 65% target for 2035, there will need to be stronger drivers and policy signals put in place to influence the nature of the waste stream to make it more recyclable and recoverable. Whilst we understand that the deadline dates (2042) for these targets are based on the 25-year environmental plan, released in 2018, we think it would be worth considering whether and how to align with the 2050 target within the Net Zero strategy and the BEIS carbon budgets in the interim.

Further, capture rates which account for human error, non-recyclable waste in the composition, and process loss will all combine to place a natural ceiling on recycling rates. These factors will also mean that it will never be the case that 100% of the “readily recyclable”, “potentially recyclable”, or “potentially substitutable” materials will be captured and prevented from arising in residual waste. This is recognised within the system loss factors but we would need more information to be able to assess the robustness of the modelled conclusions.

Illegal waste operations have also not been accounted for in this proposal. Research conducted by Eunomia has estimated that the amount of household and commercial waste which leaks into the illegal sector is around 2 million tonnes per annum. This is a significant amount, which – as recognised in the evidence document – will put upward pressure on residual waste totals, given that the material is less likely to be recoverable once it has entered the illegal sector.

The consultation refers to other price-based levers to make waste disposal more expensive. These should be considered carefully, with the current increased costs of living and high levels of inflation impacting households, the use of such policy levers must be carefully considered.

5. Do you agree or disagree with our proposed metric for considering resource productivity? [Agree/Disagree/Don't know] • [If disagree] What reasons, or potential unintended consequences can you provide for why the government should consider a different metric and what data exists to enable reporting for this alternate metric?

The proposal for a resource productivity metric based on Gross Domestic Product (GDP) divided by raw material consumption is a reasonable starting point. However, we would encourage DEFRA to consider more holistic measurements of the health of an economy aside from GDP, such as the Genuine Progress Indicator (GPI), or any other equivalent metrics that HM Government might be considering using to track economic and social prosperity. There is no reason why two separate metrics could not be published.

Clarification is required regarding the distinction between primary and secondary resources. In order to encourage recycling and uptake of secondary resources, only primary/virgin resources should be included when calculating the resource productivity metric. This is essential for encouraging the uptake of recycled materials, as well as the reduction in primary commodity consumption. Government support for the development of secondary markets would allow this to grow rapidly.

6. Of the possible policy interventions described, which do you think will be most effective to meet a resource productivity target? Please specify whether these policies would be most

effective if implemented nationally or regionally, and whether measures should be product or sector-specific.

The most effective policies for improving resource productivity would be those which raise the price of virgin materials, and those which incentivise the uptake of recycled materials. A good example of such policy is the plastic packaging tax which came into effect on 1st April 2022. This is an example of an effective instrument to build demand for recycled material but needs to go much further and for longer, beyond the single year target that has been set.

An escalator should be introduced on the UK plastics tax to increase both the recycled content threshold below which it is applied, and also the tax rate, over time. To incentivise the domestic recycling of our plastic packaging the recycled content threshold should be increased incrementally from 30% to 50% over a ten-year period.

The UK should also explore the introduction of a wider product tax which applies the same principle as the plastics tax, i.e. products which fail to meet a recycled content threshold – regardless of material – should be subject to resource taxation. For example, the Aggregates Levy. The UK aggregates levy was announced in 2000 with the dual aims of reducing the negative environmental impacts of quarrying and increasing the recycling rate of construction materials by reducing the rate of primary material extraction. Introduced in 2002 at a rate of £1.60/t. it was incrementally increased to £1.95/t in 2008 followed by a further increase to £2.00/t in 2009. This was successful in encouraging recycling and use of secondary aggregates in the UK, but the impact has reduced over time, because of the failure to continue increasing the levy. If reinstated at an appropriate level (£3/tonne) it would provide renewed stimulus for use of secondary aggregates, which of course includes IBA aggregates. It would reinforce government policy, reducing the UK's reliance on primary aggregates.

In addition, there remain several issues that should be considered:

- how markets will be created/developed for materials without a current financially viable secondary market
- how the implementation of these legally binding targets will be enacted, policed and incentivised
- the proposals are looking to rely on necessary investment from the private sector, however, there remains little clarity on how investable conditions will be created to finance such investment

The waste sector provides an essential sanitary service to society, with little to no ability to elicit changes in the composition or volumes of waste we receive. Therefore, policy should be focussed on the manufacture of products which are designed with the circular economy in mind, ensuring products are constructed to last, using repairable and replaceable materials which can be recycled at end of life. This is in line with the modulated fees proposed under extended producer responsibility (EPR) which currently only applies to packaging, however there is scope to expand this scheme to other products.

Focus should also be on the producers of the waste and those collecting the waste to ensure the right materials are disposed of appropriately, maximising recycling rates and reducing the carbon content of residual waste. This can be achieved under consistency in collections and clear labelling of recyclable materials to ensure they are disposed of appropriately. The suite of policy reforms applicable to the sector are aimed at making waste a valuable resource which if treated appropriately will improve resource use of recyclable materials, and for non-recyclable materials, provide vital heat and power to the UK's homes. As acknowledged in the consultation there will continue to be non-recyclable wastes. Currently energy from waste provides the only viable option for net zero waste treatment through the application of carbon capture technologies.

Defra Environmental Targets Team
BY EMAIL ONLY

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Date: 27th June 2022

Dear Sir/Madam,

Consultation on Environmental Targets – Wessex Water Response

Thank you for the opportunity to respond to your recent consultation on Environmental Targets. Wessex Water welcomes the introduction of the target's framework. We believe that, together with our proposal for Outcome-based Environmental Regulation, the long-term targets could enable the step-change in place-based environmental leadership expected of the water industry at the next Water Price Review. This would in turn open huge opportunities for better solutions at lower costs to water customers and drive a step-change in private investment in delivery of government's nature recovery objectives, contributing towards the stretch target that Treasury gave Defra at the Spending Review to attract £500 million in nature recovery by 2027.

In particular, with some adjustments to ambition for key targets, filling in of some key gaps, and close alignment with wider policy frameworks, the Environment Act targets framework could provide the water industry with the policy direction and long-term certainty needed to drive a step-change in investment. This would need to be enabled through changes to economic regulation to level the playing field in incentives together with an Environmental Improvement Plan that provides the mechanisms, tools and wider incentives needed for a modern regulatory compliance strategy.

To enable this outcome, we encourage government to:

1. Fill some key strategic gaps by adding outcome-based apex long term targets.
2. Increase the ambition of some subsidiary targets by aligning them with the apex targets.
3. Develop an effective framework of policies, incentives and strong interim targets in the first Environmental Improvement Plan (EIP) to underpin the targets framework.

For the water industry, the next regulatory cycle from 2025-30 is an opportunity to test out the local delivery of the targets framework and, in particular, to help square the circle between the need to improve environmental outcomes without putting undue pressure on water bills during a cost of living crisis. We believe there is an unprecedented opportunity to establish, for the first time, an integrated strategy for improving the water environment. Getting this right will remove the current 'pinch points' on the environment and growth - including river pollution and nutrients –

offering more efficiency and impact than the current disjointed set of (occasionally contradictory) output-based objectives. To seize this opportunity, Defra needs to:

1. Set an **ambitious, long-term, overarching target** to guide and accelerate progress in the water environment. This target will act as a lodestar for environmental activity around waterbodies, setting a benchmark for all public and private policies, projects and plans – and allow the public to readily understand progress.
2. Set that target on the basis of the outcomes needed to allow nature recovery, **with all subsidiary or interim targets designed in a way that supports that aim.** (Our starting point is that this may need an **overarching target of at least 85% of waterbodies achieving good ecological status by 2040.**)
3. **Underpin the overarching target with a National Improvement Plan (NIP)** that sets out all of the actions needed to deliver it (including actions by Government and regulators). These actions should be based on an approach to burden-sharing that is fair, optimising for cost, risk and pace. It should include the need for education and incentives as well as other measures as part of a modern regulatory compliance strategy. The NIP should set out how different schemes and policies should work together and be informed by each other, including the role of regulation, enforcement, incentives and markets.
4. Provide each catchment with the opportunity to develop its own plan, informed by the ambition set by the national overarching target, and drawing on the tools available in the National Improvement Plan. **Catchment-level plans should be the basis for all decision-making about local schemes, priorities and proposals** when decisions are taken by water companies, regulators and grant-makers.

We would emphasise that the water targets as proposed will not bring about the change that is required. Specifically:

- The phosphorus wastewater target will not drive efficient investment as it does not enable catchment or other innovative solutions. It is also orphaned from the wider context of ELMs, LNRs and the contribution of different stakeholders. We therefore strongly recommend removing the prescriptive stipulation that water companies should deliver this target solely through wastewater treatment improvements.
- The public water supply target is but a sub-part of the key outcome of ensuring we abstract sustainably from the environment. Moreover, the per capita element in this target breaks the link both with environmental outcomes and with the ability to calibrate action at catchment level. It unjustifiably transfers population growth risk to the environment.


Both targets assigned to these ‘outcomes’ (80% reduction in phosphorus and 20% reduction in DI/head) are set using a series of assumptions about delivery of outputs (TAL at treatment works; leakage, PCC, etc.). This is not an appropriate way to set

targets, which should be based on evidence of the need with appropriate source apportionment.

We attach our detailed response to the consultation questions (below). We hope our consultation response is helpful.

We would be pleased to provide further information to support government in developing the targets framework and, for our part, remain committed to playing our part in accelerating delivery of the government's 25 Year Environment Plan through the Business Plan we propose to our regulators at the 2024 Water Price Review.

Yours faithfully,

REDACTED 

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REDACTED
pp.
Group Director of Environmental Futures
Wessex Water

Environmental Targets Consultation

Wessex Water Response

| Consultation Question | Wessex Water Response |
|---|---|
| Do you agree or disagree that the proposed combination of biodiversity targets will be a good measure of changes in the health of our 'biodiversity'? | <p>We disagree with this proposal.</p> <p>We are surprised that no target on the condition of protected wildlife sites is included in the consultation. Whilst we understand that Government is currently consulting on potentially significant changes to the protected sites system under the separate Nature Recovery Green consultation, we feel that a target would set an overall direction of travel on these crucial sites. The sites are the cornerstone of the Lawton principles to achieve bigger, better and more joined up habitats to improve biodiversity and should be recognised as a key factor requiring management.</p> <p>Having engaged with Natural England on past targets to increase protected site condition, we have continued to track the condition of protected wildlife sites such as SSSIs owned and managed by Wessex Water and have a voluntary performance commitment to deliver actions to improve the current condition of SSSIs in conjunction with Natural England.</p> |
| • Do you agree or disagree with the level of ambition of a 10% increase proposed for the long-term species abundance target? | <p>We disagree with the level of ambition proposed.</p> <p>We consider that a stronger focus on fish and other freshwater species (both plant, mammal and invertebrate) is required in the abundance target to adequately quantify impacts to species in freshwater environments and avoid an overwhelmingly terrestrial bias in the efforts made to meet this target.</p> |
| Do you agree or disagree with the ambition proposed for the long-term species extinction risk target to improve the England-level GB Red List Index? | Agree |
| <p>a) Do you agree or disagree with the level of ambition of 'in excess of 500,000 hectares' proposed for the long-term wider habitats target?</p> <p>b) Do you agree or disagree that all wildlife-rich habitat types should count towards the target?</p> | <p>a) We agree with the level of ambition of 500,000ha.</p> <p>b) We disagree that all wildlife rich habitat types should count towards the target. The current proposal to include all wildlife rich habitat types is too broad brush to drive sustainable creation or restoration of wildlife rich habitat, without any reference to the condition of the habitat created. The supporting document acknowledges that condition of such habitats cannot currently be included and that systems may be in</p> |

| Consultation Question | Wessex Water Response |
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| c) Are there any habitat types that you think should not count towards the target? | development to allow condition assessment in future. However, without such systems in place to monitor and report on condition, the target runs the risk of creating such habitat solely on paper, without delivering the required outcome. Given the large programmes anticipated to deliver the outcome (referenced as ELMs, Biodiversity Net Gain, Nature for Climate fund and work from partners such as the Water Industry), these programmes will inevitably generate both gains and losses, and the time taken to create fully functioning habitat in good condition (and maintaining it for a suitable timescale) does not appear to be factored into this target. c) No additional comment |
| Do you agree or disagree with the level of ambition proposed for the Marine Protected Area target? | Agree |
| Do you agree or disagree with the level of ambition proposed for an abandoned metal mines target? | Agree |
| <ul style="list-style-type: none"> • In addition to the proposed national target, we would like to set out ambitions for reducing nutrient pollution from agriculture in individual catchments. Do you agree or disagree that this approach would strengthen the national target? • Why don't you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? • Why do you think ambitions for reducing nutrient pollution from agriculture in individual catchments will strengthen the national target? What factors should the government consider when setting these ambitions? | <p>We welcome and support all measures to reduce nutrient pollution to our river catchments, whether from sectors contributing to rural diffuse pollution or from our investment programme to reduce nutrients arising from our own treatment works. Levels of nutrient pollution vary by catchment and the type and form of each river system will often determine both the sensitivity to nutrient pollution and the best steps to reduce pollution, particularly with reference to the type and character of agriculture practiced in any given area. We firmly believe that the most relevant, sustainable and equitable way to reduce nutrient pollution from agriculture is to work with local farmers to co-design solutions (as evidenced by our involvement with the Poole Harbour Nutrient Management Scheme and Catchment Markets in the Bristol Avon & Somerset catchments). Reductions are best achieved when locally relevant targets are in place which are agreed by all and can result in meaningful change.</p> <p>Solutions to the nutrient issue must be deployed at a catchment scale and in a system wide fashion. Our experience in the past is that dealing with sectors or issues separately does not often result in the expected outcome and it is only by working with all catchment partners can the significant change anticipated by these targets be delivered. The impact of the target and the degree of change necessary to meet it upon agricultural systems in this country cannot be underestimated. We have</p> |

| Consultation Question | Wessex Water Response |
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| | <p>concerns about the economic feasibility of achieving these outputs unless the required changes can be dealt with cohesively by multiple sectors – for example, by Outcome Based Environmental Regulation or a combined Water National Environment Plan, rather than a separate plan solely for the water industry. Both nitrogen and phosphorus must be tackled by both the wastewater and agricultural sectors in parallel, particularly if more innovative catchment market/trading systems are to work.</p> <p>When setting ambitions, Government should factor in:</p> <ul style="list-style-type: none"> • The types and impacts of nutrient pollution from agriculture – whilst our rivers are a headline impact, both the water industry and private drinking water sources suffer increasing levels of nitrate in raw water abstracted from aquifers. When setting targets, both groundwater and surface water should be included. • The likely long-term direction of travel, not only with regard to nutrient targets, but also the structure of the farming industry as it responds to a changing climate and markets. • The characteristics of each catchment – the underlying geology and other natural characteristics of catchments typically informs the farming methods employed and therefore which nutrient pollution interventions are most successful. • Linkages between plans to achieve multiple benefits – targets to reduce nutrients should link to and achieve wider water quality, biodiversity and flood management outcomes (for example, by facilitating Local Nature Recovery Strategies) • The need to deliver outcomes through nature-based solutions. <p>The agreement of local targets would support our desire to move towards Outcome Based Environmental Regulation as an approach. This would allow us to work with the agricultural sector to choose solutions that deliver the greatest environmental benefits (across a range of dimensions) at the lowest costs, whilst supporting farm incomes and delivering multiple benefits. One of the main messages we hear from farmers is the need for sustained capital investment in order to rectify nutrient sources on farms (for example, slurry storage). As a sector, we believe we should have an opportunity to invest not only in our own assets, but also by targeting solutions with farmers and land managers that can result in the most significant change. We</p> |

| Consultation Question | Wessex Water Response |
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| | <p>therefore consider that local targets should facilitate private and public funding sources working together in the most optimal fashion to deliver local outcomes. It is likely that a funded network of farm advisers will be needed to provide sustained, long term, cohesive advice at a catchment and individual farm level to achieve the significant changes required in agricultural practices. This may be funded through public, private or blended finance options. In addition, a fully resourced and sustained regulatory approach will be required to ensure compliance levels are high, particularly to achieve the levels of uptake mentioned in the Detailed Evidence Report.</p> <p>We are concerned that setting the baseline year for the target at 2018 will mask the impact from legacy nutrients in soil, sediment and groundwater. Whilst it may be possible for agricultural measures to reduce legacy nutrients (for example, nil fertilizer application onto grassland followed by enhanced grazing to slowly remove nutrients), a failure to tackle the significant residual legacy nutrients may harm short to medium term progress with the target. Legacy nutrient levels in groundwater are especially important as we know that in some aquifers within our region, groundwater in aquifers already experiencing elevated nutrients will take over 30 years to reach the surface, over which period elevated levels in rivers can still be expected. The targets presented offer no support for a mechanism to deal with, account for and control these sources of nutrients, which could be key to achieving wider targets in nutrient sensitive areas such as the Somerset Levels.</p> <p>We note that measurement of this target will be achieved through modelling and not through increased monitoring. We are aware that there are significant evidence gaps surrounding the source, level and impact of nutrients in aquatic systems and frequently hear from our catchment partners that the existing evidence base is insufficient on which to make practical decisions around improvements. We would therefore recommend that an extensive additional monitoring effort is needed at a national and catchment level which is fully funded, sustainable and long term. Without this, it will be difficult to show that the outcomes required by the proposed targets will achieve their stated aims. The lack of such data also significantly hinders the targeting of solutions to the most beneficial sectors or sources, resulting in inefficiencies and potentially, failure to invest in the most appropriate solution.</p> |

| Consultation Question | Wessex Water Response |
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| | <p>We note the WEAGs recommendation that methods of assessing nitrogen and phosphorus pollution from agriculture use multiple (and ensemble) models of total N and P loads delivered to water. We would support this proposal given our own use of Farmscoper coupled with other modelling tools (such as SAGIS). We believe there is considerable value in undertaking more detailed assessments of nutrient use within catchments, as put forward by the WEAG around intrinsic locating and losses, particularly focused on nutrient inputs, nutrient flows within sectors, fluxes and soils as evidenced by Lancaster University’s RePhokUs project.</p> |
| <p>The target needs to allow flexibility for water companies to use best available strategies to reduce phosphorus pollution, including the use of nature-based and catchment-based solutions. Do you agree or disagree that the proposed target provides this flexibility?</p> | <p>We fundamentally disagree with the overall target to reduce phosphorus loadings from treated wastewater by 80% by 2037 (against a 2020 baseline). This will lead to inefficient solutions to the outcomes we are trying to solve for society. It will, in fact, remove <u>all</u> flexibility for water companies to use best available strategies to reduce phosphorus pollution.</p> <p>There are two significant issues that must be addressed, or this target will cause significant harm to the environment and to customers:</p> <ol style="list-style-type: none"> 1. We must remove the words “from treated wastewater” from the target. If this is retained, the only solutions that water companies will be able to deliver will be carbon-intensive, chemical-intensive, financially expensive solutions on their own assets. Rather, we should be encouraging water companies and other contributing sectors to find the most efficient way to solve water quality issues, carbon, biodiversity, and affordability issues. This could include catchment and nature-based solutions that will otherwise be excluded if the target wording does not change. 2. 80% is almost certainly the wrong target. The evidence presented does not demonstrate that 80% is the right number to deliver the appropriate level of environmental improvement. Rather, it is the summary of a number of assumptions at national level. We would expect the target level to be set by considering the need of each catchment (in tonnes of phosphorus reduction to meet good ecological status), performing a source apportionment to understand the water industry share of the pollution, and scaling that back up to a national reduction target. |

| Consultation Question | Wessex Water Response |
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| | <p>Wessex Water has a significant investment programme over the 2020-2025 period to deliver a step change reduction in phosphorus entering rivers in specific catchments across our region. This builds on a large body of work undertaken over the previous AMP periods to reduce nutrients, whether via additional treatment processes at our Water Recycling Centres; through our pioneering catchment management work or our innovative approaches to catchment nutrient permitting. We therefore support the overall goal to substantially reduce phosphorus loadings which matches our own environmental outcomes set out in our Strategic Direction Statement to restore the health of our river and coastal waters, ensuring there are zero pollutions and reducing the levels of harmful nutrients in the water.</p> <p>We would welcome an overall catchment reduction target, determined using available data, and support the broad scope envisaged to allow water companies to reduce phosphorus pollution beyond investments at our treatment works. We have been consistent in our calls for outcome based environmental regulation and welcome the recognition in the consultation around this target which aims to “deliver the best outcomes for our water bodies and the natural environment as a whole”. We believe regulation should focus firmly on long-term outcomes. This would enable water companies to select the tools and delivery routes most suited to their circumstances, while still being held accountable for delivering the end results policy makers and regulators, on behalf of customers and citizens, want to see. It would also free companies up to develop longer term adaptive plans that can be tailored to the needs of local catchments as these change over time. We are convinced that solutions need to be adopted at a catchment scale, balancing both extensive catchment solutions by all sectors, such as catchment permitting, catchment nutrient markets etc. with local intensive solutions deliverable by the water industry, such as achieving TAL for phosphorus at specific water recycling centres.</p> <p>In order to support delivery of this target, change is also required amongst the water industry’s economic and environmental regulators to move towards an outcomes-based framework. For example, price controls would need to incentivise the most effective delivery mechanism for those targets, by creating a level playing field for all delivery options irrespective of their cashflow profile. This would drive us to integrate the delivery of our various targets for holistic best value; free us up to innovate and</p> |

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| | <p>identify the best solutions through market mechanisms; and in the process unlock the potential of nature and catchment-based solutions to deliver wider public value. Given the timescale for achieving the target, we would wish to see more significant intervention by our economic regulators to ensure that the ability to innovate is embedded in thinking for Price Review 24 (PR24). We believe that to meet the significant challenge presented, we need to operationalise innovative techniques at the earliest possible opportunity, rather than delay investment in nature-based techniques capable of achieving multiple benefits due to an overly precautionary permitting system.</p> <p>We also challenge the specific detail set out later in the same paragraph that “Beyond 2027, this will involve setting the strictest Technically Acceptable Limit, the tightest limit for Environment Agency permits, across 400 wastewater treatment works serving a population greater than 2,000. This means undertaking the more challenging and costly projects that have not been included in the current planning period”. This will, again, lead to perverse behaviours where water companies are required by law to build carbon-intensive, chemical-intensive, and expensive grey infrastructure solutions to solve a siloed problem concerning a housing backlog. We fully support unblocking the housing backlog but it should be done in the most efficient way possible, with full consideration for the other societal and environmental outcomes we are trying to achieve.</p> <p>It is imperative that implementation of the targets for the water industry must be considered in terms of their secondary impacts to associated systems. For example, requiring more Sewage Treatment Works to meet tighter phosphorus removal limits such as TAL (particularly if this is set for all sites with a population equivalent over 2,000) will:</p> <ul style="list-style-type: none"> • Involve a larger number of WRCs than the 400 specified at a national level requiring improvement • Likely result in nature-based solutions being unavailable at such sites. TAL is currently accepted to be at 0.25mg/l of phosphorus. For WRCs of this size, nature-based solutions will be unable to guarantee permit compliance at this level, which will necessitate traditional energy and chemically intensive solutions to meet this target. Whilst this would still allow nature-based solutions |

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| | <p>to be implemented at smaller works (where arguably, they are more successful) where a TAL permit may not be applied, the consultation should realise that this level will effectively preclude catchment and nature-based solutions for works above 2000 PE without a significant change in the Environment Agency's approach to Environmental Permitting.</p> <ul style="list-style-type: none"> • Make meeting our targets around net zero carbon more difficult to achieve by increasing reliance on energy and chemically intensive treatment systems. Essentially, this will lead to additional cost being incurred to find an alternative approach to reducing both the existing carbon and the new carbon created by these grey infrastructure solutions. • Generate significant additional amounts of sewage sludge – as the level of chemical removal of phosphorus increases, the level of sewage sludge produced also increases. This is likely to prove challenging to the industry as steps are simultaneously being taken to restrict options around recycling of biosolids to land given perceived impacts to nutrient levels in sensitive catchments (for example, through the Farming Rules for Water) and issues around microplastics/other contaminants. With limited options for reuse within a circular economy, the additional sludge may have considerable energy, emissions and other implications to manage. We support the WEAGs views noted in the Detailed Evidence Report on circular economy thinking and phosphorus capture in this context. • Would not address the root cause of the problem in many locations, which is diffuse pollution from agriculture or urban areas, or tackle the legacy issues which could be better ameliorated using catchment and nature based solutions. <p>The targets proposed under the Environment Act should also be viewed in light of the existing range of targets under existing legislation, such as the wider Environment Act, Habitats Regulations (with regard to nutrient neutrality) and other regulatory mechanisms (for example, the Water Industry National Environment Plan). We would welcome more focus on combining these multiple different targets from legislative silos being brought into a comprehensive outcome focused package.</p> <p>The nutrient targets focus on the two biggest sectors causing the greatest contribution. However, we are aware that in some areas, particularly on the headwaters of rivers,</p> |

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| | <p>the contributions of pollution arising from private septic tanks and private sewage treatment systems can be significant. A greater focus on how these features can be improved is needed, whether through the proposed targets extending to include these sources, or through another mechanism. We therefore support the WEAG views on septic tanks set out in the Detailed Evidence Report and their potential inclusion within the targets.</p> |
| <p>Do you agree or disagree with the level of ambition proposed for the nutrient targets?</p> | <p>We welcome the recognition of the significant progress the water industry has already made in reducing levels of nutrients entering watercourses and support the overall ambition proposed for nutrient targets, both on the wastewater and agricultural sector if the targets could be made locally relevant at a catchment scale. We consider that the level of ambition for the agricultural sector is potentially very significant and achieving this level could require a step change in agricultural practices. Whilst we recognise the reasons why the 50% reduction target for the agricultural sector put forward by WEAG has not been taken further, we believe that local variations in the target level may be appropriate where there is local necessity (for example, upstream of sensitive areas) and could support other drivers or targets (e.g. Habitats Regulations, nutrient neutrality etc.). This would mirror the approach of the water industry, where more sensitive catchments receive enhanced treatment solutions.</p> <p>Through our long-standing catchment management programme, we have considerable experience in working with the agricultural sector and would emphasise that this level of change must be facilitated by sufficient resource allocation and support for the sector. This is likely to involve the need to leverage private finance in addition to public support to deliver the expected targets. Whilst targets for separate sectors may provide accounting clarity, we believe that all relevant sectors will need to work together to achieve these outcomes which supports a move towards Outcome Based Environmental Regulation. This involves regulators setting outcomes-based targets at a suitable level (e.g. at a catchment scale) which would enable deliverers to choose solutions that deliver the biggest overall environmental benefits at the lowest costs. This would require regulators to translate these national targets into local expression such that they can be delivered in an integrated way. This would incentivise innovative approaches and unleash the potential of nature-based solutions and wider ecosystem or catchment markets in the delivery of such ambitious long term environmental</p> |

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| | <p>outcomes. Such an approach must seek to ensure that the set of solutions adopted meet multiple targets in order to achieve the significant change required – for example, by ensuring that the set of solutions increase/improve habitats and species, as well as meeting carbon and flood reduction outcomes.</p> <p>However, as noted in our response, we believe that there is a significant risk that by concentrating solely on these sectors, other sources or sectors (such as industry or urban diffuse pollution) may remain without a direct target and driver to encourage change. It would be beneficial for individual contributing sectors beyond wastewater and agriculture to be set outcome targets to ensure that these areas have sufficient focus and incentive to engage with nutrient reduction and diffuse pollution reduction.</p> |
| <p>Do you agree or disagree with the level of ambition proposed for a water demand target?</p> | <p>We fundamentally disagree with the approach used for setting the water demand target.</p> <p>The primary outcome we are trying to achieve here is to ensure that we abstract sustainably from the environment. The target should be set on this basis. This should include stream support mechanisms that a distribution input (DI) measure cannot account for (NB – we could see scope for a “net DI” metric set at appropriate sub-catchment level, although note that the following arguments also apply).</p> <p>We would propose that – given they already exist – abstraction licences should form the basis of a national target. This would mean that water companies could deliver their share of abstraction reductions in the places they were needed. As it stands, a 15% reduction in DI might lead to companies reducing abstraction in areas where the environment doesn’t need them to and not reducing it where it is needed most. Moreover, it will likely lead to companies making inefficient investment (for example in excessive leakage reduction, which is often financially expensive, carbon-intensive, and disruptive to road networks).</p> <p>There are significant issues with the target as proposed:</p> <ul style="list-style-type: none"> • DI doesn’t account for places where we put water back into the river to improve flows (stream support). This might, over the longer-term, prove to be a very successful way to manage river flows more widely but would not be reflected in |

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| | <p>the proposed DI metric. In this case, the target would drive perverse, inefficient behaviours.</p> <ul style="list-style-type: none"> • It must be set at a catchment level – it is no good having companies in the south east of England with the same reduction targets as companies in the north west of England. Given companies' current supply/demand position, this would clearly be inappropriate. • Again, the target as proposed is based on evidence that amounts to a set of output metric assumptions (e.g. 122 l/h/d PCC, a leakage reduction, and a non-household demand reduction), rather than an understanding of the real need of catchments. <p>There is real concern around adoption of the proposed per capita metric and we consider that the target should – if not rewritten to reflect our above points regarding the sustainable abstraction metric – be amended to better reflect the existing water industry metric around water demand. The risk of using a per capita metric is that an increasing population level can quickly overwhelm any per capita water consumption reduction benefits.</p> |
| Do you agree or disagree with the proposed metric for a tree and woodland cover target? | Agree |
| <p>a) Do you agree or disagree that short rotation coppice and short rotation forestry plantations should be initially excluded from a woodland cover target?</p> <p>b) Do you agree or disagree with the proposed inclusion of trees in woodlands, as well as trees in hedgerows, orchards, in fields, and in towns and cities?</p> | <p>a) We agree that short rotation coppicing should be initially excluded</p> <p>b) We agree that other trees should be in scope</p> |
| Do you agree or disagree with our proposed level of ambition for a tree and woodland cover target? | Agree |
| • Do you agree or disagree with the proposed scope of the residual waste target being 'all residual waste excluding major mineral wastes'? | We disagree with the proposed scope of the residual waste target. Whilst we support the overall target to reduce residual waste, we consider that a sub-target to cover major mineral wastes would be appropriate to drive change in the sector, but also influence the approach taken by regulators for these waste streams. |

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| | In order to rise to the challenge of creating a more circular economy, encouraging the recycling or reuse of construction and demolition aggregate waste offers a significant opportunity to reduce impacts arising from primary virgin aggregate extraction. |
| <p>a) Do you agree or disagree that our proposed method of measuring the target metric is appropriate?</p> <p>b) What reasons or potential unintended consequences can you provide or foresee for why the government should consider a different method?</p> <p>c) Do you agree or disagree that local authorities should have a legal requirement to report this waste data, similar to the previous legal requirement they had until 2020?</p> | <p>a) Agree</p> <p>b) No additional comment</p> <p>c) Agree</p> |
| Do you agree or disagree with the level of ambition proposed for a waste reduction target? | Agree |
| Do you agree or disagree with our proposed metric for considering resource productivity? | No additional comment. |
| Of the possible policy interventions described, which do you think will be most effective to meet a resource productivity target? Please specify whether these policies would be most effective if implemented nationally or regionally, and whether measures should be product or sector-specific. | No additional comment. |
| Do you agree or disagree with the level of ambition proposed for a PM2.5 concentration target? | No additional comment. |
| Do you agree or disagree with the level of ambition proposed for a population exposure reduction target? | No additional comment. |