apse membership resources

Briefing 22-21 May 2022

# Consultation on environmental targets.

To: APSE Main Contacts in England
For information only: Contacts from Scotland, Wales and Northern Ireland.

**Key Issues**

The Department for Environment and Rural Affair (Defra) are seeking views on the first suite of Environment Act 2021 targets. The Act requires that at least one target in each of the four priority areas is set. It also requires targets to be set for fine particle matter (PM2.5) and species abundance.

It is advised that these targets need to be laid as draft Statutory Instruments by the 31 October 2022 will come into force once approved by Parliament. Therefore, Defra are proposing targets that they consider will lead to action in areas that drive environmental outcomes where the greatest threats and pressures are faced.

The consultation closes on 27 June 2022.

## 1. Introduction

The Department for Environment and Rural Affair are seeking views on the first suite of Environment Act 2021 targets. The Act requires that at least one target in each of the four priority areas is set. It also requires targets to be set for fine particle matter ($PM_{2.5}$) and species abundance.

It is advised that these targets need to be laid as draft Statutory Instruments by the 31 October 2022 will come into force once approved by Parliament. Therefore, Defra are proposing targets that they consider will lead to action in areas that drive environmental outcomes where the greatest threats and pressures are faced.

The consultation closes on 27 June 2022 and this briefing provides a summary of the consultation and the proposed targets. The full consultation document can be accessed by the following link.

Consultation on environmental targets

## 2. Developing target proposal

Defra report that a four-step process is being used to systematically develop evidence to inform target proposals and they are now commencing Step 3. The Steps are as follows:-

- Step 1: Setting the scope of the targets
- Step 2: Developing evidence-based target proposals
- Step 3: Public consultation target proposals
- Step 4: Drafting target legislation, to be laid before Parliament by 31 October 2022

### 3. What is included in the proposed initial suite of targets?

## Target proposal for biodiversity on land

### Suite of biodiversity targets

It is stated in the consultation that there is no single way to measure the health of our biodiversity, therefore it is proposed that there are a number of indicators that pick up the changes in the status of species and habitats. Taken together, Defra believe that they will help to provide a more holistic picture of the state of nature. The Environment Act provides for a nearer term target to halt the decline of species abundance by 2030, Additionally targets are proposed to:-

- Increase species abundance by at least 10% by 2042, compared to 2030 levels
- Improve the England-level GB Red List Index for extinct species extinction risk by 2042, compared to 2022.
- 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.

Defra advise that the longer-term targets have been set at 2042 in order to align with the 25 Year Environment Plan goals.

### 2030 and long-term species abundance targets

Since 1970 it is reported that there has been a 68% decrease in population sizes of mammals, birds, amphibians, retiles and fish globally and these trends have been replicated in England.

### Proposed targets to address the decrease.

- Halt the decline in species abundance by 2030
- Increase species abundance by at least 10% by 2042, compared to 2030 levels.

It is proposed that a species abundance indicator is used to measure progress, track changes in relative abundance of species which are widespread and characteristics of a wide range of habitats in England. The indicator will cover approximately 1,000 species for which Defra has sufficiently robust data. This is supported by robust data gathering, including through well-established recording schemes, many of which are run through partnerships between government bodies, NGOs and research.

Marine species with the exception of marine birds are not covered in the indicator due to the challenges of setting accurate and reliable targets and Defra believe marine species are well-captured under existing targets regime.

### Why Defra are proposing the targets at this level

The long-term target would require the species indicator to increase by 10% between 2030 and 2042. It is commented that given in the last 20 years, the average change in the England priority species index has been a decline of approximately 2% per year.

### Long-term species extinction risk target

Defra state that it is their goal that the species abundance target will drive an overall increase in population size. However, this target may not help specific rare and threatened species. Therefore, it is proposed a species extinction risk target which will focus on the recovery of threatened and near threatened species to complement the species abundance targets.

### Proposed target to address it

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

A global Red List Index tracks changes in the overall extinction risk of a sample of species and are assessed and classified following the International Union for Conservation of Nature (IUCN) methodology.

With the aim of understanding the trends at a more local level, it is proposed that a subset of species are assessed at the Great Britain (GB) level to create a new Red List Index that is more representative of species in England as the target indicator (known as the England-level GB Red List Index). Baseline red list data assessment data has been used to create a draft England-level GB Red List Index of over 6,500 species and it is planned that this will be published by September 2022.

### Why are Defra proposing this level?

The target aims to prevent the loss of the rarest or fastest declining species while preventing species at a lesser threat risk from further decline. Red List Indexes vary between zero (all species Regionally Extinct) and one (all species Least Concern). Defra state that setting a target to increase the Red List Index value will drive action to reduce biodiversity loss and overall extinction risk.

### Longer-term wider habitats target

The consultation advises that new or improved habitat is critical for the restoration of ecosystems and the recovery of biodiversity, which is essential for achieving the apex 2030 species abundance target. A target focused on habitat creation and restoration will help guide, inform and provide certainty, including for investors. The target will help contribute towards the government's commitment to protect 30% of land by 2030 and help deliver England's Nature Recovery Network, which it is commented is key for reversing declines in species abundance.

### Proposed target to address it

- 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.

The proposed target will be measured by reported action to create or restore diverse wildlife-rich habitat through a range of measure. The measure proposed include new and existing agri-environment

schemes, Biodiversity Net Gain, the Nature for Climate Fund as well as action funded through other sources, including private capital.

Defra proposes that 'wildlife-rich' habitats, as defined in the evidence report that accompanies the consultation, count towards the wider habitats target. 'Wildlife-rich' habitats are defined as habitats that have a value for biodiversity and may include:-

- Open habitats (e.g. peatland, grassland, coastal and heathland), native woodland habitats, other habitats with trees (e.g. hedgerows, scrub and traditional orchards).
- Freshwater habitats including wetlands, rivers/streams, lakes and ponds
- Arable field margins
- Estuaries and costal water habitats.

### Why are Defra proposing it at this level?

It is commented that a statutory target of in excess of 500,000 hectares is expected to drive a net increase in creation and restoration of 'wildlife-rich' habitats across a range of habitat types. Maximising the habitat created and restored will support delivery of the 2030 species abundance target. Defra state that it is their ambition to exceed 500,000 hectares outside protected sites, in order to drive wider nature recovery.

### Terrestrial Protected Sites Target

Protected sites, including Sites of Special Scientific Interest, Special Areas of Conservation and Special Protection Areas, constitute a large proportion of our best wildlife sites, containing rare and characteristic habitats. However, the consultation advises that the condition of many of these sites is not as good as it needs to be. This government has committed to recovering them through the 25 Year Environment Plan and improving the condition of sites will be critical in order to meet our proposed species abundance and extinction risk targets. Defra are currently proposing ideas to reform site protections to better enable the delivery of nature goals through the Nature Recovery Green Paper. It is believed that it would be premature to set a protected sites target at this time. However, in recognition of the significant importance to domestic biodiversity of protected sites, Defra will look to set a protected sites target in future when they have responded to the Nature Recovery Green Paper and following any future reforms. The approach to driving improvements in the condition of protected sites will be outlined further in the update of the EIP in 2023, alongside other actions to deliver the species targets. It is also commented that other proposed legally binding targets will also have positive impacts on the condition of protected sites, for example, the water quality targets.

## Target proposals for biodiversity in the sea

## The problem

Under the Marine and Coastal Access Act and Habitat Regulations Defra 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. It is reported that Defra 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). It is also commented that they 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.

### Proposed target to address it

- 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.

Defra propose that the MPA network included in this target will cover English inshore and offshore Marine Conservation Zones, Special Areas of Conservation and Special Protection Areas, so far as they are below mean high water.

The proposed target will complement existing targets under the UK Marine Strategy Regulations 2010 to improve the marine environment as a whole. These are set out in the 2019 update to UK Marine Strategy Part One.

The target includes approximately 150 types of species and habitats which are designated features of sites. The consultation states that it is proposed that pilot Highly Protected Marine Areas should not be in scope as they will take a new whole site approach rather than looking at specific features. The recoverability assessment for the MPA target is not suitable to assess at a whole site level as it was developed to assess MPA designated features independently. Recoverability assessments categorise biotopes, habitats or species, based on their resistance (ability to withstand) and resilience (ability to recover after) pressures caused by human activities. A resilience category is then assigned which gives a timeframe in which the recovery of a feature is expected after the pressure is removed.

If any further MPAs are designated in the future, Defra are proposing to consider their inclusion at the time and it is stated that it would seem unreasonable to expect features in MPAs designated close to 2042 to have recovered by then.

The condition assessments allow Natural England and the Joint Nature Conservation Committee to determine if a feature in an MPA meets its conservation objectives. Each feature has a number of defined attributes, which are used to assess the health of that feature (such as extent, distribution, structure, function and supporting processes, e.g. water quality). If all attributes of a feature are in favourable condition, then the feature overall is considered to be in favourable condition. MPAs are considered to be 'recovering' once all pressures which the features are sensitive to are reduced or removed.

In order to recognise the importance of recovering individual attributes of a feature, such as a particular marine species, Defra propose including additional reporting through interim targets to show progress towards overall favourable condition for individual features.

### Why we are proposing it at this level

Defra report that 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 Defra 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.

## Target proposals to improve water quality and availability

### Background

In the 25 Year Environment Plan the Government committed to restoring three quarters of our water bodies to be close to their natural state as soon as is practicable. Defra commented that they also committed to increasing water supply and incentivising greater water efficiency and reduced personal use. They propose setting long term targets to reduce specific pressures and tackle some of the serious challenges that remain in achieving the ambition in the 25 Year Environment Plan of clean and plentiful water. These will complement existing commitments under the Water Environment Regulations.

Proposed targets:

- 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 1,500km.

- Nutrient targets: to address the two principal sources of nutrient pollution by 2037:
  - Reduce nitrogen, phosphorus and sediment pollution from agriculture to the water environment by at least 40% by 2037 against a 2018 baseline.
  - Reduce phosphorus loadings from treated wastewater by 80% by 2037 against a 2020 baseline.

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

Defra propose setting these targets for 2037, a shorter timeframe than several other target areas. Action taken now to achieve improvements in the water environment will support the delivery of the

wider suite of proposed targets, including species abundance. It is commented that Defra will also shortly outline ambitions to reduce the harm caused by storm overflows in the Storm Overflows Plan. The evidence report sets out further details of the development of these target areas.

## Abandoned Metal Mines

### The problem

Across England, about 1,500km of rivers are polluted by abandoned metal mines. Metal mines are the most significant source of metal pollution in rivers. Impacted rivers are polluted by high concentrations of at least one of the following substances: cadmium, nickel, lead, copper, zinc or arsenic. Up until 2000, mines could be abandoned without the mine operators having to deal with the legacy of ongoing water pollution from their activities which will typically continue for hundreds of years. As virtually all the metal mines in England were abandoned by the early 1900s, it falls to the government to take action to mitigate continuing environmental harm.

In 2011, the government set up the Water & Abandoned Metal Mines programme (WAMM), a partnership between Defra, the Environment Agency and the Coal Authority to begin to address this source of pollution. It is advised that this target will be a powerful lever for ensuring continued national and local action on water pollution from abandoned metal mines and increase the pace and ambition of our existing metal mines programme.

### Proposed target to address it

- Reduce the length of rivers and estuaries polluted by target substances (cadmium, nickel, lead, copper, zinc, arsenic) from abandoned mines by 50% by 2037.

Existing treatment technologies range from “active” systems16 that consume energy, use chemicals and require constant supervision to “passive” treatment ponds17 which do not need energy or chemicals to be added and need much less frequent supervision. Where possible, we want to use passive technologies utilising nature-based solutions as they have lower whole-life cycle costs and a smaller carbon impact. Defra report that they are also investing in trials of new technologies that can be installed in a smaller area of land, have lower operating costs and contribute to net zero and Environment Act biodiversity targets.

Defra will measure our progress towards the proposed target by monitoring pollutant concentrations in rivers to calculate the ‘length of rivers’ polluted by substances from abandoned mines. To achieve the proposed target, they will reduce the length of rivers polluted from about 1500km (baseline) to 750km. Defra believes this is the most effective and accurate way to measure improvements. This metric will allow effective demonstrable progress and is a consistent proxy for environmental harm. The Environment Agency already measures the concentrations of the target substances in rivers for statutory River Basin Management Plans as these substances pose the greatest risk to people and wildlife. In addition to reporting the decrease in polluted river length, we will gather data on the amount of metals captured in mine water treatment sites operated by the

Coal Authority under the WAMM Programme. Prevention of these substance being discharged into rivers will provide further data and evidence in support of achieving the proposed target.

### Why Defra are proposing it at this level

Defra are proposing a 50% reduction of the current polluted river length as an ambitious but achievable target. This would require around 40 new schemes to be built and address 750km of polluted rivers, significantly increasing the number of schemes that are currently operating.

The abandoned metal mines target would be set at a national level, but action is only required in the river catchments which are polluted by abandoned metal mines; these are clustered in rural areas of the North East, North West, Yorkshire, West Midlands and the South West.

## Nutrient Pollution

### The problem

Excess nitrogen and phosphorus currently present the most significant pressures on the water environment. Phosphorus is the most common reason a water body fails to meet good status. Excess nitrogen increases the cost of producing clean drinking water. Together, they lead to eutrophication which causes the overgrowth of algae and plants, resulting in toxic algal blooms, decreasing oxygen levels and negatively impacting invertebrates and fish. This damages the wider ecology and people's ability to use the water for recreation.

Agriculture and wastewater are together the biggest sources of nutrient pollution in the water environment. Nutrients enter the water environment through run-off and leaching from agricultural land, accounting for an estimated 70% of nitrate inputs to our rivers, lakes and groundwaters, and 25% of the phosphorus load in our rivers and lakes. When wastewater has been treated it is discharged back into the water environment, however despite undergoing treatment processes, this effluent contains contaminants including phosphorus. These discharges account for 60-80% of phosphorus entering rivers nationally.

Nutrient pollution can cause damage to ecosystems and biodiversity, which has affected housebuilding where local planning authorities have acted on statutory advice to prevent further damage to water-dependent protected habitats. This can cause delays and add cost. By committing to reduce nutrient pollution at source, Defra state that they can bring the protected sites back to favourable condition and enable the delivery of sustainable development.

Defra are creating two sector-specific targets under this heading, to set clear expectations from government of what the agriculture sector and water industry need to deliver. Reporting against these targets will enable clear accountability.

## Nutrient pollution from agriculture

Despite many positive examples of farmers contributing to the health of the natural environment, many agricultural practices can harm water quality and biodiversity. Pressures from agriculture affect 40% of water bodies, causing them to not meet our ambition for near natural state, with nutrient pollution causing the most harm. Sediment run-off into water bodies from agricultural land plays a significant role in transporting nutrients, and can also inhibit navigation, block water industry infrastructure and increase flood risk, as well as decrease farm productivity through loss of valuable soil. Defra are therefore seeking to create an agriculture target that addresses the three biggest contributors of harm in the water from this sector.

## Proposed target to address it

- Reduce nitrogen, phosphorus and sediment contribution from agriculture in the water environment by at least 40% by 2037 against a 2018 baseline.

There are already measures in development to reduce agricultural pollution through voluntary, incentivised and regulatory policy mechanisms as well as other mechanisms such as the Catchment Sensitive Farming Partnership.

Defra are focussing on the pollutant input (load) rather than the presence of pollutants in water bodies, due to the time lag between action taken on rural land, and changes to the nutrient concentration of the water environment. Such concentrations vary across water bodies and can be unpredictable. It is commented that this will ensure that pollution reductions are identified immediately and Defra can drive and direct further action in a timely way where we can see that more progress is needed. It is reported that Defra will measure progress against this target using modelling, validated using water chemistry data from the Catchment Sensitive Farming Enhanced Water Quality Monitoring Programme. The model uses data on agricultural practice and the uptake by farmers of agricultural schemes that seek to protect the environment. Alongside this, Defra plan to develop a national inventory showing the inputs used in the model to ensure transparency and accountability. It is commented that this approach will not require a dramatic expansion of water quality monitoring programmes which will allow us to focus investment on working with farmers to reduce pollution.

It is stated in the consultation that there is a need to expand the existing model and evidence base to assess reductions in total nitrogen. Currently, they only account for nitrate (one nitrogen-containing compound), but we will expand this to capture both the inorganic (e.g. ammonia and nitrate) and the organic (e.g. amino and nucleic acids) forms of nitrogen as they both have an impact.

It is proposed that a national target is set because for nature to recover across England, water pollution from agriculture must be reduced across the whole country. However, in some regions and catchments agricultural pollution will be much more severe and require a higher reduction in nutrients entering the water environment to reach acceptable levels.

### Why we are Defra proposing it at this level

Defra aim to achieve a 40% reduction in each of these pollutants loads by 2037 against a 2018 baseline (the most recent year data are available). This represents a high level of ambition and will rely on us making maximum use of the tools available in the new environmental land management schemes. In over 40 years between 1974 and 2018, surface water nitrate concentrations were reduced only slightly, and Defra believe that this must accelerate progress. Achieving the proposed target will require high uptake of on-farm measures to reduce the amount of contaminants that enter water bodies, high levels of compliance with existing regulations, and targeted land-use change e.g. incentivising the conversion of a small proportion of farmland to natural habitat.

### Nutrient pollution from wastewater

### The problem

Over the last two decades, phosphorus in wastewater discharged into rivers has reduced by 67%. However, monitoring shows that there is still far too much phosphorus entering the water environment, and that water companies are still the largest source of this nutrient pollution.

### Proposed target to address it

- Reduce phosphorus loadings from treated wastewater by 80% by 2037 (against a 2020 baseline)

Defra want to ensure water companies explore innovative, nature-based, and catchment-based approaches to reduce phosphorus pollution from wastewater in the water environment. That is why they haven't focussed solely on phosphorus treatment at sewage treatment works. This will deliver the best outcomes for our water bodies and the natural environment as a whole. We have also made this clear in our draft Strategic Policy Statement to Ofwat which encourages water companies to use nature-based solutions.

Water companies monitor the amount of phosphorus in the water released at the end of the sewage treatment process. This data is reported to the Environment Agency, who do their own monitoring to ensure the information is accurate. This will be used to measure progress towards meeting the proposed target for reducing the levels of phosphorus in wastewater against a 2020 baseline.

Defra want to focus investment on the area that has the biggest impact. Agriculture is the main source of nitrogen in the water environment, and this is covered by the target above. In the case of wastewater, our evidence shows that river eutrophication can be most effectively addressed by tackling phosphorus.

### Why Defra are proposing it at this level

During the period of 2020-2027, water companies will undertake projects to deliver a phosphorus reduction of around 50% against a 2020 baseline. Defra want to see a higher level of ambition and propose setting a longer-term target to build upon this progress. 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.

Water companies will be primarily responsible for achieving reductions in phosphorus by implementing plans to reduce phosphorus loads. The government and the Environment Agency will assess the performance of water companies to achieve their environmental obligations and permit and regulate their activities. The Strategic Policy Statement to Ofwat makes clear the government's expectation that water companies must work to improve their environmental performance.

It is commented that together, these proposed targets will address the dominant sources of nutrient pollution in the water environment, and play a crucial role in delivering the step change needed to reach our ambitions in the 25 Year Environment Plan.

### Water Demand

### The problem

Defra advise that they need to ensure that there is sufficient quality and flow of water in the water environment to meet the needs of people, the environment and industry. Increased demand and reduced water availability from less predictable precipitation as a result of climate change will affect the environment and reduce security of supply. The Environment Agency's National Framework sets out that an additional 25% of the current daily volume of public water supply will be needed in England by 2050. Water demand reduction is essential to support the delivery of this commitment without causing significant impacts on the environment. Therefore, it is stated that there is a need for a water demand target that addresses these existing pressures and future uncertainties.

It is reported that there are a number of existing commitments and ambitions on water demand that are not statutory. These include commitments made by water companies to reduce leakage by 50% against 2017-18 levels by 2050; planning assumptions based on reducing household water consumption to 110 litres per person per day by 2050; and the recommendation that we should aim to achieve resilience under a 1 in 500-year extreme drought event by the end of 2030. The target adds value by introducing a statutory driver, setting the level of ambition for policies to reduce household consumption, ensuring that demand reductions will be delivered and by ensuring that all aspects of water consumption, such as non-household consumption are delivering reductions.

### Proposed target to address it

- Reduce the use of public water supply in England per head of population by 20% by 2037.

Defra have considered two possible metrics: Distribution Input, and Distribution Input over population. Distribution Input (DI) is the total amount of treated water supplied to customers through water companies' distribution network. This includes public water supply to households and non-households, as well as water lost through leakage, but does not include non-potable water supplies. Defra have suggested using the metric of DI over population, as this indicates the level of

water used per person in England and will help to measure and improve water efficiency trends over time. This target would take into consideration the uncertainty around future population, housing needs and economic growth.

### Why Defra are proposing it at this level

Defra's proposed level of ambition aims to deliver the reduction in water demand needed to meet the expected pressure on the public water supply. An additional 4,000 million litres of water a day is expected to be required by 2050, and two thirds of this capacity is expected to be met by demand reduction.

The government's water efficiency policy informs water companies' Water Resources Management Plans, Ofwat's Price Reviews, and regulator/water company leakage targets. Alongside these existing levers, government plans to introduce new mandatory water efficiency labels on water using products and consider how building regulations can promote efficiency, to support delivery of this proposed target. This target draws together existing commitments, creating a statutory driver for delivering the level of ambition needed to meet the required reduction in water use by 2050. It will place an additional driver on the water industry, which will need to be factored into their planning, targets and delivery. It will also create a target and drive action for the non-household sector. Implementation of this target will lead to monitoring of overall water demand in England.

Defra have arrived at the figure of a 20% reduction in the use of the public water supply per head of population by modelling a consumption level of 122 litres per person per day (l/p/d). This extends beyond the existing commitments to 2025 which aim to reduce domestic water consumption on average from 138 l/p/d to 132 l/p/d. The target of a 20% reduction in public water supply will require a 31.3% reduction in leakage (from 2017/18 levels) increased from 19% by 2025 and require the new additional target of a 9% reduction in non-household demand by 2037.

It is reported that overall water consumption in England has been increasing since 2013, with the impact of covid-19 causing a spike in consumption. This target will be vital in driving action towards reaching the 110 litres per person per day we need to meet by 2050 as set out in the National Framework report.

### Target proposals for woodland cover

### The problem

Trees and woodland are critical to supporting our national commitment to reach net zero emissions by 2050, as one of the most cost-effective nature-based solutions to climate change. Defra advise that they have already committed to increasing planting rates in England significantly beyond the current rate of approximately 2,100 hectares per year. Government aspired in the 25 Year Environment Plan to increase woodland cover in England from 10% to 12% by 2060. This is supported by the England Trees Action Plan which made a commitment to treble woodland creation by the end of this Parliament and the Net Zero Strategy commitment to maintain new planting at least at this level from 2025 onwards. It is stated that the tree and woodland target will help to realise

these aspirations and help to deliver net zero by sequestering approximately 170 Megatons of carbon dioxide by 2100.

### Proposed target to address it

- Increase tree canopy and woodland cover from 14.5% to 17.5% of total land area in England by 2050.

It is reported that this target includes increasing both England's total woodland canopy cover and canopy cover of small woods and trees outside of woodlands. By measuring woodland cover and tree cover outside of woodlands the proposed target recognises the range of benefits of all trees and woodland in England.

Defra propose that the vast majority of trees are in scope of the target: trees in woodlands, as well as trees in hedgerows, orchards, fields, and in towns and cities. The scope reflects the government's interest in promoting agroforestry and other diverse methods of planting. Agroforestry offers unique benefits to people and nature, allowing continued food production and creating new sources of income for land-managers, while also mitigating climate change and contributing to nature recovery. Recognising the importance of these benefits, the government is launching an agroforestry standard through the Sustainable Farming Incentive in 2024. Defra will review the ambition of the woodland cover target after the launch of the Sustainable Farming Incentive agroforestry standard, with a view to raising the target if this is deliverable and in line with expert advice.

It is proposed that purpose-grown (for biomass) short-rotation forestry and short rotation coppice plantations should be excluded from the scope of the target because they are unlikely to provide the range of woodland benefits set out in the 25 Year Environment Plan. The evidence report sets out further details of the development of this target area.

The government will publish a biomass strategy in 2022 which will review the amount of sustainable biomass available to the UK and how this resource could be best utilised across the economy to help achieve our net zero target by 2050.

### Why Defra are proposing it at this level

The target to increase tree and woodland cover in England from 14.5% to 17.5% by 2050, would represent a step-change in woodland creation which would mean 420,000 more hectares of tree cover in England. This is significantly higher than the 25 Year Environment Plan ambition, it represents an unprecedented increase in afforestation for England and could sequester a total of 170 million tonnes carbon dioxide by the end of the century, equivalent to around half the UK's CO2 emissions in 2020. It is commented that although this target is challenging, the actions the Government is currently taking to deliver the England Trees Action Plan, kickstarted by the Nature for Climate Fund, will get more trees planted to meet this target. Investment in enablers will be critical such as ensuring sufficient supply of saplings and a skilled workforce to deliver woodland creation.

### Target proposals for resource efficiency and waste reduction

## The problem

Since the 1990s, England has successfully shifted away from a waste management system reliant on landfilling. Today, Defra manage our waste through treatment options such as recycling, composting, anaerobic digestion, incineration (including with energy 28 recovery) and controlled landfilling. But we continue to send large amounts of waste to treatment processes which have more harmful impacts on the environment. Simultaneously, material resource use in England continues to grow. The extraction, production and disposal of material resources produces significant environmental pressure.

## Proposed target to address it

- Reduce residual waste (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.

Defra's proposed target includes all residual waste, excluding major mineral wastes. These are largely inert waste categories from construction and demolition, and excavation and mining activities. It is commented that this focus will ensure attention on where the environmental impact is greatest, and where our evidence is strongest. The large tonnages associated with major mineral wastes would also risk perverse outcomes if they were included, because the target could be achieved more easily by focussing on these wastes rather than those, we believe have greater environmental impact.

It is advised that the proposed target ensures that a holistic view of waste is taken, which avoids potentially perversely incentivising material substitution with potentially worse environmental impacts through material specific targets. To address the significant public concern towards plastic waste, there is a separate, existing government commitment within the 25 YEP to eliminate avoidable plastic waste by 2042.

The aim of the proposed target is to drive both waste minimisation and recycling of unavoidable waste. Measuring in relation to population size ensures a target remains comparable over time and isn't affected by impacts beyond our control. This is described in Figure 1 below.

### Figure 1: Proposed metric for reducing residual waste

$$\text{Residual waste (excl. major mineral waste per capita (kg)} = \frac{\text{(Tonnes of waste sent to landfill + put through incineration + used in energy recovery for transport fuel excl. major mineral waste)*}}{\text{Population}}$$

Defra propose to measure at the end-point of waste management to include the treatments that are typically associated with mixed residual waste, covering waste that is sent to landfill, put through

incineration (including energy from waste incineration), sent overseas for energy recovery or used in energy recovery for transport fuel. The government will continue to review which treatments are appropriate to include as new technologies and treatment options emerge. Environment Agency data on permitted waste site activities and international waste shipments will be used to report on the metric. It is reported that this will provide a robust approach, recognising that there is limited data availability at the point waste is collected.

Incineration with energy recovery is preferable to disposal of waste via landfill or incineration without energy recovery. However, it is important to include all of these treatment options to:

a. provide the best proxy measure for waste that isn't separately collected;
b. help drive real improvement via waste minimisation and increased recycling, rather than simply diverting waste from landfill to incineration with energy recovery.

The proposed target excludes waste sent for anaerobic digestion (AD), which treats separately collected food waste. AD is one of the least detrimental end of life treatment options for food waste, when considering climate change impacts and depletion of natural 30 resources. It recycles food into digestate fertiliser and recovers energy from biogas. Defra are exploring how AD may be used in the future to generate carbon dioxide from waste.

It is stated that data will be required to develop robust indicators to monitor progress towards a target related to residual waste, future recycling targets and landfill reduction targets. Until recently, there was a legal requirement on Local Authorities (LAs) to provide data on waste, which would assist in this monitoring. To ensure such data will be available, the consultation is proposing reinstating a similar obligation for LAs in England to provide it.

### Why Defra are setting it at this level

It is reported that the proposed target level is based on modelling the collective impacts of the planned Collection and Packaging Reforms (CPR) on residual waste, as well as considering potential future pathways. These could include policies to separate more waste materials for recycling and to divert waste from residual waste treatment. The Government believes it is important that local authorities continue to support comprehensive and frequent rubbish and recycling collections to households. Our consistent collection proposals have included consulting on expanding food waste collections, supporting garden waste collections, and introducing a minimum collective frequency for residual waste. It is stated that such reforms would help ensure households continue to have access to a comprehensive and frequent service, whilst improving environmental outcomes.

Defra comment that this target is ambitious, with the major changes set out in CPR only expected to get us halfway towards our target. Meeting the target will require progress beyond the current commitment to achieve a 65% municipal recycling rate by 2035, and would represent a municipal recycling rate of around 70-75% by 2042. This pathway assumes sufficient private investment in necessary infrastructure and significant behavioural change.

### Resource productivity

In the Resources and Waste Strategy (RWS)27, Defra set a strategic ambition to at least double resource productivity by 2050. Resource productivity measures the economic value per unit of raw material use. Given the complexity of the resource productivity target, more time is needed to develop the evidence base and assess policies. Defra seek views now to inform future work on developing this target.

Defra advise that they are exploring how they might measure this as a ratio of economic output (gross domestic product) in money value to raw material consumption (excluding fossil energy carriers) estimated by material weight (i.e. gross domestic product divided by raw material consumption). This indicator is published on an annual basis by Defra as part of the RWS 'monitoring progress' publication. The evidence report sets out further details of the development of this target area.

The Environment Act 2021 provides the required legal framework for realising many of the policy aims of the RWS, leading to increased resource productivity. These include reforms to, and the introduction of, extended producer responsibility schemes, the necessary powers to introduce eco-design measures on non-energy related products and requirements for the mandatory provision of consumer information. Further information about these approaches will be included in the second Waste Prevention Programme when it is published later this year. Further possible policy instruments to improve resource productivity, which Defra is currently exploring, include regulatory, information-based, price-based, as well as possible spend interventions. The Net Zero Strategy also summarise cross-government ambitions to reduce emissions by encouraging circular economy models in industry.

### Target proposals for air quality

### The problem

Air pollution poses the biggest environmental risk to public health and is a particular risk to vulnerable groups, including the elderly, the very young, and those with existing health conditions. It can also impact on the natural environment, damaging habitats, impeding the ecosystem services we rely on, and contributing to climate change. Further details on impacts related to air pollution can be found in the air quality evidence report. Although air pollution has reduced significantly in recent decades, there is more to do to deliver clean air.

The government's Clean Air Strategy, published in 2019, outlined a comprehensive suite of actions required across all parts of Government to improve air quality and maximise public health benefits. This included national regulations to reduce emissions from domestic burning, industry and farming, alongside stronger powers and an improved framework for local government to tackle more localised issues, as well as a commitment to set a legally binding target for $PM_{2.5}$.

### Proposed targets to address it

- 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).

These targets focus on reducing concentrations of fine particulate matter ($PM_{2.5}$) as evidence shows that this is the pollutant of greatest harm to human health. Particulate matter (PM) is anything in the air which is not a gas. It can come from natural sources or human-made sources and be formed through chemical reactions between other pollutants in the atmosphere. PM2.5 is particulate matter with a diameter of 2.5 microns or less, which is one 400th of a millimetre. Further information on $PM_{2.5}$ can be found in the evidence report.

$PM_{2.5}$ concentrations vary considerably across the country. By setting these two targets, Defra advise that they are ensuring action that, not only reduces $PM_{2.5}$ levels where concentrations are highest, but also reduces exposure to PM2.5 across the whole country. This dual-target approach is particularly important, given there is no known safe level and that concentrations differ greatly across the country.

The targets Defra are proposing focus on reducing impacts from long-term exposure and, therefore, consider changes in concentrations from year to year.

It is commented that reducing $PM_{2.5}$ to meet these ambitious targets will have a significant benefit on health. A reduction in population exposure in England of just 1 µgm-3 could prevent an estimated 50,000 cases of coronary heart disease, 16,500 strokes, 9,000 cases of asthma and 4,000 lung cancers over 18 years. The full cost-benefit analysis can be found in the separate impact assessment.

These targets will also reduce health inequalities and contribute to levelling up objectives. Currently, areas of high deprivation tend to have greater exposure to $PM_{2.5}$. Defra states that the proposed targets would ensure that this gap decreases, so that exposure is more consistently lower across all communities. Finally, these targets will reduce the impact of air pollution on ecosystems and have large co-benefits for climate change objectives.

### Why we are proposing targets at this level

To determine the proposed target, a range of future emission scenarios were modelled each producing different $PM_{2.5}$ concentrations. Each scenario consists of 50 to 70 illustrative measures of varying levels of ambition. The modelling shows that the proposed targets are achievable, but that action will be required across all sectors of society including transport, manufacturing, construction, agriculture and energy, and to be taken by government, industry and individuals. Some action will need to be taken nationally, some will need to be targeted at urban areas where concentrations and population density are highest, and others will require international collaboration. The same measures will contribute to both targets, but urban measures will have greatest impact on delivery of the concentration targets.

Two areas where further action may be needed are domestic burning and road transport. For instance, changing to cleaner stoves and cleaner and more efficient fuels in domestic burning. The

use of electric vehicles will eliminate tailpipe emissions but there is some debate about the magnitude of emissions from non-exhaust sources (brakes, tyres and road wear – as well as resuspension of road dusts from vehicle movements) compared to traditionally powered vehicles. Further assessment is needed to determine the impacts of increased electric vehicle use (e.g. from regenerative braking) and research into innovative abatement technologies is already underway and will need to continue over the coming years to inform our approach.

These are not the only areas where action will be needed – reductions will be needed across all of society as reducing $PM_{2.5}$ is not a single source issue. Defra believe that the proposed targets strike an appropriate balance between being ambitious and achievable - delivering significant health benefits through utilising proportionate and viable measures.

Achieving these targets by 2040 will require sustained, long-term progress and many actions will require significant investment and behaviour change in order to be effective. However, actions we are already taking (e.g., on burning of wet wood and coal) will contribute to achieving these targets, and interim targets will ensure suitable progress is made towards the final target. Importantly, as policy pathways for achievement of the targets is developed, there will be further opportunities for consultation on specific measures that are tailored to local areas and their sources. Defra are currently exploring the role local authorities will play in helping to meet these targets, as part of the Air Quality Strategy review. They will be consulting on this in late 2022, before it is finalised, and we will publish a revised National Air Quality Strategy in 2023

### Part 4: Monitoring and evaluation of the suite of targets

It is reported that the Environment Act 2021 creates a new statutory cycle of monitoring, planning and reporting on environmental improvement, based around a long-term Environmental Improvement Plan. The 25 YEP is the first such Environmental Improvement Plan, which will be reviewed at least every five years.

The government must report annually on what it has done to implement the Environmental Improvement Plan and on whether the natural environment (or particular aspects of it) has improved. That report will also consider the progress that has been made towards meeting targets.

The new independent statutory environmental body, the Office for Environmental Protection, must also report annually on the progress made in improving the natural environment, in accordance with the Environmental Improvement Plan, and on progress towards meeting targets. That report may also include recommendations to government about how it can improve progress, to which the government will have to respond.

### Future legally binding targets

Defra state that while they believe that these are the appropriate targets to set at this moment for the reasons included above, the Act allows for additional long-term targets to be set in the future. It is expected that any future long-term targets will be developed in a similar way to the first suite, through expert advice, stakeholder engagement, and public consultation, as part of the robust, evidence-led target-setting process. The natural environment is complex, and they see target-setting

as an iterative process, built upon over time as our evidence base and understanding develops. Defra want to use targets to meaningfully drive the environmental outcomes that we need.

It is advised that they will regularly test whether the suite of targets we have in place has the necessary breadth and ambition. At least every five years, they will conduct the Significant Improvement Test and assess whether meeting the targets set under the Environment Act's framework, alongside any other statutory environmental targets, would significantly improve England's natural environment. The Secretary of State will use the outcome of the test to decide whether to modify existing targets to make them more ambitious or set additional long-term targets.

Defra will conduct the first test and lay a report on the outcome before Parliament by 31 January 2023. This is the same deadline for the first review of the Environmental Improvement Plan. It is commented that these two processes are designed to work together to ensure successive governments continue to take steps to improve the natural environment.

### Part 5: After the consultation

Once the government has collated responses from this public consultation, these will be summarised and included in a published response on www.gov.uk/defra.

## APSE Comment

As the foremost specialist in local authority frontline services, APSE wants to continue the discussion and debate around the Environment Act – the opportunities and challenges the Act presents – via our extensive network of over 250 local authorities. Through our training suite, advisory groups, research programmes and benchmarking service, membership of APSE can bring significant benefits to those who work in local government – from officers to directors to elected members to chief executives – by helping them comprehensively get to grips with the green agenda.

Not a member? Sign up today!

### How APSE's rich suite of services can help green your council…

## Climate Change and Renewable Energy Network – Free for members!

Free to join for APSE members, this Network looks at strategic, operational and technical issues which impact on local council actions in response to climate change. Covering a range of topics from green finance, to decarbonisation of frontline services, through to transport, housing and planning to support climate action, this Network also supports the development of council renewable energy schemes including energy management and efficiencies. Topics covered include examples of alternative energy sources, such as air and ground source heat pumps, solar PV, biomass and wind turbines. You can sign up for the Network here.


## It's easy being green with APSE Training's Carbon Literacy programme

Announcing a climate emergency declaration is one thing, but how can a local council and its constituent teams deliver on it? This is the tricky question that APSE Training's Carbon Literacy Suite provides the answers for. Whether you are an officer, director, chief executive or elected member, APSE's rich programme of online carbon literacy courses will give a real creative jolt to you and your council as you aim to put things right. Discounted for APSE members, book your place on one of our courses here.


## Helping to green your grey fleet

APSE Solutions will help solve the problem of how to convince staff to replace their fossil fuel powered cars, by making electric vehicles financially much more accessible. A ground breaking salary sacrifice scheme developed by two of APSE's expert associate consultants, Peter Hollinshead and Alan Green, offers a genuine win-win answer to the problem. To find out more about the scheme and the support available to implement it, including ongoing management of the scheme, please contact Andy Mudd, Head of APSE Solutions on amudd@apse.org.uk

apse energy

## Helping your council municipalise local energy generation

APSE Energy is designed to bring councils together to share information, ideas, resources, best practice, and to support local energy projects. Our dedicated team of specialists assist APSE Energy members through:

- Regular briefings about the most up-to-date issues related to the energy agenda and their impact on local government;
- Detailed publications on relevant topics such as energy efficiency and renewables technologies, legislation and the climate emergency;
- Events, workshops and webinars to bring people, experience and ideas together to enable sharing of knowledge;
- Circulating specific operational queries to find answers from our membership;
- Providing consultancy support for individual projects where internal capacity means help and expertise is required.

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apse performance networks

## Measure your progress on environmental targets

APSE Performance Networks is the largest voluntary public sector benchmarking service in the UK; with more than 200 UK local authorities in membership. Benchmarking across 17 frontline services, Performance Networks has embedded a wide range of climate change indicators in the models so as to reflect the environmental and ecological commitments made by local authorities over the past few years. These include:

- Council-wide questions on climate change declaration, carbon reduction and ecological actions.
- Service-specific measures such as route optimisation, biodiversity, types of fuel, etc
- Scored environmental indicators for each service to compare performance and identify good practice
- Measuring investment in staff training on carbon literacy and quality systems such as ISO.
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This enables local authorities to compare their current performance, identify trends over time and identify good practice within the network. These measures will feature in the benchmarking events to facilitate learning and improvement across environmental indicators.
Not a member? Sign up today!

**Vickie Hacking**
**APSE Principal Advisor**