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The Rt Hon George Eustice MP
Secretary of State for Environment, Food and Rural Affairs

Rebecca Pow MP
Minister for Nature Recovery and the Domestic Environment

Department for Environment, Food and Rural Affairs
2 Marsham Street
London
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By email only

Dear Secretary of State and Minister Pow

Advice on environmental targets

In our recent report taking stock of the work needed urgently to protect, restore and improve the environment[1], we provided advice on target setting. On behalf of The OEP, I am pleased to follow up with our advice on the specific target proposals set out in your department's current consultation.

As you may recollect from our report, in our view each of the 25 Year Environment Plan (25 YEP) goals should have an associated lead (apex) target. As many as possible should be statutory – as in that way they are most likely to endure, and to drive investment and delivery. We also pressed for a clear, coherent hierarchy of targets.

Government has the opportunity to anticipate and herald the second iteration of the Environment Improvement Plan (EIP), as it sets these first statutory environmental targets. In our view, these targets are extremely significant. They will crystallise and lay bare the level of government ambition for the environment, at a time when so much ambition is needed, and with change required at pace in so many areas.

We recognise this is not the only opportunity for target setting. Alongside a second iteration of the EIP, the Significant Improvement Test is due to be applied for the first time by 31 January 2023. Together these allow government to identify priority areas for setting new targets, strengthen existing targets, and replace them when they expire. But in short, the government has just a few months in which to settle the trajectory for the environment and move to a more coherent hierarchy of targets to truly drive the changes needed.

[1] The Office for Environmental Protection, Taking stock: protecting, restoring and improving the environment in England, (2022), https://www.theoep.org.uk/report/taking-stock-protecting-restoring-and-improving-environment-england [accessed June 2022]

We hope that the observations we provide (in the Annex to this letter) will assist. We have used the framework signalled in our recent report to assess the proposed targets. It covers **Comprehensiveness, Coherence, Ambition** and **Delivery Assurance**. From this analysis, we developed a recommendation for each target: to **Add, Amend** or we **Commend**.

Targets must be comprehensive and cover the full range of priorities

In our view, all goals in the EIP should have an associated apex target, supported by a range of interim targets. Apex targets are most meaningful if they address the environmental outcomes that matter most, rather than areas that are easy to measure and improve. The species abundance target is a good example of a meaningful apex target, in our view.

However, you do not propose statutory apex targets for all 25 YEP goals, and it is not clear whether other non-statutory apex targets are planned to accompany the next iteration of the 25 YEP. We have made five suggestions to add further statutory targets and we recommend that five target proposals are amended to either broaden or focus their scope.

Coherence and the need to set out relationships between targets

The consultation document provides little clarity on how the proposed targets will work together with existing commitments under national legislation and through international commitments. Indeed, pre-existing targets and commitments are often overlooked within the consultation documents. For example, the proposed relationship between the suggested water targets on pressures or drivers and pre-existing water targets is not clear.

With industry and public bodies wanting clarity on the areas of the environment they should focus on, we reiterate the need for government to map the targets and commitments that are important to achieve the 25 YEP goals, and to order them into a clear hierarchy and taxonomy.

Government will need to develop a suite of targets over the next EIP cycle, with priorities informed by the Significant Improvement Test. We do think the time is right, to aim for a sufficiently comprehensive and more coherent hierarchy of targets.

Inconsistent levels of ambition across proposed targets

Several of the proposed targets are laudably ambitious. We welcome and commend those targets (see the Annex). However, three targets are unambitious or lack sufficient urgency to reflect the scale of change needed: the post 2030 species recovery target, the wildlife-rich habitats target and the PM2.5 air quality target.

With a species abundance baseline set in the future (and therefore potentially below the present level), the post 2030 species recovery target could have the unintended effect of committing government to a loss in species abundance. Instead, we advise that the baseline should be a known level, either from 2018 when the 25 YEP was established, or from 2022 when the target is set.

The wildlife-rich habitats target is weak from a nature recovery perspective, despite habitats and species abundance being co-dependent. It allows habitat loss to continue in parallel, and delivery could be largely met through the other targets.

The PM2.5 air quality target is ambitious, but the proposed 2040 deadline is not pressing enough considering the serious harm to human health, and the Environment Act provisions for a short-term target. The target is assessed to be achievable by 2030, except in a few isolated hotspots. We advise the delivery date be brought forward, albeit local hotspots may require special measures.

Delivery requires planning and immediate action

We understand that the planning gaps will be addressed once targets are agreed, and we welcome the implied pace of change in some of the targets. However, because environmental change typically lags behind intervention, we also believe it is paramount that government meets the October 2022 deadline to set targets, and that it moves quickly to assemble resources and co-ordinate delivery activity. This is particularly important for the target to halt the decline in species abundance within eight years.

We also want to offer broad advice about how we expect plans to develop. We look forward to seeing how national targets translate into credible national and local plans, with clear responsibilities for public bodies and partnerships across sectors. In addition, we await with interest, details on how government will galvanise the investment, innovation, and behaviour change it states is necessary to deliver the targets.

As they stand, the target proposals lack an assessment of future climate risks. This is something to consider when planning, as of course changes to the climate can temper the prospects of success. What is more, many targets appear to rely on significant policy instruments that are currently under development. Those relating to agriculture and land management will be critically important in addressing recovery of the land and water environment, as well as driving species recovery. We are therefore naturally concerned at the slow progress of the Environmental Land Management scheme.

In conclusion

We congratulate government on progress so far and hope that our advice will allow the strengthening of the proposed targets. There is an urgent need to make significant progress over the next few years, in protecting, restoring and improving the environment. The statutory targets finally agreed will be an important stimulus and should so far as possible promote immediate as well as sustained action. We do urge you to set statutory targets that are sufficiently comprehensive and that demonstrate the level of ambition needed to significantly improve the natural environment, as required under the Environment Act.

We expect government to meet the deadline to lay before Parliament draft statutory instrument(s) containing regulations to set targets on or before 31 October 2022. The next EIP is an ideal opportunity to ensure ambitious apex targets are set for all goals and to signal a more coherent hierarchy of targets. It is also the right place to be clear about the all-important delivery arrangements.

We will assess progress against the targets through our next monitoring report. We will also evaluate and report on whether the targets will significantly improve the natural environment in England.

I would be pleased to discuss the advice presented in this letter and its annex, and to provide any other assistance.

Yours sincerely,

Dame Glenys Stacey
Chair, Office for Environmental Protection

Office for Environmental Protection

Annex – Analysis underpinning our advice on the proposed environmental targets

Our analytical framework and formulation of advice

Our analysis of the proposed targets (and their supporting evidence packs and impact assessments) applied four concepts: comprehensiveness, coherence, ambition and delivery assurance. We provide summary advice on the proposals in each area set out in the consultation, and then an assessment of each proposed target using these concepts.

There are particular difficulties in measuring success, especially for those proposed targets with pressing timeframes (e.g. in relation to species abundance). We advise government to develop proportionate but sufficiently reliable monitoring and evaluation. Proxy indicators may have their place.

As targets are settled, in our view government should be clear to all that meeting the targets is essential for our future health, wealth and wellbeing. Government should also determine the delivery arrangements required within the Defra group and across government, local authorities and wider society.

For each target we provide a recommendation: either commending it, or suggesting it should be amended or have something added. **Commend** indicates that a proposed target will drive improvement in environmental condition. **Amend** has been applied to strengthen a proposed target based on its existing terms. We use **Add** where we have found important omissions in the proposals.

Comprehensiveness: Once introduced, will there be apex and interim targets associated with all Environmental Improvement Plan (EIP) goals? Where are the gaps? Are there apex targets set for all of the priority areas identified in the Environment Act?

Coherence: Is there clarity in how individual targets relate to each other and to pre-existing targets and commitments, e.g. through a hierarchy and/or taxonomy?

Ambition: Are the targets set at sufficiently challenging levels – to set expectations, drive innovation and encourage investment to deliver the changes needed? Do the targets reflect the broader vision of the 25 Year Environment Plan (25 YEP) to 'become the first generation to leave the environment in a better state than we found it'?

Delivery Assurance: Are plausible delivery pathways explored and are short-term measures identified to provide direction and stimulus? Are the key delivery risks, dependencies and uncertainties identified and planned for? Have the implications of non-achievement been assessed?

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Our analysis of the proposed targets

Target proposals for biodiversity on land and in the sea

Overall conclusions

The proposal to halt species decline by 2030 is laudably ambitious, reflecting the need for urgent action, but across the suite of biodiversity targets, ambition is mixed. There are some clear gaps in coverage, as well as some risks of double counting. Adapting the targets as we recommend below will enhance their effectiveness in driving biodiversity recovery.

Crystallising biodiversity outcomes

The species abundance targets are apex targets. As well as seeking to protect and grow species populations, measures of performance against these targets can act as a proxy measure for the state of the wider environment.

However, it is inappropriate to set a future (2042) species abundance target that is dependent on an as yet unknown 2030 baseline. The Environment Act requires that long-term targets must be objectively measurable and achievable (s.1(4) and s.4(2)), and therefore the proposed target does not appear to be lawful under s.1 of the Act.

Lack of coherence

The remaining biodiversity targets appear to have been set with limited evaluation of their impacts on species abundance, individually or in combination. It is also concerning that the interdependencies with the Nature Recovery Green Paper, such as the 30 by 30 commitment, appear not to have been fully considered.

Overall ambition is mixed

A proposal to halt species decline by 2030 is ambitious. The timeframe reflects the need for urgent action. Conversely, the post-2030 species abundance target lacks ambition: government's own analysis shows there could be no net nature recovery compared to current levels[2]. The level of ambition in the post-2030 species abundance target is also highly uncertain and over the next EIP further research is needed to provide greater clarity on what is achievable.

The supporting habitat targets are weak from a nature recovery perspective and yet habitats and species are co-dependent. In particular, government has not proposed a target on the condition of protected sites, despite their importance in species recovery. Incidentally, they also provide the only currently available measure of habitat condition. Furthermore, government has not specified a timescale for developing improved targets on the extent, condition and connectivity of habitats in line with Lawton's Principles (Better, Bigger, More and Joined).

We advise that without clarity, the targets proposed may not drive an increase in the total extent of wildlife-rich habitat. Any increase that is achieved could largely be delivered through double counting of woodland creation, driven by the separate woodland creation target. This could lead to other important habitats becoming under-represented, and inadequate weighting and planning across the habitat mix.

In the marine environment, we recognise the importance of the protected areas condition target. Nonetheless, Marine Protected Areas only cover 38% of UK territorial waters and focus on the condition of designated features rather than considering entire ecosystems and the pressures they face. To provide coherency in protecting all marine areas, the

[2] p46 of the detailed evidence pack for biodiversity terrestrial and freshwater targets (analysis conducted by UK CEH)

target needs support from the wider marine environment targets contained in the UK Marine Strategy. As proposed, the marine target addressing protected areas will be insufficient for meeting the 25 YEP goal *to reverse the loss of biodiversity in all of the UK's seas and restore it'.*

Limited assurances on successful delivery

Land management schemes will play a key role, but we note that the Environmental Land Management (ELM) scheme (planned to launch fully from 2024) is still in development, with the prospect of further delays. In any event, the ELM scheme and recently announced land-use framework will not be sufficient to drive nature recovery, as government's evidence pack states: "*plans for habitat creation and Agri-environment schemes alone will not be enough to meet targets*".

There is little detail provided on plausible delivery pathways, or necessary short-term measures. Broad assumptions are provided on the scale of actions required, which are based on expert judgement and illustrations. Governance arrangements will need to be developed that are sufficiently robust to deliver the vision of the 25 YEP.

The targets on species and protected site feature condition are based on static parameters. Climate change will continue and could outpace nature's ability to adapt. We advise that an adaptive management approach is taken to address this risk.

Species abundance target: Halt the decline in species abundance by 2030

Comprehensiveness

- Species abundance is an apex indicator of biodiversity and a proxy for the state of the wider environment. The species abundance target together with the post-2030 species abundance target have the potential to deliver the 25 YEP vision 'to become the first generation to leave the environment in a better state than we found it'.
- However, the species abundance indicator is not sufficiently representative. Over the next EIP, it should capture an adequate and wide cross-section of species, in particular marine and freshwater species.
- Species taxa and those that can be objectively measured are expected to change over time through natural variation and it is unclear how this will be taken into account within the species abundance index.

Coherence

- It is not clear how the species abundance target relates to other Environment Act target areas and the 25 YEP goals, despite there being strong interdependencies between other environmental challenges and their drivers. There are risks if the relationships between targets are not made clear, and expectations set.

Ambition

- Aiming to halt species decline by 2030 is ambitious. It reflects the need for urgent and immediate action and will require recovery of a range of habitats, while also mitigating the pressures that impact many parts of the environment. These pressures include habitat loss and degradation, climate change, urbanisation, pollution and invasive non-native species.

Delivery assurance

- Land management schemes will play an important role. It is concerning that the land use framework will not be launched until next year and the ELM scheme is still in development, with just seven years before the target is due to be met.

- To halt species loss requires, amongst other things, conserving biodiversity rich habitats. The existing protected site network is a critical foundation both in extent and condition. Recent analysis has shown the network to have a good coverage of species[3]. This suggests that investment in protected sites could be a key tool to contribute towards achieving the species abundance target.
- Whilst the broad drivers of biodiversity loss are outlined, the precise scale, type and speed of measures required to recover species are not evaluated e.g. climate change.
- Natural inter-annual variability in species abundance creates a level of uncertainty in assessing government's progress, and whether changes in species abundance reflect long-term improvements or a short-term fluctuation.

Our Recommendation

We **commend** the species abundance target. It is an ambitious apex target, and it should provide the strong and immediate stimulus so much needed. It addresses an important area - species abundance, which is not easy to measure and improve, and could lead to synergies in improving other environmental goals.

We also recommend that government expands their monitoring programme over the next EIP so that the species abundance target is sufficiently representative.

Post-2030 species abundance target: Increase species abundance by at least 10% by 2042, compared to 2030 levels

Our observations in relation to the 2030 species abundance target are also relevant here. In addition:

Coherence

- Based on the government's analysis, the target will not not deliver nature recovery and therefore is not aligned with the 25 YEP vision (see ambition section below).

Ambition

- Whilst a baseline of 2030 will be objectively measurable from that year, setting a target with an unknown future baseline in 2030 makes ambition dependent on the decline between 2022 and 2030, which is highly uncertain and inappropriate.
- The Environment Act requires that long-term targets must be objectively measurable and achievable (s.1(4) and s.4(2)), and therefore this proposed target does not appear to be lawful under s.1 of the Act.
- This target would make it challenging for government to comply with the legal duty to set an interim target by January 2028, given the baseline will not be quantifiable until December 2030.
- The government's analysis suggests that improving species abundance by 10% by 2042 will not deliver nature recovery compared to current levels, as a similar scale of decline is predicted in species abundance by 2030[4].
- Whilst the impact assessment shows a 10% improvement is stretching, the evidence base is uncertain and further research is required to provide a more definitive assessment.

[3] Of 4,447 species assessed in Great Britain, covering across 18 taxa, 69% were found to be located within protected sites. Whilst this was an extensive study, using the widest taxonomic coverage to date, it still only represents a small proportion of known species.

[4] p46 of the detailed evidence pack for biodiversity terrestrial and freshwater targets (analysis conducted by UK CEH)

Delivery assurance

- The impact assessment does not assess the future drivers of biodiversity loss. Climate change could accelerate over the medium to long-term and may outpace nature's ability to adapt, which could undermine the ability to deliver the post-2030 species abundance target.

Our Recommendation

We advise government to **amend** this target so that the ambition to drive recovery of species abundance from the baseline aligns with the 25 YEP vision.

From a legal perspective, the baseline should be a known level. We recommend that the baseline is set from the target introduction (2022), or from when the 25 YEP was published (2018), and that it should accommodate for natural variability.

We also recommend that government undertakes further research on the scale of improvement that is achievable, so that the level of ambition can be reviewed and potentially increased in the 2028 EIP refresh.

Species extinction target: Improve the England-level GB Red List Index for species extinction risk by 2042, compared to 2022 levels

Comprehensiveness

- The details of the England-level GB Red List Index (RLI) have not been published and it is unclear which species groups the target hopes to address. However, it appears not to be fully representative. The biodiversity target advisory group indicates that there may be further Red List taxa that could be included.
- As an aggregate index, RLI measures the level of extinction risk for all the species included, and the rate of change over time. The methodology makes it insensitive to changes in individual species or species groups, and a large number of species will need to be at risk of extinction to show an overall decline.
- Species taxa used in the Index and those that can be objectively measured are expected to change in the future and it is unclear how this will be taken into account within the red list index.

Coherence

- The target complements the species abundance target and post-2030 species abundance target by focusing attention on species most at risk of extinction. However, relationships with other target proposals and pre-existing targets are not made clear, including the degree of overlap with the species abundance target.
- A statutory protected sites target is important for conservation and recovery of threatened species (see our recommendation for the wildlife-rich habitats target).

Ambition

- The scale of improvement is not specified, and therefore only minimal progress would be required for the target to be met. This may not align with the ambition required to deliver the species abundance target.
- The target is lower than the draft target under the Convention on Biological Diversity, which proposes reducing extinction risk by at least 10% by 2030.

Our Recommendation

We recommend this target is **amended** to include more specificity on the level of improvement sought in the England-level GB Red List Index, and for more specificity on the species most at risk of extinction, e.g. those falling within endangered or critically endangered categories.

Wildlife-rich habitats target: 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

Comprehensiveness

- The target complements the species abundance target in helping to improve the extent, condition and connectivity of habitats.
- However, the target focuses on newly created or restored habitat and so it neither tracks the net change nor the total extent of wildlife-rich habitats. Habitat destruction and degradation could therefore continue in other areas, with negligible positive change overall.
- The target directs action outside of protected sites, which is important for increasing the extent and connectivity of wildlife-rich habitats, although the quality and connectivity of the new habitats is not defined. This lack of consistency with Lawton's Principles increases the uncertainty of the target's ability to drive biodiversity recovery.

Coherence

- The target overlaps with the woodland cover and the agricultural nutrient pollution targets. For example, the target could be delivered almost entirely by establishing wildlife-rich woodlands or through land being taken out of agricultural use for water quality purposes. Adequate weighting and planning at a strategic scale are required to avoid an imbalanced delivery of habitats.
- It is not clear how the wildlife-rich habitats target relates to other Environment Act targets and the 25 YEP goals, despite there being strong interactions between other environmental challenges and the drivers of biodiversity loss.

Ambition

- The proposed 500,000 hectares represents a 50% increase in habitat creation or restoration, compared with business as usual.
- Whilst this is positive, the ambition for expanding and connecting wildlife-rich habitats is still low when considering that habitat loss can continue in parallel, and delivery could be largely met through the other targets.
- The biodiversity evidence pack demonstrates that 69% of experts supported an ambition of 750,000 ha, indicating there is scope for greater ambition in this target.

Our Recommendation

We recommend this target is **amended** to clearly specify the areas of different habitat types that will be created or restored, that the target area is made net, and is increased to 750,000 hectares to better complement the ambition of the woodland cover target.

We also advise that government **adds** further targets to strengthen the extent, condition and connectivity of habitats (e.g. Lawton's Principles), which is essential to improving species abundance and reducing species extinction risk. These should include a protected sites condition target, and a protected sites extent target, strengthening government's ambition to protect 30% of land by 2030.

Marine protected sites condition 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

Comprehensiveness

- Protected sites represent 38% of the total UK marine area, and the approximately 150 types of species and habitats assessed within those sites are a small fraction of the 8,000 living in UK seas.
- The focus on protecting individual features within Marine Protected Areas (MPAs) does not enable the entire ecosystem to thrive, partly because some pressures on the environment are allowed to continue. A more comprehensive approach, protecting everything within a given boundary, would be more appropriate and we note that this is being piloted in Highly Protected Marine Areas.
- There are no targets which direct attention towards the important role of marine environments in sequestering carbon and its vulnerability to climate impacts.

Coherence

- The terminology is inconsistent with the 25 YEP goal 'to reverse the loss of biodiversity in all of the UK's seas and restore it', and with other biodiversity targets such as 'Halt the decline in species abundance'.
- The proposed target complements the UK Marine Strategy's aims for Good Environmental Status, which covers all UK's seas and a wider range of indicators than just biodiversity. It also strengthens existing duties under the Marine and Coastal Access Act 2009, which require public authorities to exercise their functions in such a way as to help deliver favourable conditions in protected areas (s.125 and s.126).

Ambition

- The evidence pack highlights that the target does not provide additional ambition or benefits beyond existing business-as-usual measures and policy plans.

Delivery assurance

- There is a poor record in meeting previous commitments due to limited regulatory enforcement on fishing activities. For example, bottom trawling is highly damaging to marine environments and is still being allowed in the majority of MPAs.
- Interim targets and monitoring of enforcement would provide greater assurance around the commitment to halt all damaging activities.
- Climate change risks do not appear to have been fully considered in the impact assessment and evidence pack.

Our Recommendation

We recommend that to strengthen the proposed target for MPAs, government **adds** a refreshed target deadline to achieve Good Environmental Status in all seas by 2042. This addition would bring coherence with the pre-existing UK Marine Strategy and the marine goals of the 25 YEP, as well as ensure there is sufficient and continued attention on recovering marine environments outside of protected sites. This will further support government's suggestion in the Nature Recovery Green Paper to develop clear, timebound commitments across each individual component of Good Environmental Status.

We also press government to **amend** the target to be consistent in terminology to other targets: Halt damaging activities by 2024 and the decline in the condition of designated features in the MPA network, and actively drive full recovery across all features, with 70% at good status by 2042.

Target proposals to improve water quality and availability

Overall conclusions

Government has not assessed the cumulative impacts of its target proposals on the water environment and so it is unclear to what extent they will achieve the 25 YEP objective of 'Improving at least three quarters of our waters to be close to their natural state as soon as is practicable', and other pre-existing legal targets.

Overall ambition is not aligned with pre-existing targets

Individually, each target proposed would appear to be a significant step change in ambition, or is in line with ambitious business-as-usual plans. We particularly welcome the ambition on nutrient pollution reduction from agriculture and wastewater. The wastewater nutrient target should however be amended to allow for flexible delivery in support of action through conventional treatment technology.

However, the targets do not match the scale and urgency required to meet existing targets in the water environment, such as under the Water Environment Regulations[5], most of which have had their deadline extended to 2027[6].

Incoherence between target proposals

The water target proposals focus on pressures or drivers that influence water quality and quantity. They do not focus on outcomes within the water environment, as other target areas do.

This may be because there are pre-existing apex targets in the water environment, such as the overarching objective to achieve good status for all natural water bodies by 2027 under the Water Environment Regulations. However, the relationships are not transparent between the proposed water targets on pressures or drivers, and pre-existing targets.

Instead, water targets appear to have been set in isolation. This has resulted in a large mismatch in their scope, with some representing major pressures or drivers to the water environment, and the abandoned metal mines target, which only affects ~3% of water bodies.

Limited assurances on successful delivery

Government will need to provide clarity over how the targets will be delivered, including the regulations, business investment, technologies and level of behaviour change required.

[5] Water Environment (Water Framework Directive) (England and Wales) Regulations 2017

[6] The WFD deadline is 2033 for some chemical indicators and 2039 for others

Agricultural nutrients target: Reduce nitrogen, phosphorus and sediment pollution from agriculture to the water environment by at least 40% by 2037 against a 2018 baseline

Comprehensiveness

- This target addresses a major pressure in the water environment. Approximately 40% of water bodies are currently unable to achieve good status due to agriculture and rural land management, primarily due to nutrient pollution.
- The target does not cover other important chemicals from agriculture that are harmful to the water environment e.g. faecal contaminants, pesticides and herbicides (see our recommendation on wider pollutants for the abandoned metal mines target).

Coherence

- There will be a synergy between measures to reduce nutrient pollution and achieving the biodiversity targets, however the target proposals do not recognise the link.

Ambition

- The target is ambitious compared to business-as-usual delivery. One of the illustrative pathways requires up to 100% uptake of regulatory measures and agri-environment schemes, with 20% of productive farmland being converted to semi-natural habitat or woodland.

Delivery assurance

- Target achievability is based on modelling and broad assumptions, however, catchment management schemes do not consistently show this level of reduction is attainable.
- We welcome the proposal to adopt catchment-level objectives to enable specific targeting of measures. However, the delivery of the target should not be double counted with our proposals for an amended wastewater nutrients target (see below).

Our Recommendation

We **commend** this target for mitigating a key pressure to the water environment.

Wastewater nutrients target: Reduce phosphorus loadings from treated wastewater by 80% by 2037 against a 2020 baseline

Comprehensiveness

- Phosphorus is a major pressure in the water environment. Approximately 36% of water bodies are currently unable to achieve good status due to nutrient enrichment from wastewater. Most of this pollution is from treated wastewater.
- The target does not direct measures to sources of phosphorous in treated wastewater, such as from food additives and detergents.
- The target does not address nitrogen or other chemicals and pathogens from treated wastewater, nor does it address untreated wastewater sources (see our recommendation on wider pollutants for the abandoned metal mines target).

Coherence

- The relationships with existing legal targets in the water environment and stormwater overflow measures are not made clear.
- There could be strong co-benefits between action to reduce nutrient pollution and to achieve the biodiversity targets. Phosphorus could also be recycled from the treatment

process to support resource efficiency targets. However, these opportunities are not evaluated.

- The interdependencies with Net Zero are not evaluated. This target is potentially carbon intensive if delivered mainly through conventional treatment technology, instead of through nature-based or catchment measures.

Ambition

- This is a step change in reducing phosphorus loading compared to business-as-usual.

Delivery assurance

- Further assurance is required that water company business plans and technologies are adequate for delivery.
- We expect this ambitious target will largely only be achievable through conventional wastewater treatment.
- The consultation proposes flexibility in using nature-based or catchment measures, alongside conventional phosphorus removal technology, which would deliver multiple benefits. Whilst we welcome this, government should ensure there is no double counting of reducing phosphorus from agriculture.

Our Recommendation

We support this target for mitigating a key pressure to the water environment and agree that nature-based and catchment-based solutions should be a supporting component. We therefore recommend government **amends** the scope of the target, but this should be broadened further to manage other phosphorous sources, such as from food additives and detergents. This would tackle the problem at source rather than at end-of pipe.

Abandoned metal mines target: Reduce the length of rivers and estuaries polluted by target substances from abandoned mines by 50% by 2037 against a baseline of around 1,500 km

Comprehensiveness

- Abandoned metal mines are an acute but localised source of chemical pollution. We do not consider that mine water discharges are a key pressure, as implied in the evidence pack. Only 3% of water bodies in England are currently unable to achieve good status due to pollution from abandoned metal mines.

Ambition

- Between 2015 and 2019, over 100 km of watercourse is reported to have been improved. The new target would therefore approximately double the current rate of improvement.

Delivery assurance

- Remediation of metal mines is feasible with sufficient funding and so the target is achievable.

Our Recommendation

We recognise that pollution from abandoned metal mines is an acute problem in a small number of areas. However, we would expect targets to be set in areas representing major pressures to the water environment across the country. We therefore strongly urge government to **add** further targets to tackle major pressures in the water environment e.g. water pollution from urban areas and transport is the third largest polluter of the water

environment after agriculture / rural land management and wastewater but does not have a dedicated target.

Water demand target: Reduce the use of public water supply in England per head of population by 20% by 2037 against a 2019/20 baseline

Comprehensiveness

- This target addresses a major driver in the water environment. Water abstraction is a major pressure on the water environment and public water supply (and water demand) is the main consumptive source. In 2017 abstraction exceeded sustainable levels in around 28% of groundwater bodies and up to 18% of surface waters, according to analysis by the Environment Agency. Abstraction can also compound other major pressures by reducing the quantity of water in water bodies, thereby limiting the capacity to dilute pollution.
- The target does not make a connection to the environmental impact of water abstraction. A per capita target may be more relatable to water users, but overall population growth could further erode the state of the water environment.

Coherence

- There could be strong co-benefits between action to reduce water demand and action to meet the biodiversity targets, however these are not evaluated.

Ambition

- The target is expected to be largely deliverable through business-as-usual measures, however the lack of clarity of environmental benefit makes it difficult to determine if this target supports the vision of the 25 YEP.

Delivery assurance

- We welcome the inclusion of non-household water consumption. It gives flexibility on how government can deliver the overall target.

Our Recommendation

This target focuses on public water supply and demand, a major pressure on the water environment. We press government to **amend** this target so it focuses on unsustainable water abstraction. This may require an absolute metric, e.g. total water abstraction, rather than a relative metric (e.g. per capita).

Target proposals for woodland cover

Overall conclusions

We welcome this highly ambitious target for going beyond previous commitments, and for delivering a net increase in woodland habitats (measured as tree canopy). It supports the 25 YEP vision to improve the environment and leave it in a better state for future generations.

Lack of specificity makes coherence difficult to judge

The woodland cover target is well aligned with the Net Zero target and will support a wide range of environmental co-benefits.

In omitting requirements on the different types of woodlands, trees, and their locations, the target offers greater flexibility in how it is delivered which helps to make it more achievable. However, this carries the risk that it will not deliver its full potential contribution to the goals of the 25 YEP. There are especially close interactions with the biodiversity targets and as previously advised, while delivery of this target would be welcome, important non-

woodland habitats may be neglected through allowing double counting with the wildlife-rich habitats target.

Synergies should therefore be maximised through focusing on effective implementation of the UK Forestry Standard and appropriately targeted incentives, alongside proposed changes to biodiversity targets for habitats proposed earlier.

Limited assurances on successful delivery

It is essential government manages delivery risks and incentivises landowners. It is encouraging to see action already taking place to reduce the risks, but it is unclear if this will be sufficient to deliver the ambition.

Woodland creation target: Increase tree canopy and woodland cover from 14.5% to 17.5% of total land area in England by 2050

Comprehensiveness

- Focusing on tree canopy area, as opposed to trees planted, supports the delivery of both carbon sequestration and biodiversity goals. The exclusion of short rotation coppice also strengthens its ability to improve biodiversity as it incentivises permanent habitats.
- The types of woodlands, trees, and their locations, are not specified. What these are determines the target's contribution to many of the goals within the 25 YEP.

Coherence

- The target is coherent with the UK Net Zero target and is in line with the tree planting and establishment rates included in the Climate Change Committee's (CCC's) balanced pathway scenario in the Sixth Carbon Budget.
- The relationship with other targets and environmental goals is not transparent, particularly the extent of overlap with the wildlife-rich habitats target.
- The application of the UK Forestry Standard and appropriately targeted incentives will help to ensure woodland creation contributes to both Net Zero, and the wider ambitions of the 25 YEP.

Ambition

- We commend this ambitious target which goes beyond previous commitments and requires higher planting and establishment rates than have ever been recorded before.
- The target will deliver a net increase in tree cover, taking account of woodland loss such as from development and land-use changes.

Delivery assurance

- The delivery rate in 2021 was less than a third of pre-existing planting targets (7,500 hectares a year by 2025). According to the NAO, significant challenges that must be addressed even to achieve existing, less ambitious, targets include "*increasing and sustaining landowner interest, ensuring there are sufficient skills on the ground to support tree-planting, and expanding the supply of saplings*".
- Defra, the Forestry Commission and their delivery partners are developing and promoting wide-ranging incentives for landowners to establish woodlands. They also offer training programmes to address the skill shortages, and grants for tree nursery expansion and for woodland creation planning. However, limited landowner appetite is still a risk given woodland creation involves permanent land-use change and continued maintenance.
- There is a lack of certainty about how it will be delivered through future land management schemes, which also risks incentivising landowners to wait and see.

- Application of the UK Forestry Standard is integral to successful delivery of the target and greater assurances are needed where its application is only voluntary.

Our Recommendation

We **commend** this woodland creation target. It is welcome for its ambition and it is well aligned with the Net Zero target. Focusing on tree canopy, rather than trees planted, helps strengthen its ability to contribute to many of the goals within the 25 YEP, including improving biodiversity.

We also urge government to review the voluntary status and application of the UK Forestry Standard to ensure this is adequate for driving delivery of woodland cover which supports the vision of the 25 YEP.

Target proposals for resource efficiency and waste reduction

Overall conclusions

We welcome the residual waste target but more attention is required to drive action across resource use and the associated environmental impacts of consumption, including embodied carbon.

A lack of comprehensiveness risks not delivering a circular economy

The government's goal to move to a circular economy, as stated in the Waste and Resources Strategy and 25 YEP, requires acting on all life cycle stages, including resource use, consumption and disposal. Furthermore, the most effective measures are upstream, as acknowledged within the evidence pack: "O*ur focus remains on moving waste up the hierarchy and minimising the amount of waste we produce. Waste prevention avoids unnecessary production and processing in the first place, and therefore the costs and environmental impacts associated with those steps".*

The target proposal on residual waste runs contrary to government's stated focus and does not directly incentivise upstream measures, or directly tackle the overall impact of resource use on the environment. It therefore risks not delivering a circular economy. However, some policies that are introduced to achieve the target may have potential to act further up the hierarchy to achieve waste prevention, for instance through producer responsibility. We therefore accept the argument in the evidence pack that it is possible the residual waste target could drive improvement in upstream measures; however, we urge government to provide detail on how this may occur.

Omitting mineral waste

We support the government's decision to omit mineral waste in this particular target. However, there needs to be separate measures that reduce the associated environmental impacts. Due to its material inertness, significant mass, and high embodied environmental impacts (including carbon), mineral waste requires separate measures to ensure that management is focused upstream in the waste hierarchy.

Priorities for future analysis

We note the consultation document argues that the resource productivity target, previously under consideration, has not been taken forward. We urge government to expedite its research on this target and we suggest exploring trade-offs between resource efficiency or absolute consumption, territorial vs. non-territorial scope, a weight based, carbon or per capita metric, and how to best internalise the environmental externalities of resource consumption.

Limited assurances on successful delivery

There is little detail provided on plausible delivery pathways beyond 2027 or on potential future delivery risks. We urge government to give greater clarity on the pathways to

delivering a circular economy in the next EIP, and the relative improvement needed on reducing consumption (upstream) and waste (downstream). In our view, sufficient evidence and understanding already exists to discern the direction of travel, key drivers, and scale change required across sectors.

Residual waste target: Reduce residual waste[7] (excluding major mineral wastes) kg per capita by 50% by 2042 from 2019 levels. It is proposed that this will be measured as a reduction from the 2019 level, which is estimated to be approximately 560 kg per capita.

Comprehensiveness

- Moving to a circular economy requires action across all sectors and on all stages of resource use. The residual waste target only focuses on end-of-life disposal, and specifically avoids waste that goes to landfill, is incinerated or recovered for fuel.
- The target does not directly incentivise reducing resource use (e.g. extraction, design, processing) or consumption (e.g. through reuse, repair), or the overall volume of waste generated, or help improve resource security. It is not clear where all the policies to achieve the target will act. Policies to achieve the target may act further up the hierarchy to prevent waste, for instance through producer responsibility, but is not a guaranteed outcome.
- The environmental impacts associated with resource consumption are not addressed, including biodiversity loss, water stress and carbon. Globally, resource extraction and processing are responsible for 90% of biodiversity loss and water stress, and approximately half of greenhouse gas emissions.
- A weight-based indicator is not a good proxy for the environmental impacts of waste, which vary by material type. A combined weight and carbon metric (and then target) would help to address this.
- A per capita measure also allows the target to be partly achieved through population growth, rather than addressing the absolute level of residual waste.
- We accept government's argument to exclude mineral waste. The scope of residual waste includes most waste streams but omits mineral waste. Its inclusion could skew action towards construction and demolition waste, which accounts for 62% of all waste by weight, and would have limited effect on the use of mineral resources and the high embodied environmental impacts.

Coherence

- The target does not sufficiently implement the Waste and Resources Strategy goal to move to a circular economy, or the 25 YEP non-binding target "*to double resource productivity by 2050".*
- The Environment Act s.1(4)(d) requires a target to be set in the area of 'resource efficiency and waste reduction' and we expected to see a comprehensive target covering both parts of that area.
- The relationship to the Waste and Resources Strategy commitment to achieve 'zero avoidable waste' has been explored in the evidence report. However, interactions with other pre-existing targets and commitments are not made clear. Our internal mapping

[7] Residual Waste is defined in the evidence pack as "waste that is not reused or recycled, including material that is too degraded or contaminated for these purposes" e.g. it is the waste that goes to landfill, is incinerated (including with energy recovery), is sent overseas for energy recovery as refuse derived fuel or solid recovered fuel, or else used in energy recovery for transport fuel.

identified at least 16 pre-existing targets and commitments which closely overlap with the residual waste target.

- The target proposals are incoherent with the CCC's balanced net zero pathway, as set out in the Sixth Carbon Budget, which assumes an acceleration in the transition to a circular economy and greater ambition for resource efficiency.
- Strengthening the waste regulatory regime, for example through increasing landfill tax, could drive waste crime e.g. to avoid the costs of legal waste disposal and recycling.

Ambition

- As a standalone target, a 50% reduction is ambitious in going above business-as-usual. Government's analysis expects to deliver only around a 30% reduction through policies that are currently in development (e.g. extended producer responsibility schemes, consistent municipal waste recycling collections, and a deposit return scheme for drinks containers).
- From a resource use and life cycle perspective, however, the target is not ambitious. It is not clear that the target will drive a circular economy approach, or decouple resource use from its associated environmental impacts.

Delivery assurance

- There is a limited detail on plausible pathways to achieve the target, including the relative effort through upstream and downstream measures, across different material streams. We note the Theory of Change for the target and individual policies remains in development.
- The government states that beyond 2027, additional policies, investment by the private sector, and behaviour change are required, but these are currently undefined.

Our Recommendation

We **commend** the residual waste target for its ambition, and we agree that mineral waste should not be included in this particular target. However, a single target which focuses on downstream waste management may not be sufficient to deliver the government's goal of a circular economy.

We therefore advise government to **add** a target which addresses resource use and the associated environmental impacts of consumption, including embodied carbon. This new target should include materials such as mineral waste.

Target proposals for air quality

Overall conclusions

The ambition on PM2.5 is welcome, however greater urgency is required to reduce high PM2.5 concentrations in urban areas.

Outcomes could be achieved earlier

PM2.5 is an important apex target for clean air. It requires the reduction of other harmful pollutants, and measures across a range of sectors, notably manufacturing industries and construction, domestic combustion, and road transport.

The proposed targets are sufficiently ambitious and stretching. The concentration target halves the current legal limit of 20 µg/m^3, and we accept the WHO guidelines are impractical to meet for many locations, in large part due to background levels and transboundary pollution.

However, we recommend that the government sets the concentration target deadline for 2030, to drive immediate implementation of policies. The Environment Act includes

provisions for the government to make the PM2.5 air quality target short-term (s.2(2)), in recognition of the serious harm to human health.

We note the arguments which government advances for setting a 2040 deadline. These are centred around ensuring all areas of the country have the same limit, and therefore the need to consider achievability at locations where it is most challenging to reach. However, independent analysis indicates these locations are isolated and include localised industrial biomass burning emissions and areas close to major roads. These locations should not be a barrier to setting a 2030 date for the vast majority of the country. An earlier target also provides an opportunity for government to plan for and set more ambitious targets towards the end of the 25 YEP.

More clarity is needed on target coherence and over priorities for advancing on existing standards

There is a comprehensive target framework for the 25 YEP clean air goal. Target proposals sit alongside pre-existing statutory targets, including on annual emission reductions (National Emissions Ceilings Regulations 2018), and ambient concentrations limits (Air Quality Standards Regulations 2010). Government should clarify how targets relate to each other given the close interactions in source attribution and impacts.

Furthermore, many existing targets fall short of WHO guidelines on ambient (outdoor) air pollution, notably for nitrogen dioxide and sulphur dioxide. Whilst we recognise the guidelines do not reflect achievability, the consultation does not propose any advancement on standards for other harmful pollutants. There are also omissions in areas such as nitrogen and ammonia deposition, which are key environmental impacts of air pollution.

Government should clarify its approach to advancing and adding to existing standards.

Limited assurances on successful delivery

Both targets have been set based on an ambitious future scenario, which the evidence pack states may require significant new regulation, financial incentives or other measures to change behaviour, raise awareness and drive investment in technology[8].

Details of the modelled scenarios are not provided, so it is unclear what plausible delivery pathways have been explored within the achievability assessment. The key delivery risks are also not identified. We advise government to pay particular attention to the skills required to supply and maintain new technologies at scale, on the barriers to behaviour change, and on the burden on Local Authorities, who continue to face funding pressures.

PM2.5 air quality target: A target of 10 micrograms per cubic metre (µg/m^3) to be met across England by 2040

Comprehensiveness

- The PM2.5 air quality target is an important apex target for clean air. Fine particulates are a significant threat to human health. Furthermore, reducing PM2.5 will drive improvement in mitigating other harmful pollutants. This is due to overlap in primary source attribution[9], and the need to address secondary PM2.5 from formulating in the atmosphere through reactions with sulphur dioxide, ammonia and nitrogen oxides.

[8] p130 of the detailed evidence pack for air quality targets

[9] Greatest contribution of primary PM2.5 emissions by sector (% total share in 2020): Manufacturing Industries and Construction, (27%), Domestic combustion (25%), Industrial processes and use of solvents (14%), and road transport (13%). In comparison, the greatest sources of NOx emissions were: Road Transport (28%), Manufacturing Industries and Construction (21%), Energy Industries (20%).

- The PM2.5 air quality target adds to a large body of pre-existing targets, including on annual emission reductions (National Emissions Ceilings Regulations 2018) and ambient concentrations limits (Air Quality Standards Regulations 2010).
- Other harmful pollutants also require further attention. There are no targets to reduce nitrogen and ammonia deposition, both of which are key environmental harms from air pollution. The existing target levels could also be revised to be closer in line with the WHO guidelines, with nitrogen dioxide and sulphur dioxide concentration targets both over three times the level recommended, although we recognise the guidelines are set without reference to achievability factors.
- Air pollution-related disease is unevenly distributed and susceptible populations are often disproportionally affected. Government analysis demonstrates the proposed targets should reduce the gap between the most and least deprived areas. The effects on more vulnerable populations are not evaluated, however.

Coherence

- It is unclear how air quality targets relate to each other. For example, the government's analysis[10] implies that the proposed air quality targets are not aligned with pre-existing emissions targets for 2030, set under the National Emissions Ceilings Regulations 2018[11] (NECR). Compliance with NECR is projected to deliver a greater reduction in PM2.5 than the proposed target and modelled delivery scenario.
- There are strong interdependencies with pathways to Net Zero and future policy decisions will determine whether the targets are coherent. The BEIS core pathway for the Sixth Carbon Budget also includes greater use of low carbon fuels including biomass and hydrogen combustion. Both contribute fine particulates, through direct emissions or secondary sources, and could undermine delivery of the PM2.5 air quality target.

Ambition

- The specified level of 10 µg/m^3 annual mean is ambitious as it halves the current legal limit of 20 µg/m^3 within the Air Quality Standards Regulations 2010. It is also comparable with other industrialised countries: the United States standard is 12.0 µg/m^3 (primary sources only, annual mean) and Canada it's 8.8 µg/m^3 (3-year average).
- Nonetheless, the WHO guidelines recommend 5 µg/m^3. This limit is proposed without reference to achievability, and we accept that at the moment this is impractical for many locations, in large part due to background levels and transboundary pollution.
- In our view the proposed 2040 deadline is not pressing enough for most locations in England. The government's analysis shows that except for a few isolated hotspots in London, all areas of the country could comply with 10 µg/m^3 by 2030 under the 'high ambition' scenario (figure 21). This is validated through independent analysis by Imperial College London which forecast 99.8% of areas complying by 2030 through implementation of business-as-usual policies.

Delivery assurance

- The government indicates that target delivery "*may require additional regulation and enforcement, financial incentives or restrictions to change behaviour, awareness raising and investment in technology*", with emphasis on road transport and domestic combustion as areas of action.

[10] Table 12 of the detailed evidence report for Air Quality

[11] The NECR sets targets on total UK emissions of NOx, SO2, NMVOC), NH3 and PM2.5

- Independent analysis by Imperial College London indicates hardest to comply places include localised industrial biomass burning emissions and major roads in London, yet the evidence pack provides limited attention on these challenges.
- It is unclear how government intends to address particulate matter emissions from tyre wear, which is currently unregulated. Some studies suggest tyre wear is a more significant source of emissions than tailpipes for modern cars. Electric vehicles can also have greater tyre wear than conventional vehicles, because of their heavier weight.
- There is a high degree of uncertainty in estimating the effect of measures at specific locations, therefore, evaluating the achievability of the concentration target is very difficult.

Our Recommendation

Whilst we acknowledge a concentration limit of 10 µg/m^3 is ambitious, we recommend this target be set at least by 2030 to ensure immediate implementation of policies. We recommend the target is **amended** to bring the deadline forward to 2030. We accept that localised hotspots may require special measures to deliver against the 2030 target date.

We also recommend that as part of the EIP refresh in 2028, government **adds** a further PM2.5 concentrations target beyond 2030, which is closer in line with the WHO guidelines. This will require further research, innovation and engagement with key stakeholders, including between Devolved Administrations and neighbouring EU countries.

Population exposure reduction target (PERT): a 35% reduction in population exposure by 2040 (compared to a base year of 2018)

In addition to the observations identified above for the PM2.5 air quality target, the additional observations are made:

Comprehensive

- Through reducing exposure, attention is directed towards both the level of PM2.5 concentrations and number of people exposed. The PERT is therefore expected to deliver the greatest overall public health benefit.
- Although the PM2.5 air quality target applies to the whole of England it will mainly require mitigation measures to be introduced in particular urban areas which exceed the concentration limit of 10 µg/m^3. In contrast, the PERT target will require actions to be taken across more areas with high population densities and elevated concentrations of PM2.5, including areas below 10 µg/m^3. The distribution of measures may be driven by trade-offs between the benefits of exposure reduction and costs.

Coherence

- In driving action across a broader geographic area, a wider range of sources and associated other pollutants will be targeted. Specifically, there may be greater synergies in reducing ammonia from agriculture.

Ambition

- The ambition of the PERT is aligned with the PM2.5 air quality target, with achievability modelled based on a consistent set of measures.

Our Recommendation

We **commend** this target for its ambition and specific focus on harmful exposure to PM2.5, providing the greatest overall public health benefit.