Office for Environmental Protection

Taking stock: protecting, restoring and improving the environment in England

May 2022

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Presented to Parliament pursuant to
Section 29(2) of the Environment Act 2021

May 2022

The **Office for Environmental Protection (OEP)** is a new public body.

We protect and improve the environment by holding government and other public authorities to account.

We were legally created in November 2021, under the Environment Act 2021. Our substantive functions in England commenced on 24 January 2022. Those for Northern Ireland commenced on 28 February 2022.

www.theoep.org.uk/what-we-do

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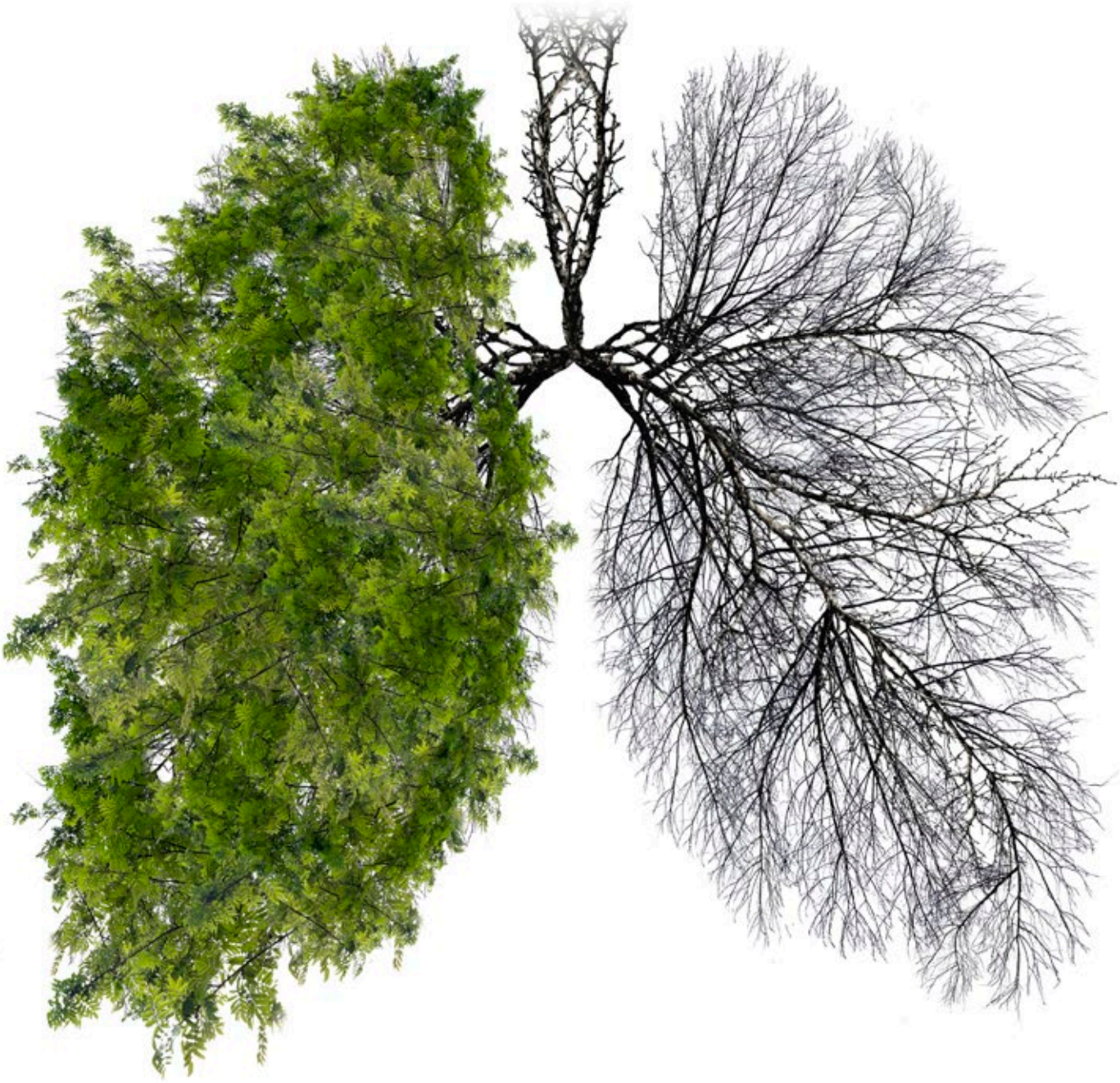


Foreword

The Office for Environmental Protection (OEP) will in future years scrutinise government's progress in meeting its ambitions for the environment.

This year is an exceptional year, when government has a unique opportunity to look again at its ambitions for the environment and how they can be delivered.

Environmental principles are being enshrined in government policy. Statutory environmental targets for England are being set. Work is in hand to develop the next iteration of the long-term plan for the environment. These are critical milestones in strengthening how government, regulators and others implement environmental laws, and for bringing about positive change to the environment. With this in mind, we are seizing this early opportunity to take stock, and set out what is needed for government to protect, restore and improve the environment in England.

As we write, we continue to see extremely worrying and persistent trends of environmental decline. The environment is under serious threat. Adverse trends are becoming increasingly difficult to arrest. Their impacts are more significant and risk becoming irreversible. People across the globe face the combined threats of a biodiversity crisis and the climate emergency, alongside their associated wide-ranging impacts on health and economies. The crisis in Ukraine is now demonstrating the significant impact geopolitical events can have on food security, and energy supply chains, as well as on the environment. Here in England, many natural assets are continuing to deteriorate and long identified problems with the environment persist, despite policy initiatives and efforts on the ground.

In response, public concern is widespread and growing. There is recognition that a sustainable environment is not just nice to have, but essential for human wellbeing, progress and prosperity.

Turning the tide to achieve this is exceptionally difficult, yet it is needed urgently for our wealth, health and wellbeing, and absolutely essential for the generations to come.

In 2018 the UK government took the initiative in producing a ground-breaking long-term strategy for the environment in England. But it has now been four years since the 25 Year Environment Plan (25 YEP) was published. It is time to set the path more clearly from ambition to action and outcomes.

The government is already one of the leaders of the international debate on climate change, aiming for Net Zero by 2050 and urging other nations to do more. The constitutional changes that arise following the UK's exit from the European Union mean that government now has more control over the levers of policy, law making and regulation for the wider environment. We note where foundations are already being laid. Government has introduced a suite of bold, enabling legislation: the Agriculture and Fisheries Acts and, most recently, the Environment Act.

The OEP seeks to support government in achieving its ambitions for the environment and, in this report, we set out the building blocks we consider essential to national level environmental stewardship and a strengthened Environmental Improvement Plan (EIP) in 2023.

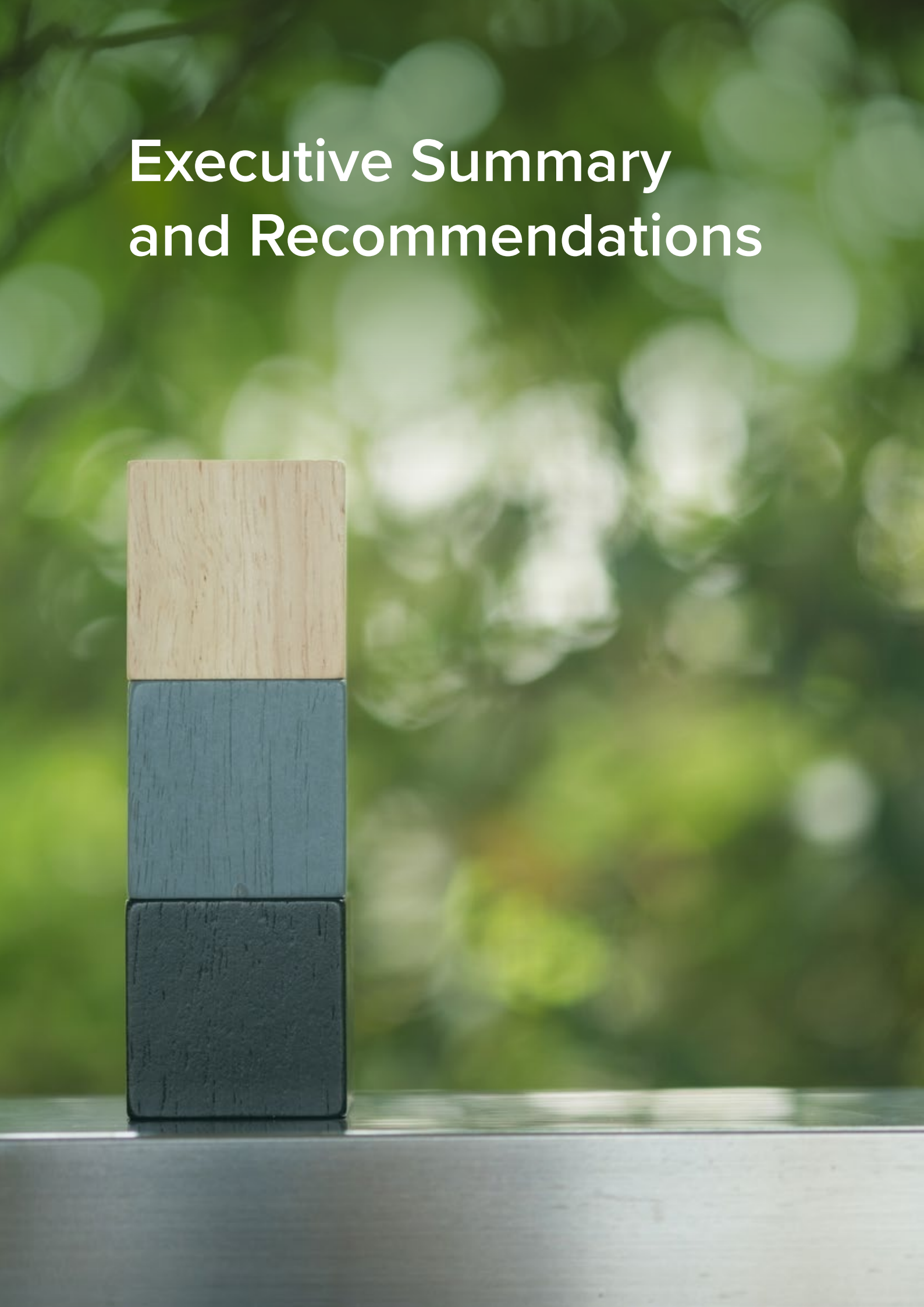
We urge government to be resolute and set, and embed, a clear and determined vision across all of government. It should set ambitious targets to address the most important issues for each environmental goal. These should be underpinned with effective strategy, policy and delivery mechanisms; and strong leadership, better governance and effective monitoring.

We press government to aim high, to act with greater expediency, to plan well for a sustainable environment, and to give this crisis the priority it needs. With a policy statement on environmental principles coming into force, statutory environmental targets soon due, and the prospect of a new EIP ahead, government has an unprecedented opportunity to effect lasting change. It must not waste it.

In preparing this report, we have benefited from the work of others. We are grateful to the Natural Capital Committee (NCC), the Climate Change Committee (CCC) the National Audit Office (NAO), the Environmental Audit (EAC) and Environment and Food and Rural Affairs (EFRA) Select Committees, and to the many other stakeholders we have spoken to as an interim body.

Dame Glenys Stacey
Chair, Office for Environmental Protection

Executive Summary and Recommendations



Executive Summary and Recommendations

Government's first 25 YEP, published in 2018[1], was an ambitious attempt to confront the challenges facing the environment. It set a wide context, outlining a range of environmental issues affecting England and listing 47 strategies, alongside an associated Outcome Indicator Framework (OIF)[2] to provide an evidence base for assessing progress. While we applaud its ambition, progress has been slow. Four years on, it is time to turn ambition into action and outcomes.

Regrettably, environmental laws and government strategy and policy have not yet proved successful in significantly slowing down, halting or reversing biodiversity decline or the unsustainable use of resources or the pollution of the environment. However, the recently enacted Environment Act gives government new tools and a fresh opportunity to make a difference.

Consequently, we use this report to emphasise that urgent action is needed to achieve the ambitions of the 25 YEP, by focusing on the actual delivery of environmental improvements. We propose a framework of six building blocks that need to be in place to achieve the shift, and to enable government to best protect, restore and improve the environment in England. These are: (1) understanding environmental drivers and pressures; (2) creating a vision; (3) setting targets; (4) coherent strategy and policy; (5) governance and; (6) monitoring, assessing and reporting.

Using these blocks as a framework for the chapters which follow, it is clear that there is work to do in relation to each.

We have identified an extensive range of environmental pressures that warrant urgent action. Government should take immediate stock of the state of the environment, the pressures and trends, so as to plan effectively for its protection, restoration and improvement in the next EIP in 2023. In our view, that would allow government to better understand the most pressing issues, and to be clear about priorities.

Government's overarching ambition is to be the first generation to leave the natural environment of England in a better state than inherited. This is commendable, but beyond Defra, we are concerned this vision does not have cross-government support or the same urgency, gravitas and awareness as the vision for Net Zero. Thus, the time is right to sharpen the environmental vision further, to improve the direction, urgency and coherence it provides and do more to champion its adoption across Whitehall and agency bodies.

Well-crafted targets can drive delivery. We found a proliferation of environmental targets, with many insufficiently coherent, connected or applied. As a result, environmental targets are not driving the scale or urgency of response required, and are frequently missed. With statutory targets in prospect, government has the opportunity to address this, and to set a hierarchy of ambitious targets and indicators that will support progress.

In the four years since the 25 YEP was published, Defra's workload has grown, to encompass a number of new strategies and policies. Responsibility for the environment is not just a matter for Defra. Environmental issues should be a priority within a wide range of other government departments, with clear responsibilities, resources and accountability at national, regional and local levels. Defra has a new mechanism to integrate and brigade key strategies through the policy statement on environment principles. We press government to embed the principles effectively, to monitor adherence and to develop coherent strategy and policy not just within Defra but across the whole of government.

Bodies such as the NAO and PAC have expressed concerns that current governance arrangements for delivering the 25 YEP are inadequate. We agree that a bold vision and ambitious environmental goals and targets will place additional demands that current governance arrangements will not bear. In this report, we highlight elements of governance which, if improved, will develop a more collective response and strengthen cross-departmental ownership of the environment agenda.

1 Department for Environment Food & Rural Affairs (Defra), 25 *Year Environment Plan*, (2018), https://www.gov.uk/government/publications/25-year-environment-plan [accessed October 2021]

2 Department for Environment Food & Rural Affairs (Defra), *Outcome Indicator Framework for the 25 Year Environment Plan dashboard*, (n.d.), https://oifdata.defra.gov.uk/ [accessed November 2021]

Finally, we exemplify the need for better monitoring, assessing and reporting, so that government is better able to see fully the impacts of new and existing policy interventions, and understand how environmental laws are being implemented in practice. This will also allow government to make well-informed decisions to prioritise and intervene as needed, and make accountability and progress transparent to the public.

The government has made some progress in achieving its environmental ambitions and aspirations through the 25 YEP and the provisions of the Environment Act 2021. However, it needs to go further than ever before in scale, ambition, speed, and commitment if there is a hope to not only halt, but reverse trends of environmental decline. Much remains to be done to embed the EIPs across government and to change focus from plans and strategies to actions and tangible environmental outcomes.

Our full list of recommendations is as follows:

Building Block 1: Understanding environmental drivers and pressures

Environmental issues are pressing and biodiversity is in long-term decline. There are many pressures limiting environmental recovery, such as air pollution, high levels of water pollution and the unsustainable use of marine, freshwater and land resources. Government should clarify its priorities for the environment.

To do this we recommend:

1. **A comprehensive stocktake**: In preparing its next EIP government should carry out a comprehensive stocktake of the condition of the environment, environmental pressures and their drivers. This needs to embrace not just current issues but also emerging ones that need to be fast-tracked into delivery. The trajectories of environmental changes should also be assessed. This will enable government to take a systemic and comprehensive approach across the whole environmental agenda, and to include issues that may not previously have received the required focus.

2. **Immediate prioritisation:** Having developed a comprehensive understanding of the environment, government must identify the most important environmental concerns. It should be transparent about what it intends to do across all aspects of the environment. It should take account of environmental tipping points, to ensure actions will be timely.

Building Block 2: Creating a vision

We commend the ambition of government's over-arching vision to '*be the first generation to leave the natural environment of England in a better state than it inherited*'. We especially endorse recognition of the need for environmental recovery, the long time scales involved and the consideration of future generations.

Defra is considering whether its core mission of nature's recovery could be better embedded at the heart of all relevant bodies[3]. In our view, a sharper vision for the environment should be embedded across the Defra group, with mission statements aligned to reflect what is expected of group members. More broadly, we want to see the vision having the same level of cross-government support as the vision for Net Zero and urge government to do more to champion adoption of its vision across Whitehall and agency bodies.

We also recognise the visions established for a range of subsidiary areas. We suggest that consistency in approach across the subsidiary strategies could reinforce the overall vision.

3 Department for Environment Food & Rural Affairs (Defra), *Nature Recovery Green Paper*, (2022), https://www.gov.uk/government/consultations/nature-recovery-green-paper [accessed March 2022]

To do this we recommend improving the vision through greater:

3. **Clarity:** The overarching vision of the 25 YEP, and for key areas of the environment, should be clear, coherent and evidence based. Where there are competing priorities the vision should support putting the environment first. Once established, statements of vision should be promoted clearly and consistently in successive EIPs, key strategies and policy documents.

4. **Commitment:** The environment and environment strategy should be a responsibility of all government departments. Government must gain active support for its vision across all departments, to the same level and extent as Net Zero.

Building Block 3: Setting targets

Targets are crucial for directing action and assessing progress. There is a proliferation of targets, to which government needs to bring order. Given the sheer scale and urgency of the environmental challenge, it should set ambitious apex targets which prioritise parts of the environment experiencing states of severe deterioration, and major or emerging pressures that negatively impact the environment. Equally challenging complementary targets and SMART interim targets are also needed. This can raise the profile of targets to the level required, as one of the key building blocks for protecting, restoring and improving the environment.

To do this we recommend:

5. **Coherence**: Government must clarify how multiple targets in individual policy areas relate to each other and to existing commitments in national legislation and internationally, in order that they become mutually supportive and have synergistic effects and impacts.

6. **Hierarchy:** Government must demonstrate how targets are intended to work together towards the achievement of overarching goals and objectives by ordering them into a clear hierarchy and taxonomy. This should include challenging apex targets for all EIP goals and a clear line of sight between relevant complementary interim and longer-term targets, policies, delivery measures, and indicators for monitoring progress.

7. **Ambition:** Given the scale of change now necessary, we press government to set ambitious long-term statutory targets. Interim targets will benefit from a greater level of specificity and achievability so as to provide short-term direction and stimulus. Government's annual progress reports should include assessment when a target is not achieved.

8. **Legal underpinning:** Government can give a legal underpinning to its targets under the Environment Act. A legal basis compels action and will help Defra gain support across government departments. We recommend government take full advantage of this opportunity, prioritising apex targets first.

Building Block 4: Coherent strategy and policy

Delivering the ambitions of the 25 YEP requires a broad range of strategies and policies to address the entrenched drivers of environmental degradation. Defra is developing and implementing many such strategies and policies but there is a growing sense of urgency for them to become effective in delivering improvements to the environment.

We do not deal with delivery arrangements in this report. Rather, we suggest that a lack of coherence in strategy and policy inhibits more effective and purposeful delivery of government's ambitions for the environment. Integrating strategy and policy within and across departments is no doubt challenging, but it is necessary if government is to meet its ambitions for the environment. There are opportunities government can and must take.

To do this we recommend government takes action to improve:

9. **Coherence:** All key government strategies and policies that affect the environment must be aligned with, and follow from, the ambitions of the 25 YEP and future EIPs.

10. **Integration:** Government should ensure the delivery plans for all environmental strategies and policies are designed and implemented in an integrated and effective way, removing silos, and making the most of opportunities for transformational change.

11. **Evaluation:** The increasing ambition in environmental strategies and policies must go hand in hand, with timely evaluation of implementation, iteratively building on evidence to find remedies for areas where delivery remains slow.

Building Block 5: Governance

Effective governance arrangements are important for delivering successive EIPs. However, progress on key environmental indicators has been slow and this can be attributed in part to governance arrangements that are lacking.

A bold vision and ambitious environmental goals and targets will place additional demands on Defra and government. Current governance arrangements will not bear this weight.

Successful delivery of the EIPs requires central leadership, collaboration across organisations, and clear lines of responsibility and resources for local delivery.

To do this we recommend:

12. **Accountability and responsibility:** Government should establish strong EIP governance arrangements including the involvement of other government departments, as well as within Defra and among its delivery partners and local authorities. Defra's ALB reconfiguration should be designed to ensure greater integration and clearer accountabilities for delivery of EIPs.

13. **Applying the environmental principles:** Government should publish the final policy statement on environmental principles as soon as possible and set out how it will support and monitor their due regard.

Building Block 6: Monitoring, assessing and reporting

To identify trends and to know whether government is on course to achieve its ambitions, and when to intervene, there must be an effective, timely, reliable and comprehensive programme to monitor and assess the environment. An environmental baseline would provide an invaluable reference point. Yet there are still significant gaps in the monitoring of key aspects of our environment, with data collected for some purposes relied upon for others.

Nonetheless, there has been some welcome progress. With the OIF[4] due to be refreshed in 2024, government has the opportunity to develop a more effective and comprehensive environmental monitoring framework, and to consider environmental data and information alongside that of economic and social data sets, to decide when and how best to act.

To do this we recommend that government's monitoring, assessment and reporting framework must be:

14. **Purpose driven:** Government should identify and fill critical data gaps, focusing firstly on the issues of greatest environmental concern. Government's monitoring, assessment and reporting framework should provide the data, information and knowledge needed to understand if environmental goals and targets are being met, and capture the influence of pressures and their drivers.

15. **Authoritative:** Environmental improvement is a cross-departmental responsibility. Given this, we see a greater role for ONS in overseeing the environmental statistics in issues of greatest environmental concern, viewing them alongside relevant socio-economic information.

16. **Credible:** Defra should develop and publish, ahead of the EIP refresh, an assessment methodology to measure and report progress in achieving the objectives of EIPs. The methodology should be evidence-based, accessible, consistent and transparent.

4 Department for Environment Food & Rural Affairs (Defra), *Outcome Indicator Framework for the 25 Year Environment Plan dashboard*, (n.d), https://oifdata.defra.gov.uk/ [accessed November 2021]

Introduction

The Office for Environmental Protection

The OEP was established by the Environment Act 2021 ("The Environment Act")[5]. We are an independent public body, with powers to advise ministers and government departments and to hold them and other public authorities to account against their environmental responsibilities and the law.

Our principal objective is to contribute to environmental protection and the improvement of the natural environment. We have four main functions which will contribute to achieving our objective.

Figure 1. Functions of the OEP

Source: OEP

The 25 YEP and targets

In 2018 the UK government set out a long-term approach to environmental protection and improvement in its 25 YEP. The plan commits to protecting and improving the environment across a suite of 10 goals and describes a range of actions to achieve each goal. The 25 YEP relates predominantly to England but there are aspects that apply to the UK as a whole and beyond.

The Environment Act put the 25 YEP on a statutory footing: it is this country's first EIP, as required by the Environment Act. The EIP is due for renewal and an update in 2023, and at five yearly intervals thereafter.

5 Legislation.gov.uk, *Environment Act 2021*, (2021), https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted [accessed November 2021]

Government publishes an annual report to assess progress against the 25 YEP[6]. Three reports have been made available since the 25 YEP's publication in 2018. A set of metrics on environmental trends, referred to as an Outcome Indicator Framework (OIF), launched in 2019, supports each report. Government will review the OIF as a minimum every five years.

In addition, the Environment Act requires government to set a series of long-term targets in respect of at least one matter within each of the following priority areas: air quality; water; biodiversity; resource efficiency and waste reduction. These include specific targets for species recovery and a reduction in the levels of airborne particulate matter. The Act also provides for the government to set interim targets through future EIPs covering the subsequent five year period. At least one interim target must be set for each long-term target.

OEP's scrutiny of EIPs and targets

The Environment Act requires the OEP to monitor independently and report annually on government's progress in improving the natural environment in accordance with its current EIP and towards any targets set under the Environment Act.

Sections 9 (Secretary of State's duty to publish annual reports) and 28 (OEP's duty to monitor and report on progress) are the relevant statutory provisions. For each annual reporting period, the Secretary of State must publish a progress report, and within six months the OEP must publish its own progress report. The Secretary of State must respond in turn within 12 months.

Before the establishment of the OEP, it was the role of the NCC to provide advice to the government on the progress of the 25 YEP. The NCC held its last meeting in 2020.

Government's most recent progress report relates to the annual reporting period of 2020/2021, whereas the provisions of the Environment Act setting out the reporting cycle only apply to reporting periods from 2021/2022 onwards.

This is a seminal year for the environment, with government able to use the provisions of the new Environment Act to set a new course. We are taking the opportunity to propose six building blocks for a better future suited to the scale of the challenge, in protecting, restoring and improving the environment. We are therefore presenting this OEP report to Parliament under Environment Act section 29(2): "The OEP may report on any matter concerned with the implementation of environmental law". We anticipate government will wish to respond in due course. We will present future reports following the Environment Act provisions as set out above.

Other administrations

Complementary arrangements are in place across the other nations. The Scottish government has published 'The Environment Strategy for Scotland: vision and outcomes'[7] and it is the role of Environmental Standards Scotland to ensure adherence to environmental laws and standards. The Welsh government has appointed an Interim Environmental Protection Assessor while it develops a permanent environmental governance mechanism. The Assessor will provide advice and recommendations to the minister on the functioning of environmental law in Wales[8].

At the time of writing, Northern Ireland is poised to publish its own Environment Improvement Plan[9]. Once in place, the OEP will report on progress in improving Northern Ireland's natural environment through its EIP.

6 Department for Environment Food & Rural Affairs (Defra), *25 Year Environment Plan: progress reports*, (n.d), https://www.gov.uk/government/publications/25-year-environment-plan-progress-reports [accessed September 2021]

7 Scottish Government, *The Environment Strategy for Scotland: vision and outcomes*, (2020), https://www.gov.scot/publications/environment-strategy-scotland-vision-outcomes/ [accessed November 2021]

8 Welsh Government, *Interim Environmental Protection Assessor for Wales: terms of reference*, (2021), https://gov.wales/interim-environmental-protection-assessor-wales-terms-reference-html [accessed March 2022]

9 Department of Agriculture, Environment and Rural Affairs (DAERA), *Environment Strategy Consultation*, (2021), https://www.daera-ni.gov.uk/consultations/environment-strategy-consultation [accessed November 2021]

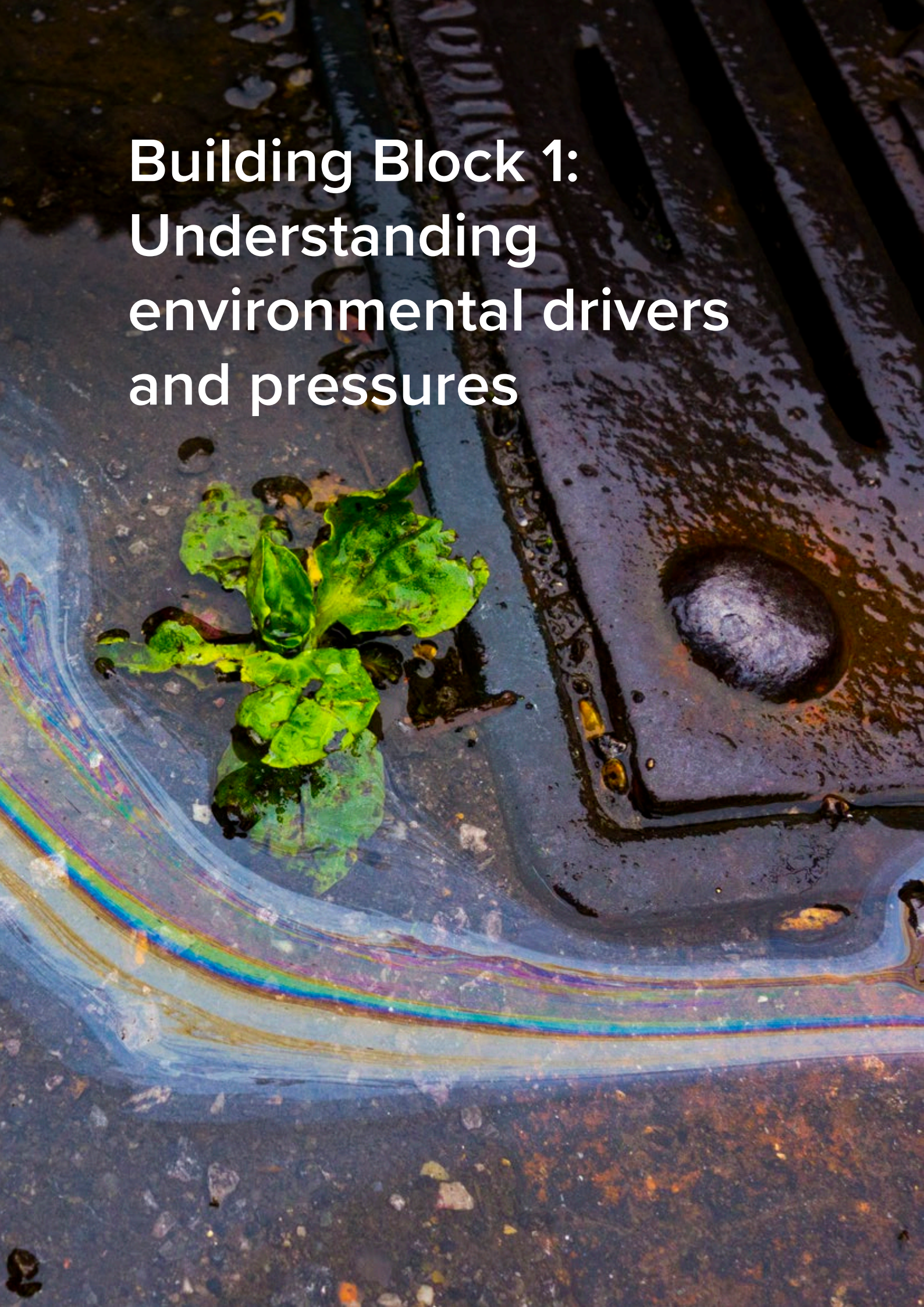
OEP's first monitoring report

We use the opportunity provided by this report to set the scene for the commencement of formal OEP scrutiny. We do so by examining the overall effectiveness of government's national system of environmental stewardship.

To guide our analysis, we introduce six building blocks that we believe are vital to deliver government's vision as enshrined in the 25 YEP. In examining the building blocks, we identify key pressures and impacts on the environment and ask whether government has the capacity and resourced plans in place to reduce and reverse those impacts in line with its vision for the 25 YEP.

Looking ahead, we will develop our capability to scrutinise performance against the goals in the EIPs. We will refine our approach in the light of comments received under our spring 2022 strategy consultation.

Building Block 1: Understanding environmental drivers and pressures



Introduction

The environment supplies the air, water, food and shelter which people need to survive and thrive. It also underpins economic activity and is a source of beauty, health and wellbeing which enriches lives. As an often undervalued asset, it is prone to misuse and abuse. Numerous global and national studies provide evidence of environmental degradation through pollution or over-exploitation and these in turn lead to biodiversity decline.

Here in England, concerns about the environment are justified. A decade ago, the UK National Ecosystem Assessment identified that ecosystems, ecosystem services and the ways people benefit from them have changed markedly in the previous 60 years[10]. The more recent State of Nature report estimated that 39% of species have reduced in distribution in England over the past 10 years[11].

Whilst it is difficult to make comparisons across countries, the UK is now one of the most biodiversity depleted countries in the world[12]. The state of the UK's air, freshwater, marine, and terrestrial environments, and how they are managed, constrains progress to improve nature conservation.

Air pollution significantly impacts people's life and lifespan. It is one of the biggest environmental threats to health in the UK, with between 28,000 and 36,000 deaths a year attributed to air pollution exposure[13]. Those in urban areas are most likely to be living with poor air quality and air pollution beyond legal limits.

The water environment is under pressure from a range of sources such as diffuse agricultural pollution, urban and road runoff, flow and channel modifications and discharges of sewage and wastewater. A recent report by the EAC[14] echoes increasing public concern, declaring that "rivers in England are in a mess. A 'chemical cocktail'...is polluting the waters of many of the country's rivers". Dangerous chemicals (including forever chemicals[15]) are also present in the environment, but exactly where and how much is poorly understood.

There is unsustainable growth in production and consumption. For example, the extraction and processing of resources is a major contributor to biodiversity loss[16]. There is also a failure to manage environmental assets sustainably. It is estimated that poor soil condition leads to agricultural costs of £0.9bn to £1.4bn per year in England and Wales[17].

Changes in climate affect the environment and biodiversity in addition to the direct pressures mentioned above. The most recent decade was on average 1.1°C warmer than the period 1961 to 1990[18]. Post COP 26, the UK CCC estimates that if all the ambition announced in national 2030 and Net Zero targets is delivered (and applied to all greenhouse gases, not just CO_2) an expected warming of just under 2°C might result[19]. Climate damage is already being felt strongly around the world and a 1.5°C rise is broadly accepted as a major tipping point for further damage.

10 UK NEA, *Synthesis of the Key Findings*, (2014), http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx [accessed October 2021]

11 The State of Nature partnership, *The State of Nature 2019*, (2019), https://nbn.org.uk/stateofnature2019/reports/ [accessed October 2021]

12 *Based on a Biodiversity 'Intactness' Index*. Natural Environment Research Council (NERC), *State of nature 2016*, (2016), http://nora.nerc.ac.uk/id/eprint/516567/ [accessed November 2021]

13 Public Health England, *Review of interventions to improve outdoor air quality and public health*, (2019), https://www.gov.uk/government/publications/improving-outdoor-air-quality-and-health-review-of-interventions [accessed January 2022]

14 House of Commons Environmental Audit Committee, *Water quality in rivers Fourth Report of Session 2021–22*, (2022), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/74/summary.html (accessed January 2022)

15 Source: Environment Agency (EA), *Poly- and perfluoroalkyl substances (PFAS): sources, pathways and environmental data: summary*, (2021), https://www.gov.uk/government/publications/poly-and-perfluoroalkyl-substances-pfas-sources-pathways-and-environmental-data/poly-and-perfluoroalkyl-substances-pfas-sources-pathways-and-environmental-data-summary [accessed November 2021].

16 Department for Environment Food & Rural Affairs (Defra), *Waste Prevention Programme for England Towards a resource efficient economy Consultation version March 2021*, (2021), https://consult.defra.gov.uk/waste-and-recycling/waste-prevention-programme-for-england-2021/supporting_documents/Waste%20Prevention%20Programme%20for%20England%20%20consultation%20document.pdf [accessed January 2022]

17 *The total costs of soil degradation in England and Wales* (2011), Accessed via Defra, Farming and environment evidence packs, (2021), https://www.gov.uk/government/publications/farming-and-environment-evidence-packs-latest-editions [accessed January 2022]

18 Kendon, M. et al., *State of the UK Climate 2020*, International Journal of Climatology, Volume 41(52), (2021), https://doi.org/10.1002/joc.7285 [accessed January 2022]

19 Climate Change Committee (CCC), COP26: *Key outcomes and next steps for the UK*, (2021), https://www.theccc.org.uk/publication/cop26-key-outcomes-and-next-steps-for-the-uk/ [accessed March 2022]

Towards a better state

Government has recognised the importance of these issues and set out its vision in the 25 YEP.

The plan contains six environmental goals which are:

1. Clean air
2. Clean and plentiful water
3. Thriving plants and wildlife
4. A reduced risk of harm from environmental hazards such as flooding and drought
5. Using resources from nature more sustainably and efficiently
6. Enhancing beauty, heritage and engagement with the natural environment

It identifies a further four goals to manage pressures:

7. Mitigating and adapting to climate change
8. Minimising waste
9. Managing exposure to chemicals
10. Enhancing biosecurity

A framework of 66 Outcome Indicators monitor progress against the 10 goals, with indicators supported by a range of metrics to inform reporting. Government's latest annual progress report (APR) provides some evidence of the state of the environment and assessment of some indicators. It shows that nine of the indicators related to the current 25 YEP goals are moving in a desirable direction, 11 show a mixed picture and seven are moving in an undesirable direction.

All environmental issues are important. However, experience shows that prioritisation can be beneficial, especially when government has constrained resources. For example, national and international efforts to prioritise threats including ozone depletion, acid rain, lead in petrol, as well as dedicated actions to recover threatened species such as red kites have been highly effective.

Prioritising the most important issues

There is an extensive range of environmental pressures and each requires action. Annex 1 gathers findings from recent studies to illustrate those which we think require more urgent action. Not only are they important in their own right but resolving them would pave the way for biodiversity recovery and hence make a meaningful contribution to the species recovery target in the Environment Act. Unsustainable levels of resource use, consumption and waste generation drives many of these pressures.

We highlight that air pollution (especially particulate matter and nitrogen oxides) is a major human health hazard. Air pollution contributes to a wide range of environmental pressures and is an area which merits urgent action. Water pollution from agricultural runoff and discharges from sewage treatment works and from combined sewer overflows are significant pressures in freshwater and coastal environments.

Within the marine realm, alongside ongoing pollution pressures, urgent action is needed to tackle overfishing and a lack of sustainable management. This, coupled with seafloor destruction from mobile fishing gear, poses a serious threat. On land, habitat loss, fragmentation, land use intensification and urbanisation all contribute to biodiversity loss. Attention to soil condition is especially important as it is affected by a range of pressures, many of which are geographically widespread.

We recognise that government will need to respond to all environmental pressures. However, some pressures are more urgent, more harmful and more widespread than others. Government must develop an effective and timely response to them. It should take note of environmental tipping points, and deliver timely actions with sufficient urgency and ambition that translate such risks into 'turning points,' avoiding irreversible outcomes and delivering positive environmental benefits.

Conclusion

Environmental issues are pressing and biodiversity is in long-term decline. There are many pressures limiting environmental recovery, such as air pollution, high levels of water pollution and the unsustainable use of marine, freshwater and land resources. Government should clarify its priorities for the environment.

To do this we recommend:

1. **A comprehensive stocktake:** In preparing its next EIP government should carry out a comprehensive stocktake of the condition of the environment, environmental pressures and their drivers. This needs to embrace not just current issues but also emerging ones that need to be fast-tracked into delivery. The trajectories of environmental changes should also be assessed. This will enable government to take a systemic and comprehensive approach across the whole environmental agenda, and to include issues that may not previously have received the required focus.

2. **Immediate prioritisation:** Having developed a comprehensive understanding of the environment, government must identify the most important environmental concerns. It should be transparent about what it intends to do across all aspects of the environment. It should take account of environmental tipping points, to ensure actions will be timely.

Building Block 2: Creating a vision

The role of a vision

The terms 'vision', 'mission' and 'purpose' are used commonly in strategic plans but their meanings can sometimes give rise to confusion. By a 'vision', we mean a short statement that articulates the future that government aspires to achieve.

A visualisation of the future provides direction and focus[20]. Once established, a clear and compelling vision can then lead to goals, targets, strategy and policy, and monitoring arrangements being aligned and with a single purpose – to deliver the vision. It is also useful for holding any parts of government to account where underlying policies and plans are incompatible or insufficient for delivering the vision.

A vision for the environment should be bold and clear. It should describe the desired destination, and indicate the scale of change this represents. Once established, all departments and public bodies should stand behind and promote the vision to signal commitment.

The 25 YEP vision

Government's overarching ambition is to be the first generation to leave the natural environment of England in a better state than inherited. This was first published in a Natural Environment white paper (2011)[21], was taken forward as a manifesto commitment in 2017[22], and reiterated in the 25 YEP (2018).

Defra's Outcome Delivery Plan for 2021-22 also reaffirmed the 'vision and mission' for the environment: "*We are here to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, leaving it in a better state than we found it*"[23]. While this is good to see, we appreciate the audience for the plan is limited.

We commend government for establishing an ambitious overarching vision. We especially welcome the transition from simple protection towards environmental recovery and enhancement, which is implicit in the phrase "better state than inherited". The vision also highlights the need for an inter-generational approach because of the long timescales for environmental enhancement, as well as the need to act as custodians for future generations.

We also recognise the challenge in developing an overarching vision for a varied and continually changing environment. However, sharpening the vision further would help to improve the direction, urgency and coherence it provides. For example, government could clarify key dependencies in realising a "*better state than inherited*", such as recognising and avoiding environmental tipping points, and transitions required in social, technological and economic systems relevant to the environment.

The next iteration of the EIP provides an opportunity to refresh the overarching vision so that it gives a real sense of the future environment the government aspires to achieve.

20 Effective Governance (eG), *Vision, mission and purpose statements – what is the difference?*, (2021), https://www.effectivegovernance.com.au/page/knowledge-centre/news-articles/vision-mission-and-purpose-statements-%E2%80%93-what-is-the-difference [accessed February 2022]

21 Public Accounts Committee, *Achieving government's long-term environmental goals*, (2021), https://committees.parliament.uk/publications/4513/documents/45674/default/ [accessed February 2022]

22 Conservative Party, *Forward, Together: Our Plan for a Stronger Britain and a Prosperous Future, Conservative and Unionist Party*, (2017), https://general-election-2010.co.uk/conservative-manifesto-2017-pdf-download/ pg. 28

23 Department for Environment, Food & Rural Affairs (Defra), *Outcome Delivery Plan*, (2021), https://www.gov.uk/government/publications/department-for-environment-food-and-rural-affairs-outcome-delivery-plan/department-for-environment-food-and-rural-affairs-outcome-delivery-plan-2021-to-2022 [accessed February 2022]

Cross-government support for the 25 YEP vision

Of equal concern is the limited acknowledgement of the 25 YEP vision across government.

Whilst a range of important environmental commitments are made in in the Conservative Party 2019 manifesto[24], from investing in nature to leading the world in tackling plastic pollution, the current vision is not included. Furthermore, it is not clearly stated in six of eight[25] key strategic documents the OEP considers central to government's plans and which influence the environment, both now and in the future. The two exceptions are HM Treasury's *Build Back Better: our plan for growth* and HM Government's *Clean Growth Strategy*.

In comparison, commitments for reaching Net Zero were clearly stated in all eight strategy documents. This suggests government is taking climate change more seriously, with successful integration into cross-departmental plans, compared to addressing wider environmental concerns and achieving the vision of the 25 YEP.

The vision across parts of the environment

Defra has provided a large number of supplementary strategies for individual parts of the environment which sometimes elaborate government's vision further. An illustrative selection is provided in Table 1 below.

Table 1. Vision statements across environmental areas

Policy area	Vision statement	Publications
Air	Dealing with all sources of air pollution, making our air healthier to breathe, protecting nature and boosting the economy.	Clean Air Strategy (2019)[26]
Water	Sustainable delivery of secure water supplies, an improved and protected water environment, fair, affordable and cost-reflective water charges, reduced water sector greenhouse gas emissions and more sustainable and effective management of surface water.	Future Water: The government's water strategy for England (2011)[27]
	Clean and plentiful water – achieve clean and plentiful water by improving at least three quarters of our waters to be close to their natural state as soon as is practicable.	The 25 Year Environment Plan (2018)[28]
	A nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100	The Flood and Coastal Erosion Risk Management Strategy (2020)[29]
	To enhance nature and the natural water assets that are the foundation of everyone's wealth, health and wellbeing, and the things people value, including culture and wildlife.	Summary of the draft River Basin Management Plans (2021)[30]

24 Conservative and Unionist Party, *The Conservative and Unionist Party Manifesto 2019,* (2019), https://www.conservatives.com/our-plan/conservative-party-manifesto-2019 [accessed February 2022]

25 The sample was purposefully selected as key documents that indirectly influence the environment and should contain reference to the 25 YEP vision. The eight strategies were: BEIS Outcome Delivery Plan (2021), MHCLG Outcome Delivery Plan (2021), DfT Outcome Delivery Plan (2021), HM Treasury Build Back Better: our plan for growth (2021), HMG Clean Growth Strategy (2017), MHCLG Planning for the future consultation (2020), DfT Future of Mobility: Urban Strategy (2019), https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution (2020) [accessed February 2022]

26 Department for Environment, Food & Rural Affairs (Defra), *Clean Air Strategy,* (2019), https://www.gov.uk/government/publications/clean-air-strategy-2019 [accessed February 2022]

27 Department for Environment, Food & Rural Affairs (Defra), *Future water: The government's water strategy for England,* (2011), https://www.gov.uk/government/publications/future-water-the-government-s-water-strategy-for-england [accessed February 2022

28 Department for Environment, Food & Rural Affairs (Defra), *A Green Future: Our 25 Year Plan to Improve the Environment,* (2018), https://www.gov.uk/government/publications/25-year-environment-plan [accessed February 2022]

29 Environment Agency (EA), *National Flood and Coastal Erosion Risk Management Strategy for England*, (2020), https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england--2 [accessed February 2022]

30 Environment Agency (EA), *Summary of the draft river basin management plans* (2021), https://www.gov.uk/government/publications/summary-of-the-draft-river-basin-management-plans [accessed February 2022]

Policy area	Vision statement	Publications
Land	We want a more dynamic, more self-reliant agriculture industry as we continue to compete internationally, supplying products of the highest standards to the domestic market and increasing exports. But, alongside this, we want a reformed agricultural and land management policy to deliver a better and richer environment in England. By 2028, we want to see: • a renewed agricultural sector, producing healthy food for consumption at home and abroad, where farms can be profitable and economically sustainable without subsidy • farming and the countryside contributing significantly to environmental goals including addressing climate change Planting and establishing the right tree in the right place will deliver benefits for people, for wildlife and the economy. We want our peatland to meet the needs of wildlife, people and the planet. All uses of peatland should keep the peat wet and in the ground.	Health and Harmony: The future for food, farming and the environment in a green Brexit (2018)[31] Agricultural Transition Plan 2021 to 2024: Policy paper[32] The England Trees Action Plan 2021-2024[33] England Peat Action Plan (2021)[34]
Marine	Clean, healthy, safe, productive and biologically diverse oceans and seas. Within one generation we want to have made a real difference.	Safeguarding Our Seas (2002)[35] UK Marine Policy Statement (2011)[36] Marine Strategy Part One (2019) & Two (2021) [37 38]
Waste	Minimising waste, promoting resource efficiency and moving towards a circular economy in England.	Waste and Resources Strategy (2019)[39]
Biodiversity	To halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.	Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011)[40]

31 Department for Environment, Food & Rural Affairs (Defra), *The future for food, farming and the environment,* (2018), https://www.gov.uk/government/consultations/the-future-for-food-farming-and-the-environment [accessed February 2022]

32 Department for Environment, Food & Rural Affairs (Defra), *Agricultural Transition Plan 2021 to 2024,* (2020), https://www.gov.uk/government/publications/agricultural-transition-plan-2021-to-2024 [accessed February 2022]

33 Department for Environment, Food & Rural Affairs (Defra), *England Trees Action Plan 2021 to 2024*, (2021), https://www.gov.uk/government/publications/england-trees-action-plan-2021-to-2024 [accessed February 2022]

34 Department for Environment, Food & Rural Affairs (Defra), *England Peat Action Plan,* (2021), https://www.gov.uk/government/publications/england-peat-action-plan [accessed February 2022]

35 Department for Environment, Food & Rural Affairs (Defra), *Safeguarding our Seas,* (2002), https://webarchive.nationalarchives.gov.uk/ukgwa/20130822084033/http:/www.defra.gov.uk/environment/marine/documents/marine_stewardship.pdf [accessed February 2022]

36 Department for Environment, Food & Rural Affairs (Defra), *UK Marine Policy Statement,* (2011), https://www.gov.uk/government/publications/uk-marine-policy-statement [accessed February 2022]

37 Department for Environment, Food & Rural Affairs (Defra), *Marine strategy part one: UK updated assessment and Good Environmental Status,* (2019), https://www.gov.uk/government/publications/marine-strategy-part-one-uk-updated-assessment-and-good-environmental-status [accessed February 2022]

38 Department for Environment, Food & Rural Affairs (Defra), *Marine strategy part two: UK marine monitoring programmes,* (2014), https://www.gov.uk/government/publications/marine-strategy-part-two-uk-marine-monitoring-programmes [accessed February 2022]

39 Department for Environment, Food & Rural Affairs (Defra), *Resource and waste strategy for England,* (2018), https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england [accessed February 2022]

40 Department for Environment, Food & Rural Affairs (Defra), *Biodiversity 2020: A strategy for England's wildlife and ecosystem services,* (2011), https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services [accessed February 2022]

We see the greater detail provided in these publications. Together they provide useful information on the strategic aims for different parts of the environment. This is particularly powerful when restated over time, demonstrating not only the evolution of policy and evidence, but a consistent vision – for example as is the case for marine policy.

However, vision statements can be difficult to find amongst government strategies and their associated policy documents, which accumulate over time, and often do not contain a dedicated vision section. We found that water, land and biodiversity, in particular, did not appear to have an accessible, current vision, or included inconsistent visions in successive policy documents.

For the visions that are accessible, none are fully consistent with the overarching 25 YEP vision. Their terminology is inconsistent, and only air, water and marine reflect the ambition to recover the environment – although we note they are not bounded to attain this *"within a generation"*, and in marine the vision is only to "*have made a real difference"* within a generation.

Neither do they reflect the 25 YEP commitment to prioritise the environment first; "*We will use this opportunity to strengthen and enhance the protections our countryside, rivers, coastline and wildlife habitats enjoy, and develop new methods of agricultural and fisheries support which put the environment first"*[41]. Visions for water, land and marine contain multiple economic, social and environmental goals, but do not distinguish priorities or acknowledge the trade-offs between them.

With the prospect of a new EIP in 2023, and subsidiary strategies for biodiversity, water and agri-environment schemes, there is an ideal opportunity for government to provide a sharp and consistent vision across environmental areas.

Conclusion

We commend the ambition of government's over-arching vision to "*be the first generation to leave the natural environment of England in a better state than it inherited*". We especially endorse the recognition of the need for environmental recovery, the long time scales involved and the consideration of future generations.

Defra is considering whether its core mission of nature's recovery could be better embedded at the heart of all relevant bodies[42]. In our view, a sharper vision for the environment should be embedded across the Defra group, with mission statements aligned to reflect what is expected of group members. More broadly, we want to see the vision having the same level of cross-government support as the vision for Net Zero and urge government to do more to champion adoption of its vision across Whitehall and agency bodies.

We also recognise the visions established for a range of subsidiary areas. We suggest that consistency in approach across the subsidiary strategies could reinforce the overall vision.

To do this we recommend improving the vision through greater:

3. **Clarity:** The overarching vision of the 25 YEP, and for key areas of the environment, should be clear, coherent and evidence based. Where there are competing priorities, the vision should support putting the environment first. Once established, statements of vision should be promoted clearly and consistently in successive EIPs, key strategies and policy documents.

4. **Commitment**: The environment and environment strategy should be a responsibility of all government departments. Government must gain active support for its vision across all departments, to the same level and extent as Net Zero.

41 Department for Environment Food & Rural Affairs (Defra), *A Green Future: Our 25 Year Plan to Improve the Environment,* (2018), https://www.gov.uk/government/publications/25-year-environment-plan, pg. 4 [accessed February 2022]

42 Department for Environment Food & Rural Affairs (Defra), *Nature Recovery Green Paper,* (2022), https://www.gov.uk/government/consultations/nature-recovery-green-paper [accessed March 2022]

Building Block 3: Setting targets

Terminology

The terminology surrounding targets can be unclear. We apply the following definitions throughout this chapter.

Goals are statements that describe the fundamental and broad aspirations that an organisation is aiming to achieve through its activities[43]. They indicate how the vision will be realised, for example the 10 such goals within the 25 YEP[44].

Objectives are statements of specific, tangible outcomes that an organisation is aiming to achieve within one of the goal areas. For example, in clean air, an objective is to reduce public exposure to particulate matter pollution.

Targets are statements that generally quantify the desired level of performance expected, based on measurable indicators[45]. An example of a target for the above objective is *"to reduce PM2.5 concentrations across England, so that the number of people living in locations above the WHO guideline level of 10 µg/m3 is reduced by 50% by 2025"*[46].

Commitments are statements that commit to do something but do not define a desired level of performance or include a measurable indicator.

The role of targets

Targets operationalise goals and objectives and enable monitoring of performance. They influence how environmental laws, strategies and policies are implemented in practice. They can set direction, indicate a change of pace and drive the achievement of desired outcomes.

Statutory long-term targets (supported by interim targets) are important for locking in action and ambition over time[47]. They increase policy continuity and give confidence in the direction of travel. This is essential to businesses that need to invest in innovative technologies and practices: for example, the Net Zero target requires low-carbon investment of around £10bn in 2020, rising to around £50bn annually by 2030[48].

Current environmental targets

Government has committed to a range of international targets, including for example the Sustainable Development Goal targets and the Aichi Biodiversity targets. There are also many targets derived from the UK's historic EU membership and commitments arising from continuing membership of other international organisations.

Domestically, the 25 YEP includes targets for most of the 10 goals. Government has also published a range of topic specific strategies that include additional targets in support of the 25 YEP. For example, the resources and waste strategy sets a target for *"all plastic packaging placed on the market being recyclable or reusable by 2025",* which complements the target introduced in the 25 YEP for "*zero avoidable waste by 2050"*.

43 Australian Transport Assessment and Planning (ATAP), *Defining goals, objectives and targets*, (2010), https://www.atap.gov.au/framework/goals-objectives-targets/2-defining-goals-objectives-targets [accessed February 2022]

44 Clean air, Clean and plentiful water, Thriving plants and wildlife, A reduced risk of harm from environmental hazards, Using resources from nature more sustainably and efficiently, Enhanced beauty, heritage and engagement with the natural environment, Mitigating and adapting to climate change, Minimising waste, Managing exposure to chemicals, Enhancing biosecurity

45 Australian Transport Assessment and Planning (ATAP), *Defining goals, objectives and targets*, (2010), https://www.atap.gov.au/framework/goals-objectives-targets/2-defining-goals-objectives-targets [accessed February 2022]

46 Department for Environment Food & Rural Affairs (Defra), *Clean Air Strategy*, (2019), https://www.gov.uk/government/publications/clean-air-strategy-2019 [accessed February 2022]

47 Environmental Audit Committee, *The Government's 25 Year Plan for the Environment: Government Response to the Committee's Eighth Report*, (2018), https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1672/167202.htm [accessed February 2022]

48 Climate Change Committee (CCC), *Sixth Carbon Budget*, (2020), https://www.theccc.org.uk/publication/sixth-carbon-budget/ [accessed November 2021]

We welcome the target provisions in the Environment Act 2021. Government will be legally obliged to meet the long-term statutory targets that are set and as such, we expect there to be a strong and enduring commitment to their delivery.

More broadly, however, the number of environmental targets has grown over time. There are now a substantial number that exist both within and alongside the 25 YEP. This can cause confusion over the status of targets and their relative importance in driving action and ambition over time.

When government or Parliament has introduced new targets there has often been little explanation of how they relate to existing ones. In its review of the 25 YEP, the NAO stated "*it is difficult to see how the ambitions in the plan compare to pre-existing national, EU and international environmental targets*"[49].

This creates incoherency, as highlighted by the Public Accounts Committee (PAC) in its report on freshwater. Regulations implementing the Water Framework Directive (WFD) in England require that government aims to achieve good status for all natural water bodies by 2015 (with potential extensions up to 2027). The 25 YEP appeared to lower this ambition to "*Improving at least three quarters of our waters to be close to their natural state as soon as is practicable*"[50] with no discussion of how the two targets differed, what this meant for the status of the WFD target, and the rationale for the new target[51].

To our knowledge, there is no single place which sets out environmental targets and the relationship between them. This is despite an EAC recommendation to publish an "audit" of existing national, European Union and international environmental targets, which government has committed to, in 2018[52] [53].

To test the need for an inventory of targets, we reviewed targets which are relevant to a single policy area: waste and resource use (Figure 2). We found it challenging to gather information and decide the status of targets and their relevance to each other. This was particularly unclear for targets derived from EU membership. We are grateful for Defra's support in developing Figure 2, below. We suggest that the creation of an inventory of targets for all policy areas is needed. It would help show the relationships between different commitments, provide transparency and potentially stimulate delivery.

49 National Audit Office (NAO), *Achieving government's long-term environmental goals*, (2020), https://www.nao.org.uk/report/achieving-governments-long-term-environmental-goals/ [accessed August 2021]

50 HM Government, *A Green Future: Our 25 Year Plan to Improve the Environment*, (2018), 25 https://www.gov.uk/government/publications/25-year-environment-plan [accessed February 2022]

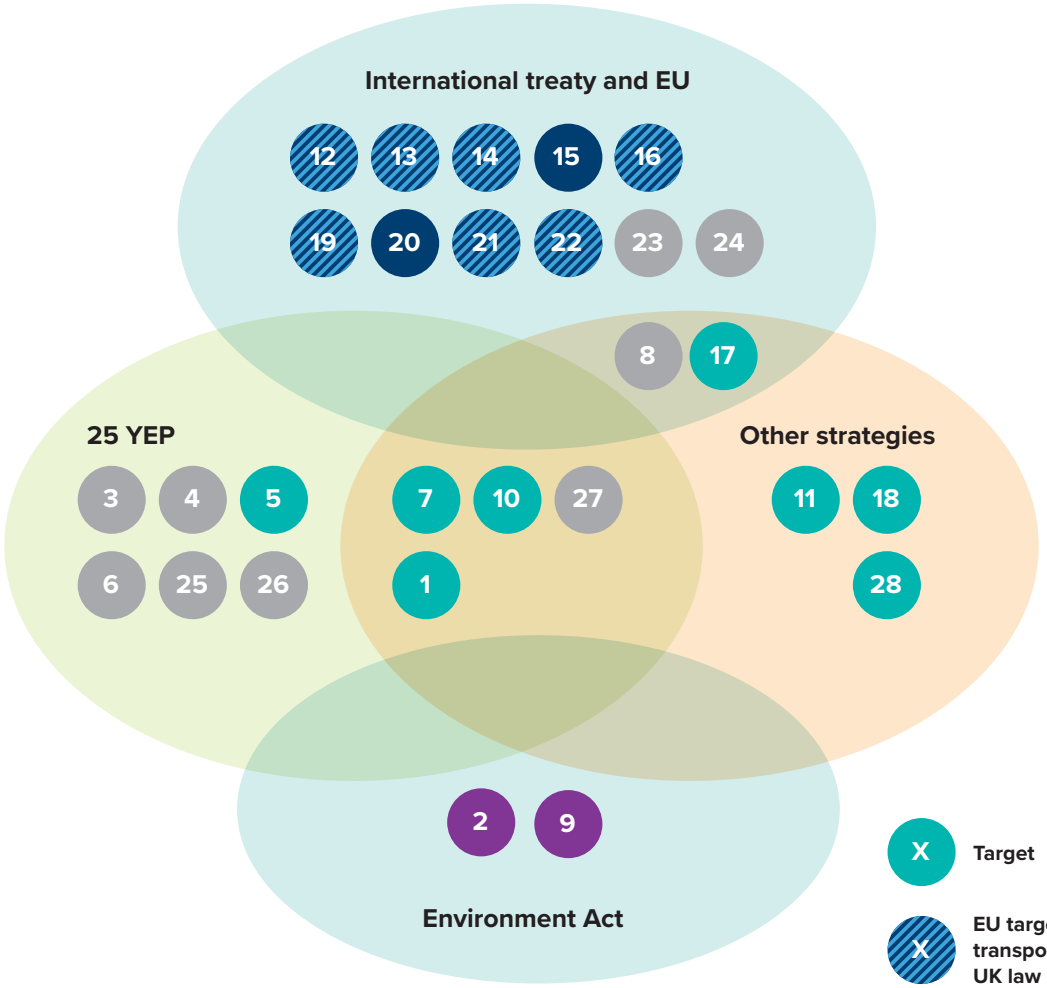
51 Environmental Audit Committee, *The Government's 25 Year Plan for the Environment: Government Response to the Committee's Eighth Report*, (2018), 17 https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1672/167202.htm [accessed February 2022]

52 Environmental Audit Committee, *The Government's 25 Year Plan for the Environment: Government Response to the Committee's Eighth Report*, (2018), 17 https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1672/167202.htm [accessed February 2022]

53 National Audit Office (NAO), *Achieving government's long-term environmental goals*, (2020), https://www.nao.org.uk/report/achieving-governments-long-term-environmental-goals/ [accessed August 2021]

Figure 2. Schematic map to show relationship of targets relevant to waste and resource use.

The map shows the relationship between 28 separate targets and commitments in a single policy area. It illustrates that: (1) transposition of EU targets is inconsistent across different pieces of legislation; (2) around half the commitments in the 25 YEP are reflected in domestic strategies, and; (3) there are just two legally binding targets, although government is considering a further two statutory targets as part of the Environment Act process.



Reference number and focus area

1 Resource productivity
2 Resource productivity
3 Soils
4 Resource productivity – timber
5 Resource productivity – fish
6 Other
7 Avoidable waste
8 Residual waste
9 Residual waste
10 Avoidable plastic waste
11 Avoidable plastic waste
12 Packaging waste [A, B]
13 Municipal waste [A]
14 Municipal waste [A]
15 Biodegradable municipal waste (BMW)
16 Household waste [A]
17 Food waste prevention
18 Food waste
19 Construction and demolition waste [A]
20 End-of-life vehicles (ELVs)
21 Waste Electrical and Electronic Equipment (WEEE)
22 Portable batteries collection rate [B]
23 Chemical use and waste
24 Marine pollution
25 Marine pollution
26 Waste crime
27 Litter
28 Biodegradable municipal waste (BMW)

[A] Targets not transposed into UK law, but where equivalent ambition on measures has been transposed (see technical table in Annex 3)

[B] Status varies for Northern Ireland (see technical table in Annex 3)

Hierarchy of goals, objectives and targets

The abundance of goals, objectives and targets means that there are often interactions and overlaps that are not always obvious. The introduction of a targets' hierarchy, based on a coherent taxonomy of the different commitments and their level of ambition, would provide clarity to delivery partners and stakeholders. It would provide a clear line of sight to relevant policy objectives and indicator frameworks. It would also show how different commitments work together towards the achievement of overarching goals, are mutually supportive and have synergistic effects and impacts.

Ambitious goals and objectives

At the top of the hierarchy, ambitious goals and objectives are needed to reflect the nature and scale of change required and the sheer urgency of the situation in some areas of the environment. They should be challenging – to set expectations, drive innovation and encourage investment to deliver the changes needed, and typically require longer time scales to achieve.

An example from the 25 YEP is the 'thriving plants and wildlife' goal, which includes the objective "*Creating or restoring 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits.*"

Apex targets

In our view, government should match each of its EIP goals with ambitious and stretching 'apex' targets that crystalise the environmental outcomes it is aiming to achieve. These should address the areas that matter most, rather than areas that are easy to measure and improve. Targets should prioritise parts of the environment experiencing states of severe deterioration, and major or emerging pressures that negatively impact the environment.

Apex targets need to be measurable and time bound. Proxy measures should be avoided wherever possible, and where necessary, research and innovation should support the development of more robust indicators on which to base apex targets.

Examples of measurable and time bound apex targets include the overarching Water Framework Directive target to protect, enhance and restore each body of surface water with the aim of achieving good ecological and chemical status by 2027. Other examples include the target within the Environment Act "*to halt a decline in the abundance of species*" by 2030, the Net Zero emissions target by 2050, and the 25 YEP target "*to double resource productivity*" by 2050.

Success in meeting apex targets depends upon a wide range of stakeholders. Often new behaviours or technological developments are needed. Inevitably, there are some uncertainties. Given this, periodic re-evaluation of apex targets and delivery plans is necessary to adapt to environmental changes and emerging impacts, potential trade-offs, or unexpected effects. Government has the opportunity to review apex targets with each iteration of the EIP and accompanying 'Significant Improvement Test' (SIT)[54]. We press government not to reduce ambition as it does so.

Interim targets to drive performance

Interim targets can drive early action, avoid complacency, and ensure cost effective delivery. They define optimal pathways over time towards long-term outcomes. For example, the Carbon Budgets recommend maximum allowable emission levels over five year periods, setting out emission reduction trajectories to Net Zero.

54 UK Parliament, Environment Bill Explanatory Notes 2021-22, (2021), https://publications.parliament.uk/pa/bills/cbill/58-01/0009/en/20009en.pdf [accessed February 2022]

To encourage performance, interim targets benefit from being as specific as possible, short-term and achievable. We recognise the importance of a SMART framework in this context:

- ***Specific***: Able to be translated into operational terms and is explicitly clear about what is being measured and the overall aim of the target.
- ***Measurable***: Able to be counted, observed, analysed, tested or challenged.
- ***Achievable***: Realistically attainable within the set parameters.
- ***Relevant:*** A valid measure of the result/outcome, ideally linked through research and expertise to the overall desired outcome.
- ***Time-bound:*** To be achieved by a well-defined and unambiguous date, with a clearly defined timeline to deliver.

Good practice examples from Net Zero include government's target of 600,000 heat pump installations a year by 2028, or delivering 40 GW of offshore wind by 2030 [55].

Achievement of goals and targets

Current environmental targets are not driving the scale or urgency of response required.

The UK is only on track to meet a quarter of the Aichi Biodiversity targets agreed as part of the Convention on Biological Diversity (CBD), according to the latest progress assessment[56]. The Biodiversity 2020 strategy targeted 50% of sites of special scientific interest (SSSIs) in England to be in favourable condition,[57] however only 38.2% were so in 2022, with the position largely static for the previous five years[58].

In the marine environment, government missed the Marine Strategy Framework Directive's target for UK seas to meet Good Environmental Status by 2020, failing on 11 out of 15 indicators of marine health[59].

For air, government has been in breach of EU standards on nitrogen dioxide concentrations since 2010[60]. More recently, in 2019, 33 of the UK's 43 air quality zones did not comply with annual limits for nitrogen dioxide concentrations[61].

In water, government is unlikely to meet the WFD target to achieve good status for all natural water bodies by 2027. In 2020, only 16% of rivers in England met good or better status[62].

This frequent failure to meet targets erodes public confidence in government's commitment, or capacity, to deliver against new targets which are often more challenging than the targets that have been missed – for example, the Environment Act target to halt the decline in the abundance of species[63]. Nevertheless, we continue to press for ambitious and stretching targets as part of an urgent and renewed effort to meet government's ambitions for the environment. They have an important role to play, as one of the building blocks for effective stewardship of the environment.

55 Department for Business, Energy & Industrial Strategy (BEIS), *Net Zero Strategy: Build Back Greener*, (2021), https://www.gov.uk/government/publications/net-zero-strategy [accessed February 2022]

56 Joint Nature Conservation Committee (JNCC), (2019), *United Kingdom's 6th National Report to the Convention on Biological Diversity*, United Kingdom's 6th National Report to the Convention on Biological Diversity | JNCC - Adviser to Government on Nature Conservation [accessed February 2022]

57 Department for Environment, Food & Rural Affairs, Biodiversity 2020: *A strategy for England's wildlife and ecosystem services*, (2011), https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services [accessed February 2022]

58 Natural England, *Statistics at Natural England -Condition of sites of special scientific interest*, (2022), https://www.gov.uk/government/organisations/natural-england/about/statistics [accessed April 2022]

59 Wildlife and Countryside Link, *Failure on global and UK nature targets a wake-up call that UK governments must answer*, (2020), https://www.wcl.org.uk/new-era-for-nature-needed-after-lost-decade.asp [accessed February 2022]

60 House of Commons, *Air Pollution: Meeting Nitrogen Dioxide Targets*, (2017), https://commonslibrary.parliament.uk/research-briefings/cbp-8179/ [accessed February 2022]

61 Department for Environment, Food & Rural Affairs (Defra), *Air Pollution in the UK*, (2019), https://uk-air.defra.gov.uk/library/annualreport/ [accessed February 2022]

62 Joint Nature Conservation Committee (JNCC), *B7. Surface water status*, (2021), https://jncc.gov.uk/our-work/ukbi-b7-surface-water-status/ [accessed February 2022]

63 Legislation.gov.uk, *Environment Act 2021*, https://www.legislation.gov.uk/ukpga/2021/30/part/1/chapter/1/crossheading/environmental-targets/enacted [accessed February 2021]

We also suggest that to improve accountability, government's annual progress report should provide its own analysis and evaluation for missed targets. Apart from anything else, this could lead to better target setting and better planning for delivery in future.

Conclusion

Targets are crucial for directing action and assessing progress. There is a proliferation of targets, to which government needs to bring order. Given the sheer scale and urgency of the environmental challenge, it should set ambitious apex targets which prioritise parts of the environment experiencing states of severe deterioration, and major or emerging pressures that negatively impact the environment. Equally challenging, complementary targets and SMART interim targets are also needed. This can raise the profile of targets to the level required, as one of the key building blocks for protecting, restoring and improving the environment.

To do this we recommend:

5. **Coherence:** Government must clarify how multiple targets in individual policy areas relate to each other and to existing commitments in national legislation and internationally, in order that they become mutually supportive and have synergistic effects and impacts.

6. **Hierarchy:** Government must demonstrate how targets are intended to work together towards the achievement of overarching goals and objectives by ordering them into a clear hierarchy and taxonomy. This should include challenging apex targets for all EIP goals and a clear line of sight between relevant complementary interim and longer-term targets, policies, delivery measures, and indicators for monitoring progress.

7. **Ambition:** Given the scale of change now necessary, we press government to set ambitious long-term statutory targets. Interim targets will benefit from a greater level of specificity and achievability so as to provide short-term direction and stimulus. Government's annual progress reports should include assessment when a target is not achieved.

8. **Legal underpinning:** Government can give a legal underpinning to its targets under the Environment Act. A legal basis compels action and will help Defra gain support across government departments. We recommend government take full advantage of this opportunity, prioritising apex targets first.

Building Block 4: Coherent strategy and policy

Introduction

There is a growing sense of urgency amongst scientists, policymakers and the public for real progress on the environment. It has been over four years since the 25 YEP was published and delivery has been slow. There is little time left. With every year passing, it is harder to reverse negative trends, and the risk of reaching tipping points grows.

Strategies and policies are the vehicles for making government's vision for the environment a reality, and for the timely achievement of ambitious targets. They set out government's intentions and actions in how environmental law is implemented for specific areas and allocate responsibility to delivery agencies.

Successful *strategy* can be said to have three elements: a diagnosis of an issue or problem, a guiding policy, and a set of coherent actions[64]. In other words, strategies have the best chance of success if they are based on the best available evidence about the true nature of the problem and if they are based on a considered view of the potential solutions.

Policies generally nest within strategies. They define more specifically the actions government will take (such as implementing legislation, investment and taxation) to bring about the desired outcomes. Deciding on the most appropriate policy requires evidence on a range of social, economic and environmental impacts, and tried and tested ways of using that evidence to consider the various options and their relative merits.

The need for greater coherence

With the repatriation of policy responsibilities following EU-Exit and in response to increasing public concern about the poor state of the environment[65], Defra's workload has grown. Defra has developed a significant number of new strategies and policies in recent years.

With this comes the risk of a lack of coherence that in all probability holds back success. The APRs show that many undesirable environmental trends continue. These include air pollution from various compounds, water pollution incidents and species loss. We provide a summary of some of the highest concerns at Annex 1.

The most recent APR for the 25 YEP lists 47 associated strategies, each at various stages of development or implementation[66]. Even within a single goal area or strategy, for example those aiming to reverse biodiversity loss, the number of associated strategies, policies and delivery plans within Defra is considerable (see Figure 3).

Figure 3. Defra strategies, policies and delivery affecting biodiversity

To produce Figure 3, we reviewed the 25 YEP, APRs, and public announcements. We spoke with policy teams across Defra and relevant Arm's Length Bodies.

It is limited to domestic policies owned by Defra. We have not attempted to explain their relationships, or to show how these policies are delivered at a regional or local level.

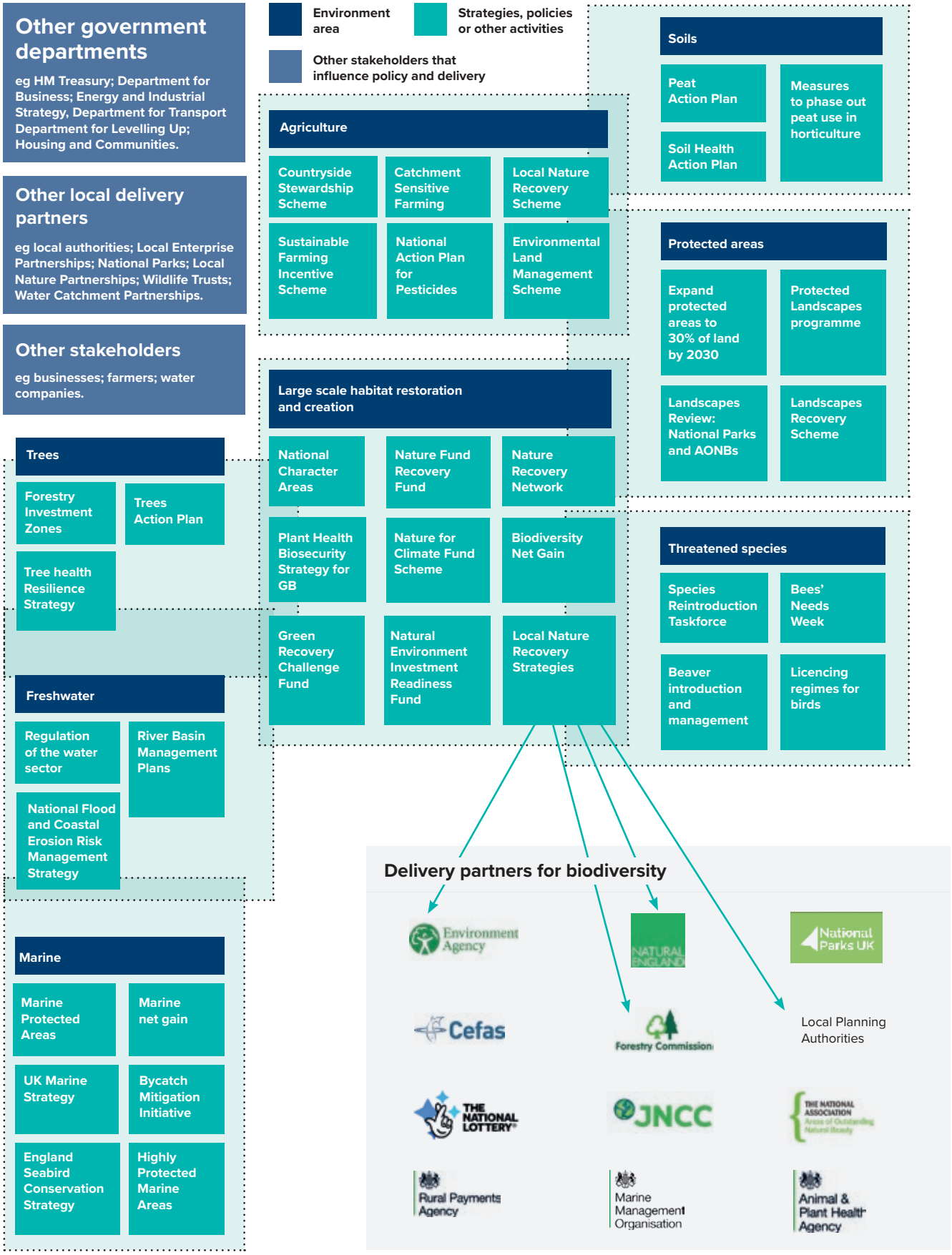
We cannot be sure it is comprehensive, but rather it serves to illustrate the complexity of strategy, policy, and delivery in a single policy area.

64 Rumelt, R. 2017. Good Strategy, Bad Strategy. The difference and why it matters. Profile Books Ltd. London.

65 Department for Environment Food & Rural Affairs (Defra), *Citizen engagement on the environment* - BE0141, (n.d.), http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=20061&FromSearch=Y&Publisher=1&SearchText=BE0141&SortString=ProjectCode&SortOrder=Asc&Paging=10 [accessed November 2021]

66 Department for Environment Food & Rural Affairs (Defra), *25 Year Environment Plan progress report: April 2020 to March 2021*, (2021), https://www.gov.uk/government/publications/25-year-environment-plan-progress-reports [accessed November 2021]

Strategies, policies and delivery for addressing biodiversity



Source: OEP

Policies in this and other areas change frequently. There is no definitive list of policies and associated expenditure. Instead, APRs generally provide a long list of activities. This makes it difficult to see how Defra's effort is distributed across the 10 goals, the relative priorities the department ascribes to each area or how responsibility for delivery is allocated.

In our view, greater coherence and greater transparency would make it more likely that strategies and policies are more widely known and understood. Any implementation gaps, unintended overlaps or conflicts could be identified and considered early, and Defra could periodically review whether its strategies, policies and delivery arrangements are together likely to deliver the 25 YEP.

Strategy and policy integration within Defra

Defra currently faces several inter-related challenges. Notable examples include the reform to payments to farmers and other land managers; improving the sustainability of the food system; contributing to the Net Zero target by reducing net emissions through changes in land use; reducing emissions from agriculture; facilitating a circular economy; addressing risks such as flooding and drought; poor water quality; tackling air pollution; improving health and wellbeing and the enjoyment of nature; protecting the marine environment; reversing biodiversity loss; and embedding environmental net gain and natural capital thinking into economic development.

The NAO, the EAC and HM Treasury have each highlighted the need for Defra to take a lead role in demonstrating the value of more integrated approaches to environmental policy making[67] [68] [69]. Developing integrated approaches can be particularly difficult, but there are immediate opportunities.

In particular, government's response to the proposed National Food Strategy[70] and the enabling provisions of the Agriculture Act[71] provide the chance to consider food, land use, and environmental systems together, to deliver for the environment as well as the economy and society. To take another example, better integration of policy on accounting for greenhouse gas emissions, natural flood management and enhancing recreation would lead to different policies and locations for planting new trees[72].

What is more, Defra has a new mechanism to integrate and brigade key strategies. Future EIPs and the OIF can together provide an overarching framework and focus for Defra and its individual teams when developing strategies and policies to deliver in accordance with the EIP. Regrettably, there is limited evidence of this working in practice at the moment. There is a reasonable expectation that individual policies will show how their delivery will *contribute to* the 10 goals, but that is not the same as the goals driving strategy and policy, with integration where this would deliver more coherently and more effectively.

In this chapter we focus particularly on strategy and policy, but effective delivery arrangements are also required for success. Defra sponsors 33 agencies and public bodies and works with other delivery partners as well. The 25 YEP APRs provide little analysis on how the strategies and policies designed to deliver the plan's goals have been integrated into the delivery activities of Arm's Length Bodies (ALBs) or how well this is working[73]. This is not the subject matter of this report. We are focused on more immediate opportunities, but we recognise that little is achieved by strategy and policy alone.

67 National Audit Office (NAO), *The Environmental Land Management scheme*, (2021), https://www.nao.org.uk/report/the-environmental-land-management-scheme/ [accessed November 2021]

68 National Food Strategy, *The National Food Strategy: Independent Review*, (2020), https://www.nationalfoodstrategy.org/the-report [accessed September 2021]

69 HM Treasury, *The Economics of Biodiversity: The Dasgupta Review*, (2021), https://www.gov.uk/government/collections/the-economics-of-biodiversity-the-dasgupta-review [accessed October 2021]

70 The National Food Strategy, *National Food Strategy – The Plan*, (2021), https://www.nationalfoodstrategy.org/the-report/ [accessed February 2022]

71 House of Commons Library, The Agriculture Act 2020, (2020), https://commonslibrary.parliament.uk/research-briefings/cbp-8702/ [accessed February 2022]

72 Department for Environment, Food & Rural Affairs (Defra), *Advice on using nature based interventions to reach net zero greenhouse gas emissions by 2050*, (2020), https://www.gov.uk/government/publications/a-natural-capital-approach-to-attaining-net-zero-nature-based-interventions [accessed February 2022]

73 UK Parliament, *Environmental Audit Committee, Biodiversity in the UK: bloom or bust?*, (2021), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/136/136-report.html [accessed August 2021]

Strategy and policy integration across government

Strategy and policy integration is required not just within Defra, but with other government departments that directly affect the state of the environment or the pressures on it. There is little evidence of this currently.

The Levelling Up and Clean Growth strategies only focus on the greenhouse gas emissions of their proposals, with little attention given to the nine other areas of the natural environment included in the 25 YEP. National Policy Statements[74] (for example, relating to renewable energy, transport and housing development) have a significant influence on planning and infrastructure decisions, yet they rarely reference Defra's 25 YEP[75] or the goals which it contains.

We see the same neglect of the environment in delivery arrangements. The Outcome Delivery Plans of departments whose policies directly affect the environment (such as BEIS[76], DfT[77] and DLUHC[78]) only make high-level reference to the Environment Act priorities or Defra's 25 YEP.

Lessons from previous initiatives, such as the National Ecosystem Assessment, show that embedding environmental considerations into the policy working of all government departments can be challenging for many reasons, not least because of the added complexity it brings to decision making[79]. Nevertheless, the gains could be considerable.

There are opportunities as well as trade-offs between government's ambitions for the environment and other areas such as home building, affordable energy, transport and infrastructure development.

Government must do more to ensure that in all strategy and policy development the environment is given its proper place. Strong governance arrangements that provide accountability, and the application of environmental principles to guide decision making, can make a real difference. We turn to these in the next chapter.

Enabling integration

The 25 YEP acknowledged the need for integrated policymaking, setting out the intention to draw on approaches such as systems-thinking and natural capital to help achieve this[80].

Following publication of the plan, Defra launched the Systems Research Programme to ensure an integrated approach to key policy decisions across the department, considering the linkages between different areas such as marine, land use, food, and others[81]. Similarly, Defra has been working with HM Treasury to develop and encourage the use of environmental valuation methodologies, such as the Enabling a Natural Capital Approach resources[82].

These integrated approaches on their own do not produce more coherent and effective strategies and policies. They require a supportive organisational context and the necessary skills and evidence to turn theory into practice. This includes continuing to invest in cross-cutting initiatives such as Defra's Systems Research Programme but also in government-wide enablers of systems thinking.

74 The Planning Inspectorate, *National Policy Statements – What are National Policy Statements?* (n.d), https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/national-policy-statements/ [accessed March 2022]

75 Department for Business, Energy and Industrial Strategy (BEIS), *Planning for New Energy Infrastructure*, (2021), https://www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-review-of-energy-national-policy-statements [accessed February 2022]

76 Department for Business, Energy and Industrial Strategy (BEIS), *BEIS Outcome Delivery Plan: 2021 to 2022*, (2021), https://www.gov.uk/government/publications/department-for-business-energy-and-industrial-strategy-outcome-delivery-plan/beis-outcome-delivery-plan-2021-to-2022 [accessed February 2022]

77 Department for Transport (DfT), *Department for Transport Outcome Delivery Plan*, (2021), https://www.gov.uk/government/publications/department-for-transport-outcome-delivery-plan [accessed February 2022]

78 Ministry of Housing, Communities and Local Government (MHCLG), *MHCLG Outcome Delivery Plan: 2021 to 2022*, (2020), https://www.gov.uk/government/publications/ministry-of-housing-communities-and-local-government-outcome-delivery-plan/mhclg-outcome-delivery-plan-2021-to-2022 [accessed February 2022]

79 Russel, D., et al., UK *National Ecosystem Assessment Follow-on. Work Package Report 9: Embedding an Ecosystem Services Framework in appraisal*: Key barriers and enablers, (2014), UNEP-WCMC, Living With Environmental Change, UK http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx [accessed February 2022]

80 Department for Environment Food & Rural Affairs (Defra), *Annex 1: Supplementary evidence report*, (2018), https://www.gov.uk/government/publications/25-year-environment-plan [accessed October 2021]

81 Department for Environment, Food & Rural Affairs (Defra), *Science research programme launched to inform Defra policy making*, (2019), https://www.gov.uk/government/news/science-research-programme-launched-to-inform-defra-policy-making [accessed August 2021]

82 Department for Environment, Food & Rural Affairs (Defra), *Enabling a Natural Capital Approach (ENCA)*, (2020), https://www.gov.uk/guidance/enabling-a-natural-capital-approach-enca [accessed February 2022]

Evaluating delivery

Equally as important as integrated policymaking is the use of evaluation frameworks for addressing environmental complexity and learning lessons from successful and failed delivery[83].

The negative trends in the environment discussed throughout this report raise fundamental questions on the efficacy of the existing strategic and policy approach. Are existing strategies not supported by resourced action plans? Are policies not working as intended, or simply not being implemented effectively?

By way of example, government is replacing its Biodiversity 2020 strategy with a new, more ambitious approach. While applauding the ambition, we question whether the new strategy has greater prospects of success than its predecessor. If it is to be more successful, then learning from an evaluation of the previous strategy, the associated policies and resourced action plans will be important to improve delivery.

Established best practice guidance, such as including a comprehensive Theory of Change and addressing environmental complexity[84] increase the likelihood of successful delivery[85]. Making the most of these tools requires close working with delivery partners on the ground, gathering and interpreting evidence of what works and feeding it into future strategies, policies and delivery plans[86]. Adaptive and timely use of this evidence can help speed up the slow progress we have seen to date in some areas of the environment.

Conclusion

Delivering the ambitions of the 25 YEP requires a broad range of strategies and policies to address the entrenched drivers of environmental degradation. Defra is developing and implementing many such strategies and policies but there is a growing sense of urgency for them to become effective in delivering improvements to the environment.

We do not deal with delivery arrangements in this report. Rather, we suggest that a lack of coherence in strategy and policy inhibits more effective and purposeful delivery of government's ambitions for the environment. Integrating strategy and policy within and across departments is no doubt challenging, but it is necessary if government is to meet its ambitions for the environment. There are opportunities government can and must take.

To do this we recommend that government takes action to improve:

9. **Coherence:** All key government strategies and policies that affect the environment must be aligned with, and follow from, the ambitions of the 25 YEP and future EIPs.

10. **Integration:** Government should ensure the delivery plans for all environmental strategies and policies are designed and implemented in an integrated and effective way, removing silos, and making the most of opportunities for transformational change.

11. **Evaluation**: The increasing ambition in environmental strategies and policies must go hand in hand with timely evaluation of implementation, iteratively building on evidence to find remedies for areas where delivery remains slow.

83 CECAN, *CECAN Toolkits*, (n.d), https://www.cecan.ac.uk/resources/toolkits/ [accessed February 2022]

84 HM Treasury, *Magenta Book* (2011), https://www.gov.uk/government/publications/the-magenta-book [accessed February 2022]

85 NatureScot, *Embedding the value of the natural environment in decision-making - overcoming barriers and encouraging enablers*, (2016), https://www.nature.scot/doc/embedding-value-natural-environment-decision-making-overcoming-barriers-and-encouraging-enablers [accessed February 2022]

86 Institute for Government, *Improving policy implementation*, (n.d.), https://www.instituteforgovernment.org.uk/our-work/policy-making/improving-policy-implementation [accessed February 2022]

Building Block 5: Governance

Introduction

A vision and targets will not lead to environmental change on their own. They require strong governance arrangements to provide the necessary oversight and accountability for delivery. Effective governance is vital for providing oversight of whole sectors or policy outcomes, setting the funding approach, policy design, or front-line delivery[87].

By governance, we mean:

> *"The system by which entities are directed and controlled. It is concerned with structure and processes for decision making, accountability, control and behaviour... [influencing] how an organisation's objectives are set and achieved, how risk is monitored and addressed and how performance is optimised"*[88].

To make large-scale government environment programmes a success, governance arrangements generally need to facilitate collaboration amongst many stakeholders. They are vital for providing oversight of whole sectors or policy outcomes, setting the funding approach, policy design and front-line delivery[89]. The range of actors involved in delivering the 25 YEP is considerable. At a minimum, it includes all government departments and public bodies whose remit affects the environment, and which set priorities and budgets, particularly Defra and its 33 ALBs; alongside more local delivery partners including local authorities, stakeholders and communities.

The NAO has described the current governance arrangements for delivering the 25 YEP as inadequate, especially regarding cross-departmental and strategic oversight[90]. Similarly, the PAC has stressed the need for greater clarity of who is accountable for delivery of different parts of the plan and how this is resourced[91].

Echoing these views, we are concerned that the current governance arrangements rely almost solely on Defra and its ALBs rather than expanding accountability more widely. They exemplify a historical reluctance to prioritise the environment across government.

Government needs to go back to the drawing board to establish the necessary governance arrangements, structuring them to ensure the effective delivery of the next EIP. They need to reflect the scale of the challenge, its importance and the pressing need for change.

Central government

Without central government leadership and fora for cross-departmental collaboration it can be difficult for a single department such as Defra to influence decisions in other parts of government, or hold others to account for their role in delivering long-term environmental objectives.

One way to enable this is to embed consideration of the environment into all government departmental decisions. The environmental principles policy statement coming into force is a vital step towards this. It will require concerted effort to ensure its successful application.

87 National Audit Office (NAO), *Improving operational delivery in Government: A good practice guide for senior leaders*, (2021), https://www.nao.org.uk/report/improving-operational-delivery-in-government/ [accessed October 2021]

88 Governance: what is it and why is it important?, https://www.governancetoday.com/GT/Material/Governance__what_is_it_and_why_is_it_important_.aspx [accessed February 2022]

89 National Audit Office (NAO), *Improving operational delivery in Government: A good practice guide for senior leaders*, (2021), https://www.nao.org.uk/report/improving-operational-delivery-in-government/ [accessed October 2021]

90 National Audit Office (NAO), *Achieving government's long-term environmental goals*, (2020), https://www.nao.org.uk/report/achieving-governments-long-term-environmental-goals/ [accessed November 2021]

91 House of Commons, Public Accounts Committee, *Achieving government's long-term environmental goals*, (2021), https://committees.parliament.uk/work/730/achieving-governments-longterm-environmental-goals/publications/ [accessed February 2022]

Leadership

Political priorities and messages from central government, such as the Levelling Up White Paper[92] and the Clean Growth Strategy[93], have focused on low-carbon industry and jobs, with little or no mention of the wider environment or Defra's 25 YEP.

Central government should continually champion the vision of the 25 YEP and ensure other government departments embed it into their strategic objectives as well as their detailed delivery plans. This requires more mechanisms for holding senior decision makers to account for their department's impacts on the environment.

This could be done by the Cabinet Office and No 10 consistently and publicly prioritising the environment, much as they do for socio-economic equality and climate change.

The proposed approach to environmental principles[94] should be consistently and rigorously applied to policy making across government. We reiterate our previous advice on these principles[95], and press Defra to publish clear guidance and provide support to wider government on its application of the principles, and to monitor adherence to them.

More routine aspects of governance also have a role to play. To give one example, HM Treasury could require more consistent application of the Green Book guidance on environmental valuation[96] as part of its oversight of departments' spending.

Cross-department collaboration

Achieving many of the 25 YEP goals depends on active co-operation with other departments and public bodies, as many environmental issues cut across sectors and geographical borders.

For example, moving to a circular economy to reduce waste requires alignment on industrial strategy with BEIS, improving air quality requires alignment on transport with DfT, and reducing risk from hazards such as flooding requires alignment on planning with DLUHC.

Accordingly, a Defra-led cross-government 25 YEP Board has been established to oversee and co-ordinate the involvement of other government departments (but not the devolved administrations) in implementing the 25 YEP and the Environment Act.

An initial Defra review suggests it has done important work to identify opportunities and develop plans for embedding environmental considerations[97], but it remains to be seen if this can be carried through into practice. We welcome government's intention to publish a full review of the Board's achievements in July 2022[98], and we look forward to seeing how these lessons can strengthen its influence in the future.

92 HM Government, *Levelling Up the United Kingdom*, (2022), https://www.gov.uk/government/publications/levelling-up-the-united-kingdom [accessed February 2022]

93 HM Government, *The Clean Growth Strategy*, (2017), https://www.gov.uk/government/publications/clean-growth-strategy [accessed February 2022]

94 Department for Environment Food & Rural Affairs (Defra), *Environmental Principles Draft Policy Statement* (2021), https://consult.defra.gov.uk/environmental-principles/draft-policy-statement/ [accessed March 2022]

95 Office for Environmental Protection (OEP), *Advice on the draft environmental principles policy statement*, (2021), https://www.theoep.org.uk/news/advice-draft-environmental-principles-policy-statement [accessed February 2022]

96 HM Treasury, *Green Book supplementary guidance: climate change and environmental valuation*, (2020), https://www.gov.uk/government/publications/green-book-supplementary-guidance-environment [accessed February 2022]

97 Department for Environment Food and Rural Affairs (Defra), *Update on Cross-Government 25 Year Environment Plan Board* (2021), https://committees.parliament.uk/publications/7304/documents/76488/default/ [accessed November 2021]

98 Department for Environment Food & Rural Affairs (Defra), *Fortieth Report of Session 2019-21*, (2021), https://committees.parliament.uk/publications/7110/documents/75177/default/ [accessed February 2022]

Within Defra and among its delivery partners

Leadership, oversight and coordination of a range of interests are equally as important *within* government departments. This is particularly so for Defra as lead department for protecting, restoring and improving the environment. The department's remit is as wide reaching and inter-dependent as the entire natural environment of England. It must balance its environmental objectives with its remit for the farming, forestry and fisheries sectors, and with the socio-economic issues linked to the food system and rural communities.

Without senior leadership and accountability for the 25 YEP being at the heart of Defra there is a risk that its many directorates will work in silos on their own priorities, contributing to the 10 goals indirectly, inefficiently, or not at all.

Delivery of the 25 YEP and future EIPs should remain a top priority so departments and teams can come together to coordinate their efforts. Defra needs to strengthen the influence of central teams (for example, those responsible for Environment Act targets and 25 YEP outcome indicators) as well as governance for collaboration (for example, discussing Net Zero implications for Defra and undertaking scenario planning for the farming sector).

In 2020, the NAO highlighted that dedicated accountability within the department for the 10 goals was not on track and that funding allocations and monitoring were piecemeal, rather than strategically co-ordinated around the 25 YEP[99].

When it comes to achieving national goals and targets at a local level, the number of delivery agents, stakeholders, and the requirement for adequate governance multiplies yet again. Whatever the arrangements on the ground, there needs to be a clear line of sight from apex targets through to the particulars of policy implementation. This means designated responsibility along with the necessary skills and resourcing for all organisations involved.

There is no comprehensive map of the 25 YEP delivery arrangements explaining responsibility and accountability across the 10 goals and there is almost no information included in the government's APR about how well the various delivery partners are doing or how Defra is managing delivery.

Resourcing

The EAC and others have expressed concerns about the impact of Defra ALB's financial and skills shortages on their ability to effectively implement environmental laws and meet their legal duties[100].

Specific policy evaluations also suggest that slow progress on key issues such as improving water quality and halting biodiversity decline has been attributed to limited implementation[101] and inadequate resources[102].

Defra's most recent funding settlement is more generous than that of most other government departments, in terms of the percentage increase[103]. This does not necessarily mean that the Defra group is sufficiently resourced.

As well as sufficient resources, the right organisational arrangements are required. We note that Defra is reconsidering its overall configuration, with a view to consolidating what has become a fragmented and complex delivery landscape[104]. As it does so, we press for effective arrangements and proper accountability and responsibility for delivery of future EIPs. In our view, this is a clear priority: the EIP should be centre stage. The design principles that guide this reconfiguration and the organisational design that flows from them should reflect that.

99 National Audit Office (NAO), *Achieving government's long-term environmental goals*, (2020), https://www.nao.org.uk/report/achieving-governments-long-term-environmental-goals/ [accessed November 2021]

100 UK Parliament, *Environmental Audit Committee, Biodiversity in the UK: bloom or bust?*, (2021), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/136/136-report.html [accessed August 2021]

101 European Commission, *Evaluation of EU water legislation concludes that it is broadly fit for purpose but implementation needs to speed up*, (2019), https://ec.europa.eu/info/news/evaluation-eu-water-legislation-concludes-it-broadly-fit-purpose-implementation-needs-speed-2019-dec-12_en) [accessed February 2022]

102 The National Biodiversity Network (NBN), *State of Nature 2019 Report: A Summary for England*, (2019), https://nbn.org.uk/stateofnature2019/reports/ [accessed October 2021]

103 Institute for Government. *Whitehall Monitor 2022*, (2022), https://www.instituteforgovernment.org.uk/publications/whitehall-monitor-2022 [accessed March 2022]

104 Department for Environment Food & Rural Affairs (Defra), *Nature Recovery Green Paper*, (2022), https://www.gov.uk/government/consultations/nature-recovery-green-paper [accessed March 2022]

Conclusion

Effective governance arrangements are important for delivering successive EIPs. However, progress on key environmental indicators has been slow and this can be attributed in part to governance arrangements that are lacking.

A bold vision and ambitious environmental goals and targets will place additional demands on Defra and government. Current governance arrangements will not bear this weight.

Successful delivery of the EIPs requires central leadership, collaboration across organisations, and clear lines of responsibility and resources for local delivery.

To do this we recommend:

12. **Accountability and responsibility:** Government should establish strong EIP governance arrangements including the involvement of other government departments, as well as within Defra and among its delivery partners and local authorities. Defra's ALB reconfiguration should be designed to ensure greater integration and clearer accountabilities for delivery of EIPs.

13. **Applying the environmental principles:** Government should publish the final policy statement on environmental principles as soon as possible and set out how it will support and monitor their due regard.

Building Block 6: Monitoring, assessing and reporting

Understanding the state of the environment

To identify trends, and to know whether government is on track to achieve its ambitions or should intervene to change course, there must be an effective and comprehensive programme to monitor and assess the environment. With effective monitoring and assessment, government can evaluate the state of the environment over time and respond accordingly.

It is important to start with a baseline. A comprehensive baseline would show the condition of the environment at a point in time. It becomes a reference point. If an environmental baseline is then followed through with timely, reliable and comprehensive monitoring, changes over time can be identified.

The NCC stressed in 2019 that government had not put in place the appropriate metrics and baseline required to measure changes in the environment[105]. Without this, it is difficult to see fully the impacts of new and existing policy or legislative interventions, or to make well-informed decisions to prioritise and intervene as needed.

There has been some welcome progress, but much more needs to be done.

Gaps in monitoring

Government launched the OIF in 2019, following publication of the 25 YEP in 2018, with each to be reviewed every five years. We welcome the OIF as a platform for bringing together a range of current and developing monitoring programmes in England for the first time (at this scale). It does not yet meet requirements, however. The OIF should be developed further to provide the main source of data for the baseline and for monitoring progress with the 25 YEP.

Much of the existing data populating the OIF were not intended to set a baseline or measure progress in delivering the 25 YEP. Rather, the existing data streams were developed under different legislative or policy approaches. There are well recognised risks in using data designed for one purpose to serve another. What is more, since the OIF inception in 2019, progress in developing an environmental baseline and comprehensive monitoring has been slow. Many of the 66 indicators in the OIF are still under development, leading to a number of well recognised gaps.

Many of these gaps are in areas of pressing concern, and of large-scale relevance and significance to the delivery of the 25 YEP. In the marine environment, the 11 "Seas and Estuaries" indicators are not currently finalised. In the terrestrial environment, understanding of soil condition, habitat quality and habitat connectivity is incomplete, yet these are core data sets needed to understand much of the state of the environment. The last countryside survey for soils was undertaken in 2007[106], and only partial records of habitat quality and connectivity are available[107].

There are persistent chemicals in the environment which are not regularly monitored. PFAS (Poly- and perfluoroalkyl substances) are one group of chemicals of concern with an estimated lifetime of thousands of years in soils [108] [109]. Without monitoring, government cannot adequately understand their abundance or their total effect on the environment.

105 Department for Environment, Food & Rural Affairs (Defra), *Interim response to the 25 Year Environment Plan progress report and advice on a green economic recovery*, (2020), https://www.gov.uk/government/publications/natural-capital-committee-advice-on-governments-25-year-environment-plan [accessed February 2022]

106 Natural Environment Research Council, *Countryside Survey: Soils Report from 2007*, (2010), http://nora.nerc.ac.uk/id/eprint/9354/1/CS_UK_2007_TR9.pdf [accessed February 2022]

107 Department for Environment, Food & Rural Affairs (Defra), *A strategy for England's wildlife and ecosystem services, Biodiversity indicators: 2021 assessment*, (2021), https://www.gov.uk/government/statistics/england-biodiversity-indicators [accessed February 2022]

108 Russell, M.H. et al., *Investigation of the biodegradation potential of a fluoroacrylate polymer product in aerobic soils. Environmental Science & Technology*, 42, 3, pp. 800-807, (2008), https://doi.org/10.1021/es0710499 [accessed February 2022]

109 Washington, J.W. et al., *Degradability of an acrylate-linked, fluorotelomer polymer in soil. Environmental Science & Technology, 43, 17, pp. 6617-6623*, (2009), https://doi.org/10.1021/es9002668 [accessed February 2022]

A lack of monitoring to understand progress

We reviewed the OIF to assess how effectively the data streams and indicators, once fully developed, will be able to measure progress against the 25 YEP headline targets. We found that half of the 44 targets had data deficiencies or needed additional indicators to monitor progress sufficiently.

For example, the OIF does not include any animal disease indicators for the target "managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species".

The OIF refresh process is due to complete in 2024. There is an opportunity to undertake a gap analysis to help make it more comprehensive and capable of tracking emerging pressures and their drivers, and to make sure it is fully aligned to the 2023 iteration of the 25 YEP.

We appreciate that empirical data are costly to collect and analyse. By ensuring so far as possible that any new monitoring and progress indicator development is coherent with existing long-term monitoring, value can be optimised. Longitudinal, continuing studies of the state of the environment can be of special value in assessing trends.

Monitoring in decline

We welcome government's new habitat monitoring programme, the Natural Capital and Ecosystem Assessment (NCEA)[110]. It will result in much needed habitat related data. However, to fulfil all data and indicator needs within the 25 YEP, other monitoring programmes are needed.

We are concerned by the reductions in environmental monitoring across many parts of the environment. Two recent EAC reports[111] [112] highlight significant reductions in biodiversity and water quality monitoring over many years, for example. We echo the Committee's concern.

Some of these monitoring regimes provide important information across several 25 YEP goal areas. For example, data on freshwater invertebrates provide an understanding of biodiversity and general river health, as well as drivers of pressures being faced in freshwater, such as sewage discharges, habitat modification, flow regime alteration, sediment loss and agricultural pollution from the land. Despite their versatility, these sampling regimes have been in steady decline over the last 30 years[113].

The environment, society and the economy in monitoring

In his 2021 review of the economics of biodiversity, Professor Sir Partha Dasgupta was clear: "The solution starts with understanding and accepting a simple truth: our economies are embedded within Nature, not external to it"[114]. Data and information from a purpose-built environmental monitoring framework must be viewed alongside economic and social data and information, so as to provide a sufficiently comprehensive picture, and an indication of the most effective courses of action.

110 Department for Environment, Food & Rural Affairs (Defra), *Environment Secretary sets out his vision for our environmental recovery*, (2020), https://deframedia.blog.gov.uk/2020/07/20/environment-secretary-sets-out-his-vision-for-our-environmental-recovery/ [accessed November 2021]

111 Environmental Audit Committee, *Water quality in rivers Fourth Report of Session 2021–22*, (2022), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/74/summary.html [accessed January 2022)

112 Environmental Audit Committee, *Biodiversity in the UK: bloom or bust?*, (2021), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/136/136-report.html [accessed February 2022]

113 Environment Agency, *An analysis of national macroinvertebrate trends for England: 1991–2019*, (2021), https://www.gov.uk/government/publications/an-analysis-of-national-macroinvertebrate-trends-for-england-1991-2019 [accessed November 2021]

114 HM Treasury, *The Economics of Biodiversity: The Dasgupta Review*, (2021), https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review [accessed February 2022]

The Office for National Statistics (ONS) already provides a centralised point for collecting and publishing statistics related to the economy, population and society. However, environmental data and information are managed across a mix of organisations including the ONS. As the EAC[115] recently highlighted, this lack of co-ordination hinders the development of an evidence base for assessment.

We welcome government's recent commitment to provide further funding to the ONS to improve its natural capital estimates. Given that environmental improvement is a cross-departmental responsibility, we see the potential for a greater role for the ONS in overseeing environmental data and information in areas of greatest environmental priority.

The ONS' role in statistics

The ONS is the UK's largest independent producer of official statistics and is recognised as the national statistical institute. It collects and publishes statistics related to the economy, population and society at national, regional and local levels.

It also produces environmental accounts that show how the environment contributes to the economy, the impacts that the economy has on the environment, and how society responds to environmental issues. Through this work it is also developing natural capital accounts.

Principles for good assessment

Data must be translated into a comprehensive and accessible assessment of overall progress to be of value. We welcome the gradual improvements made by government reflected in its third and latest edition of the APR[116], but as yet the OIF and annual progress reporting are not based on a valid and reliable assessment methodology. There is an opportunity for improvement, as the OIF is to be refreshed in 2024.

We propose four guiding principles are considered in the development of an assessment methodology. In our view, assessment methodologies should be evidence based, accessible, consistent and transparent.

Developing assessment methodologies: four guiding principles

Evidence based: Firmly grounded in the evidence, with uncertainty recognised, and results objectively peer reviewed

Accessible: Comprehensible, with the findings easily understood by the public

Consistent: Replicable and consistent over time

Transparent: Clearly linked to government targets, objectives, plans and the department responsible for them

We provide more detail about these guiding principles in Annex 2. Each is important, yet current approaches are wanting. For instance, the measurement of emissions for five key air pollutants (OIF Indicator A1) has a well-established, consistent methodology, enabling scrutiny over time, but the indicator results, as provided, are not sufficiently evidence based. The generally positive picture in emissions reduction at a national level does not recognise the *uncertainty* in the estimated emission values. The higher uncertainty in the emissions data in earlier years of the time series, for example, is not used to caveat the results shown.

The representation of the emissions at a national level also masks localised acute and chronic pollution impacts on public health and the environment. In this respect, it is not sufficiently accessible. A spatially representative output would enable the public to understand that, despite the overall positive trends, there are still hotspots of pollution exposure breaching air quality targets, often in areas of high population density and adversely affecting people's health.

115 Environmental Audit Committee, *Biodiversity in the UK: bloom or bust?*, (2021), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/136/136-report.html [accessed February 2022]

116 Department for Environment Food & Rural Affairs (Defra), *25 Year Environment Plan: progress reports*, (n.d.), https://www.gov.uk/government/publications/25-year-environment-plan-progress-reports [accessed September 2021]

Conclusion

To identify trends and to know whether government is on course to achieve its ambitions, and when to intervene, there must be an effective, timely, reliable and comprehensive programme to monitor and assess the environment. An environmental baseline would provide an invaluable reference point. Yet there are still significant gaps in the monitoring of key aspects of our environment, with data collected for some purposes relied upon for others.

Nonetheless, there has been some welcome progress. With the OIF[117] due to be refreshed in 2024, government has the opportunity to develop a more effective and comprehensive environmental monitoring framework, and to consider environmental data and information alongside that of economic and social data sets, to decide when and how best to act.

To do this we recommend that government's monitoring, assessment and reporting framework must be:

14. **Purpose Driven:** Government should identify and fill critical data gaps, focusing firstly on the issues of greatest environmental concern. Government's monitoring, assessment and reporting framework should provide the data, information and knowledge needed to understand if environmental goals and targets are being met, and capture the influence of pressures and their drivers.

15. **Authoritative:** Environmental improvement is a cross-departmental responsibility. Given this, we see a greater role for the ONS in overseeing the environmental statistics in issues of greatest environmental concern, viewing them alongside relevant socio-economic information.

16. **Credible**: Defra should develop and publish, ahead of the EIP refresh, an assessment methodology to measure and report progress in achieving the objectives of EIPs. The methodology should be evidence-based, accessible, consistent and transparent.

117 Department for Environment Food & Rural Affairs (Defra), *Outcome Indicator Framework for the 25 Year Environment Plan dashboard*, (n.d.), https://oifdata.defra.gov.uk/ [accessed November 2021]

Conclusion and Forward Look

This report is the first commentary by the OEP on government's 25 YEP framework for implementing measures to protect and improve the environment and implementing environmental laws. As such, it forms a link between the NCC's interim and final reports published in July and October 2020 and the formal OEP cycle of reporting which will begin when government publishes its 2021/2022 APR. The 2021/22 APR will be the fourth in the series and we expect its publication later in 2022.

We use the opportunity provided by this report to set the scene for formal OEP scrutiny. We do so by taking a step back and examining the effectiveness of government's national system of environmental stewardship. In our opening chapter, we summarise the ongoing decline in many aspects of environmental quality. Following chapters propose building blocks across: vision, targets, strategy and policy, governance, and monitoring and assessment.

Given the chronic and ongoing declines in environmental quality and the urgency of the situation our headline message to government is clear: do not delay in making the changes necessary to protect, restore and improve our environment. The Environment Act provides new opportunities to do that. We have seen commendable leadership and commitment in relation to climate change. The same response is now needed to safeguard our environment for generations to come.

Urgency: It is 10 years since government stated its intention to leave the environment in England in a better state than it inherited; seven years since the NCC urged government to establish a plan; and four years since the plan was published. We add our voice to the concerns on delay and inadequate delivery arrangements which the NCC, the EAC and the NAO have already expressed.

Coherence: a coherent plan starts from an understanding of not only current environmental states and trends, but also likely future pressures and their drivers. It must have a clear and ambitious vision shared by all government departments. It must have a clear set of goals, underpinned by statutory targets and milestones. It must have a coherent set of strategies, policies and delivery mechanisms designed to achieve each target.

Accountability: the plan must have governance mechanisms that span departments and where necessary. Government must ensure accountability, be transparent about priorities and resources, and ensure delivery bodies - including agencies and local authorities - have the necessary skills and capabilities. Delivery bodies collect, analyse and publish data which are directed at environmental improvement. And most importantly, government must develop an evaluation of where it has failed to make progress and propose remedies accordingly.

Looking ahead

We expect to publish the OEP's response to government's 2021/22 APR within six months of the APR becoming available. In that response, we will scrutinise improvement in the natural environment under the EIP and comment on progress against the range of targets set under the Environment Act 2021. Additionally, we look forward to scrutinising the Northern Ireland Executive's progress as it puts into effect, and reports on, its first EIP.

Meanwhile, our initial views on pressures on the environment which require more urgent action are contained in Annex 1 of this report. There, we draw attention to major concerns regarding the quality of air, freshwater, land and the marine environment in England. We would expect government to establish a range of timely, coherent and accountable actions against all major areas of concern, including those set out here, and report on them and their effectiveness in arresting declines in its 2021/22 APR.

Following government's consultation on legal targets required by the Environment Act, we look forward to the setting of regulations for targets which must be laid before Parliament on or before 31 October 2022. We press for ambitious targets.

We have conducted an examination of government's strategies and actions for environmental protection, restoration and improvement. We hope government will find this stocktake helpful and that it provides evidence and impetus to ensure the environment is given the central place it so urgently requires in the future.

Annexes

Annex 1 – An illustration of pressures in need of government prioritisation and immediate action

Table 1. Air quality

Pressure	Main Driver[118 119 120]	Impact
Particulate matter	Particulate matter comes primarily from burning solid fuels, industrial combustion, road transport, solvents and industrial processes.	Smaller particles, especially those less than 2.5 microns in diameter are drawn deep into the lungs. Long-term exposure causes cardiovascular and respiratory disease. Pollution from particulate matter has health consequences, is widespread and on-going.
Oxides of nitrogen and ammonia	Nitrogen dioxide and nitric oxide (NOx) are produced by combustion, especially from transport, energy generation and domestic / industrial sources. Agriculture is a significant source of ammonia from manures, slurries and fertilizer, and anaerobic digestion.	Pollution from NOx has health consequences and is widespread. NOx can change soil chemistry and impact biodiversity. It can also lead to ozone generation. Ammonia is toxic to many aquatic organisms, leads to acidification effects on ecosystems, and the nitrification of habitats which in turn can lead to species composition changes. It can also lead to the development of further particulate matter in the atmosphere.

Table 2. Freshwater

Pressure	Main Driver[121 122]	Impact
Sewage discharges	Treated final effluent from consented sewage treatment works.	Whilst overflow discharges are increasingly well documented and have an acute impact on the environment, treated sewage has a chronic impact, despite the improvements in treatment over the years. This limits long-term improvements in aquatic ecosystems.
Rural runoff to watercourses	Agricultural runoff from livestock and arable farming systems.	Raised nutrient levels lead to eutrophication and algal blooms. When the blooms die back they remove oxygen from the river and result in deterioration of aquatic habitat. Other pollutants can also have a bio-cumulative impact on food webs.

118 Department for Environment, Food & Rural Affairs (Defra), *Clean Air Strategy*, (2019), https://www.gov.uk/government/publications/clean-air-strategy-2019 [accessed February 2022]

119 Environment Agency (EA), *State of the environment*, (2018), https://www.gov.uk/government/publications/state-of-the-environment [accessed February 2022]

120 Environment, Food & Rural Affairs, Environmental Audit, Health and Social Care, and Transport Committees, *Improving air quality*, (2018), https://publications.parliament.uk/pa/cm201719/cmselect/cmenvfru/433/43305.htm [accessed February 2022]

121 House of Commons Environmental Audit Committee, *Water quality in rivers Fourth Report of Session 2021–22*, (2022), https://publications.parliament.uk/pa/cm5802/cmselect/cmenvaud/74/summary.html (accessed January 2022)

122 Environment Agency (EA), *State of the environment*, (2018), https://www.gov.uk/government/publications/state-of-the-environment [accessed February 2022]

Table 3. Marine

Pressure	Main Driver	Impact
Overfishing	Setting fishery catch limits in excess of scientific advice causes long-term stock decline and ultimate collapse[123].	Setting catch limits in excess of maximum sustainable yield gradually drives stock levels down over many years. Populations of key species such as cod, herring and plaice are much reduced compared to historical levels. Overfishing continues each year with around a third of stocks over-fished in UK waters.
Seafloor destruction	Use of towed gears, such as trawls which run along the seafloor, removes the plant and animal life which lives there[124].	Seafloor communities (the biota) are important because they provide food and shelter for fish, especially in juvenile stages. Trawling is a widespread activity which catches around a half of the UK's wild fish. There are a limited number of areas protected from trawling in the inshore zone but much of the offshore zone remains open to trawling.

Table 4. Terrestrial landscape

Pressure	Main Driver	Impact
Habitat loss, fragmentation and degradation	Intensification of agriculture and urbanisation of the landscape[125].	Reduces ecological condition, complexity and ability of the environment to recover and sustain viable species populations while reducing its resilience to external pressures such as invasive species.
Soil degradation	Intensification of agriculture[126].	33% of the UK's soils are thought to be degraded and 2.9 million tonnes of topsoil are lost through erosion each year. It can take centuries to reverse, has significant negative impacts such as flooding, on agriculture and biodiversity, and releases otherwise locked-in carbon emissions.

123 JNCC, UK Biodiversity Indicators 2021 (2021), UKBI - B2. Sustainable fisheries | JNCC – Adviser to Government on Nature Conservation [accessed February 2022]

124 Environmental Audit Committee, *Sustainable Fisheries*. (2019), House of Commons. Available: Sustainable Seas - Environmental Audit Committee – House of Commons (parliament.uk) [accessed February 2022]

125 Environmental Audit Committee, *Biodiversity in the UK: Bloom or Bust. First Report of the Session 2021-22*, (2021), House of Commons. Available: Biodiversity and Ecosystems – Committees – UK Parliament [accessed February 2022]

126 Department for Environment, Food & Rural Affairs, *The future farming and environment evidence compendium*, (2018), https://www.gov.uk/government/consultations/the-future-for-food-farming-and-the-environment [accessed February 2022]

Annex 2 – Guiding principles of a good assessment

Evidence based

Assessments need to be firmly grounded in the evidence. Assessments, and accompanying evidence, will have different degrees of validity and reliability and this needs to be clearly indicated by assigning confidence levels in the data and research.

Assessments also need to include an indication of whether experts agree or disagree on how to interpret the direction of an indicator's trend. For example, data underpinning the indicators may show conflicting trends due to different methods being used to collect the data, and expert judgment can provide perspectives on how to interpret the data.

The assessment of indicators, and data and metrics supporting these, need to be periodically peer reviewed by experts.

Accessible

It can often be difficult to engage with environmental evidence without specialist knowledge. However, the state of the environment concerns everyone. Assumptions, data and findings should be presented in an accessible format, demonstrating a clear link between the targets and the assessment, to allow eNGOs, industry, the public and others to engage with the findings. A traffic light red, amber, green assessment can help.

To support external scrutiny, assumptions that inform which data to collect, and why, and when and how they are processed need to be clearly outlined. Raw data used to inform an assessment should also be available.

Findings need to be represented at the appropriate level of detail. For example, if environmental problems are presented at the national level, problems at a local level can be masked, through aggregation and averaging.

Consistent

For assessments to be consistent and replicable, comparative measurement levels and observation periods need to be clear. Having a consistent set level for measuring change helps determine whether the degree of change is large enough to be considered positive or negative. It supports the assessment of the direction of trends and can provide an early indication of where intervention might be needed.

Expert judgment is often needed alongside statistical analysis[127] to determine the degree of change, given the complexities of measuring environmental trends and the time lags between action and impact.

Transparent

Comparing indicator values to targets, reference values, ranges, or direction of trends is essential to assessing progress. This is emphasised by the International Institute for Sustainable Development Assessing Sustainable Development[128] as part of their 10 principles to measure and assess progress towards sustainable development.

These comparisons should be clearly linked to the relevant binding government targets, objectives and plans to allow the public, Parliament, and independent bodies such as the OEP to scrutinise progress towards achieving government's commitments, targets, objectives and plans.

Environmental commitments and long-term environmental goals, such as those for air quality, carbon emissions and the natural environment are particularly well suited for this.

127 For example, the Scottish Natural Capital Asset Index was developed based on expert judgement on the weighting of ecosystem services. In many cases where there is no set threshold level in place, expert judgement is needed to provide a RAG rating.

128 International Institute for Sustainable Development (ISSD), *Assessing Sustainable Development: Principles in Practice*, (1997), https://www.iisd.org/system/files/publications/bellagio.pdf [accessed October 2021]

Annex 3 – Target map details

Ref #	Policy area	Target/commitment identified	Status	EU Target explanatory notes	Drivers*	Deadline
1	**Resource productivity**	Maximising the value and benefits we get from our resources, doubling resource productivity by 2050.	Target		25 YEP / IS / RWS	2050
2	**Resource productivity**	Increase resource productivity.	Statutory target		Environment Act 2021**	TBC
3	**Soils**	England's soils to be managed sustainably by 2030.	Commitment		25 YEP	2030
4	**Resource productivity - timber**	Increasing timber supplies.	Commitment		25 YEP	Not specified***
5	**Resource productivity - fish**	Ensuring that all fish stocks are recovered to, and maintained at, levels that can produce their maximum sustainable yield.	Target		25 YEP	Not specified***
6	**Other**	Ensuring that food is produced sustainably and profitably.	Commitment		25 YEP	Not specified***
7	**Avoidable waste**	Work towards eliminating avoidable waste of all kinds by 2050.	Target		25 YEP / IS / RWS / CGS	2050
8	**Residual waste**	Substantially reduce waste generation through prevention, reduction, recycling and re-use.	Commitment		SDG / Waste Prevention Programme / RWS	2030
9	**Residual waste**	Reduce the volume of 'residual' waste we generate.	Statutory target		Environment Act 2021**	TBC
10	**Avoidable plastic waste**	Work towards eliminating avoidable plastic waste by end of 2042.	Target		25 YEP / RWS	2042
11	**Avoidable plastic waste**	Work towards all plastic packaging placed on the market being recyclable or re-usable by 2025.	Target		RWS	2025

Ref #	Policy area	Target/commitment identified	Status	EU Target explanatory notes	Drivers*	Deadline
12	**Packaging waste**	By 31 December 2025, a minimum of 65 % by weight of all packaging waste will be recycled. In addition, recycling targets for material types. By 31 December 2030, a minimum of 70 % by weight of all packaging waste will be recycled. In addition, recycling targets for material types.	EU target - not transposed into UK law	The exception is Northern Ireland as the Packaging and Packaging Waste Directive is listed in the Annex to the NI Protocol. Under the Producer Responsibility Obligations (Packaging Waste) Regulations (2007) government sets packaging recycling targets on businesses who handle packaging. Targets are in place until 2022. Government has recently concluded a consultation to reform these regulations, this included consulting on packaging recycling targets to 2030. These targets are for business to meet, they are not targets on government.	CEP - Packaging and Packaging Waste Directive (94/62/EC (PPWD)	2025 & 2030
13	**Municipal waste**	No more than 10% of municipal waste to landfill by weight by 2035.	EU target - not transposed into UK law	The Waste Regulations 2011 (England and Wales) were amended to require that Waste Management Plans for England include measures to ensure that no more than 10% of municipal waste is landfilled by 2035. However, the 10% municipal waste target was not transposed.	CEP - Waste Framework Directive (2008/98/EC)	2035

Ref #	Policy area	Target/commitment identified	Status	EU Target explanatory notes	Drivers*	Deadline
14	**Municipal waste**	55% of municipal waste recycled by 2025, 60% by 2030, 65% by 2035.	EU target - not transposed into UK law	The Waste Regulations 2011 (England and Wales) were amended to require that Waste Management Plans for England include measures to ensure that 65% of municipal waste is prepared for re-use or recycled by 2035. However, the 65% municipal waste target was not transposed.	CEP - Waste Framework Directive (2008/98/EC) / RWS	2025 & 2030 & 2035
15	**Biodegradable municipal waste (BMW)**	The amount of biodegradable municipal waste sent to landfill in the UK to be reduced to 75% of 1995 levels by 2010, to 50% of 1995 levels by 2013, and 35% of 1995 levels by 2020.	EU statutory target - transposed into UK Law	This EU target was transposed into UK law by section 1 of the Waste and Emissions Trading Act 2003 and the Landfill (Maximum Landfill Amount) Regulations 2011.	CEP - Landfill Directive (1999/31/EC)	2010 & 2013 & 2020
16	**Household waste**	50% or more of the household waste generated to be recycled or re-used by 2020.	EU target - not transposed into UK law	The Waste (England and Wales) Regulations 2011 were amended to contain a requirement that government include in the Waste Management Plan for England measures to ensure that, by 2020, at least 50% by weight of waste from households is prepared for re-use or recycled but direct legal target was not transposed.	CEP - Waste Framework Directive (2008/98/EC)	2020
17	**Food waste prevention**	50% reduction in per capital food and drink waste (excluding inedible parts) at the retail and consumer level by 2030. Reduce food losses along production and supply chains, including post-harvest losses.	Target		SDG 12.3 / CEP / RWS	2030

Ref #	Policy area	Target/commitment identified	Status	EU Target explanatory notes	Drivers*	Deadline
18	Food waste	Work towards eliminating food waste to landfill by 2030.	Target		CGS / RWS	2030
19	Construction and demolition waste	70% of the construction and demolition waste generated to be recovered, recycled, and re-used (by weight).	EU target - not transposed into UK law	The Waste (England and Wales) Regulations 2011 were amended to contain a requirement that government include in the Waste Management Plan for England measures to be taken to ensure that no more than 10% of municipal waste was landfilled by 2035 but direct legal 2035 target was not transposed.	CEP - Waste Framework Directive (2008/98/EC)	2020
20	End-of-life vehicles (ELVs)	By 1st of January 2015, a minimum of 95% re-use and recovery and 85% re-use and recycling based on the average weight per vehicle and year.	EU statutory target - transposed into UK Law	This EU target was transposed into UK law by the End-of-Life Vehicles (Producer Responsibility) Regulations 2005/263	CEP - End-of-Life Vehicles Directive (2000/53/EC)	2015
21	Waste Electrical and Electronic Equipment (WEEE)	From 2019, the minimum collection rate to be achieved annually shall be 65% of the average weight of EEE placed on the market in the three preceding years.	EU target - not transposed into UK law	This EU target was not transposed into UK law.	CEP - WEEE Directive (2012/19/EU)	2019
22	Portable batteries collection rate	From 2016, the minimum collection rate for portable batteries to be achieved annually shall be 45% of rolling three year placing on the market average.	EU target - not transposed into UK law	This EU target was not transposed into UK law. The exception is Northern Ireland as the Batteries Directive is listed in the Annex to the NI Protocol.	CEP - Batteries Directive (2006/66/EC)	2016

Ref #	Policy area	Target/commitment identified	Status	EU Target explanatory notes	Drivers*	Deadline
23	Chemical use and waste	Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.	Commitment		SDG	2020
24	Marine pollution	Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	Commitment		SDG	2025
25	Marine pollution	Significantly reducing and where possible preventing all kinds of marine plastic pollution – in particular material that came originally from land.	Commitment		25 YEP	Not specified***
26	Waste crime	Seeking to eliminate waste crime and illegal waste sites over the lifetime of the 25 YEP, prioritising those of highest risk.	Commitment		25 YEP	Not specified***
27	Litter	Delivering a substantial reduction in litter and littering behaviour within a generation.	Commitment		25 YEP / Litter Strategy	Not specified***
28	Biodegradable municipal waste (BMW)	Work towards the near elimination of biodegradable municipal waste to landfill by 2028.	Target		NZS	2028

*25 YEP = 25 Year Environment Plan, IS = Industrial Strategy, CGS = Clean Growth Strategy, RWS = Resources and Waste Strategy, CEP = Circular Economy Package, SDG = Sustainable Development Goal, NZS = Net Zero Strategy

**All references to future target(s) to be set under the Environment Act are under consideration, still subject to consultation and not yet in legislation. At least one target to be set in secondary legislation in the area of Resource Efficiency and Waste Reduction.

*** Where unspecified, we presume the deadline is when the 25 YEP expires (that is, 2043).

Glossary of terms and acronyms

Term	Description
25 YEP	25 Year Environment Plan
APR	Annual Progress Report
ALB	Arm's Length Body
Assessment	Assessment is the process of considering all the information about a situation and making a judgement. Assessment is used in its broadest definition here, encompassing evaluation, appraisal, monitoring and analysis.
Baseline	Baseline data is a set of information used to compare data acquired afterwards to determine changes from the baseline position.
Coherence	The situation when the parts of something fit together in a natural or reasonable way[129].
Commitments	These are statements that commit to do something but do not define a desired level of performance or include a measurable indicator.
Delivery	The steps taken, and impacts observed, when implementing policies.
Driver	A current or emerging trend that is likely to influence the environment, or have an impact on the development of the policy or strategy.
Ecosystem services	The benefits people obtain from ecosystems. Ecosystem services can be divided into supporting, regulating, provisioning and cultural, although many services can sit under more than one category.
Environmental monitoring	Environmental monitoring is a tool to assess environmental conditions and trends, support policy development and its implementation, and develop information for reporting to national policymakers, international forums and the public[130].
Environmental Improvement Plan (EIP)	A plan for improving the natural environment in the period to which the plan relates. The document "A green future: our 25 YEP to improve the environment" published on 11 January 2018 is the first Environmental Improvement Plan.
Evaluation	Evaluation is a systematic assessment of the design, implementation and outcomes of an intervention. Monitoring and evaluation are closely related, and a typical evaluation will rely heavily on monitoring data[131].
Goals	These are statements that describe fundamental, broad aspirations that an organisation is aiming to achieve through its activities. They describe components of a vision, such as the 10 goals within the 25 YEP.
Governance	"The system by which entities are directed and controlled. It is concerned with structure and processes for decision making, accountability, control and behaviour... [influencing] how an organisation's objectives are set and achieved, how risk is monitored and addressed and how performance is optimised"[132].
Indicators	This is used to refer to the indicators in the Outcome Indicator Framework (OIF).
Integrated policy making	Integrated policy making refers to both horizontal sectoral integration (between different departments and/or professions in public authorities) and vertical integration in policy making (between different tiers of government), or combinations of both[133].

129 Cambridge University, *Cambridge Dictionary*, (n.d.), https://dictionary.cambridge.org/us/dictionary/english/coherence [accessed November 2021]

130 United Nations Economic Commission for Europe (UNECE), *Environmental Monitoring*, (n.d.), https://unece.org/environmental-monitoring [accessed October 2021]

131 HM Treasury, *The Magenta Book*, (2020), https://www.gov.uk/government/publications/the-magenta-book, [accessed November 2021]

132 Governance: what is it and why is it important? https://www.governancetoday.com/GT/Material/Governance__what_is_it_and_why_is_it_important_.aspx [accessed February 2022]

133 Meijers, E. and Stead, D., Policy integration: what does it mean and how can it be achieved? A multi-disciplinary review. In *Berlin Conference on the Human Dimensions of Global Environmental Change: Greening of Policies-Interlinkages and Policy Integration. Berlin*. (2004), http://userpage.fu-berlin.de/ffu/akumwelt/bc2004/download/meijers_stead_f.pdf [accessed March 2022]

Term	Description
Metrics	A set of numbers that give information about a particular process or activity[134]. Metrics underpin the indicators found in the OIF.
Objectives	These are statements of specific, tangible outcomes that an organisation is aiming to achieve within one of the goal areas. For example, in clean air, an objective is to cut public exposure to particulate matter pollution.
OIF	Outcome Indicator Framework
Policies	Actions government can take (such as regulation, investment, and taxation) to bring about desired outcomes.
Significant Improvement Test (SIT)	The Significant Improvement Test requires the Secretary of State to review the binding targets under the Environment Act, along with any other legally binding target he considers appropriate, and determine whether meeting them will bring about a 'significant improvement' in England's natural environment[135].
Stocktake	The activity of re-assessing a problem or situation, and current provisions for addressing them, to review whether activities are adequate and decide future actions.
Strategies	Made up of three elements: a diagnosis of an issue or problem, a guiding policy, and a set of coherent actions[136].
Systems thinking	The application of tools and techniques that share the assumption that the world is made up of interrelated systems, each with its own properties that are more than the sum of its components.
Targets	These are statements that commit to achieving a desired level of performance, based on measurable indicators. An example of a target for the above objective is "to reduce PM2.5 concentrations across the UK, so that the number of people living in locations above the WHO guideline level of 10 µg/m3 is reduced by 50% by 2025".
Apex targets	Targets which represent the final environmental outcomes government is aiming to achieve.
Interim targets	Targets which define optimal pathways over time towards long-term outcomes.
Tipping point	A tipping point is a threshold that when passed will lead to major changes in the state of the environment.
Vision	A short statement that embodies the future which government aspires to achieve.

134 Cambridge University, *Cambridge Dictionary*, (n.d.), https://dictionary.cambridge.org/dictionary/english/metrics [accessed November 2021]

135 UK Parliament, Environment Bill Explanatory Notes 2021-22, (2021), https://publications.parliament.uk/pa/bills/cbill/58-01/0009/en/20009en.pdf [accessed February 2022)

136 Rumelt, R. 2017. Good Strategy, Bad Strategy. The difference and why it matters. Profile Books Ltd. London.

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