

INSIGHT

Achieving environmental improvement and responding to climate change: enablers for success

Cross-government

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National Audit Office

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Cross-government

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

7 October 2024

Lessons learned reports

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Introduction

1 The government has long-term, legally binding obligations to achieve environmental improvements and respond to climate change. This includes four legally binding targets required by the Environment Act (2021) covering biodiversity, air pollution, water quality and waste and resources. In 2019, Parliament updated the Climate Change Act (2008) to require a reduction in greenhouse gas emissions to 'net zero' by 2050. The Climate Change Act also provides the legal basis for the UK's approach to adapting to climate change. It requires the government to assess and adapt to climate change risks. The government's legal targets link to multiple international treaties that it has signed and are part of its international diplomatic efforts to contribute to and encourage wider global change. There is scientific consensus that without rapid significant and sustained global action, climate change and nature loss will have severe consequences for people in the UK and around the world.

2 The government sees achieving its environment and climate change targets as part of its work to protect and increase wider public value. Successive governments have, for example, identified new markets for clean technologies as a source of economic and job opportunities. In July 2024, the government established a new Mission Board for clean energy, which has objectives to deliver clean power and accelerate net zero, boost energy independence, protect consumers and support jobs. Local environmental improvements, such as to air quality and access to green spaces, can contribute to improved health and quality of life. Building the UK's resilience to climate change risks that are already inevitable – such as increased frequency of extreme weather events like heatwaves and flooding, and changes to food supply – helps protect people's health, avoid harm to the natural environment, and damage to houses and infrastructure.

3 Meeting the government's environment and climate change targets is a significant challenge. Achieving net zero by 2050 will require changes that are unprecedented in their scale and scope, including changes to the way electricity is generated, how people travel, how land is used and how buildings are heated. Achieving the government's wider environmental targets and responding to climate risks adds another layer to this challenge, requiring the government to handle related and complex transitions over similar timeframes.

About this report

4 In 2020, we carried out two broad reviews of how the government is organised to achieve net zero and its wider environmental goals, including its goal to adapt to a changing climate.^{1,2} Since then, we have examined many of the interventions that it has established to help meet these goals. This has covered individual projects and programmes, for example, on energy efficiency grants and tree-planting, as well as broader portfolios of government's work such as those to decarbonise home heating or improve air quality.

5 This report draws out learning from this body of work and identifies enablers that we see as particularly important for tackling the challenges that government faces in its environment and climate change work (**Figure 1** overleaf). We present two sets of enablers:

- **Part One:** Enablers for ensuring strong leadership from lead departments and the centre of government for achieving the government's environment and climate change ambitions.
- **Part Two:** Enablers for designing and implementing successful environment and climate change interventions that deliver best value.

This reflects a pragmatic decision to target our findings towards two audiences: those responsible for government's approach as a whole (for whom Part One is particularly relevant); and those responsible for particular interventions (for whom Part Two is particularly relevant). However, the issues involved are intrinsically linked and have broad relevance across government.

6 As part of the analysis that informed this report, we:

- Reviewed 38 reports published by the National Audit Office (NAO) on government's environment and climate change work.
- Reviewed information that departments have provided, as part of our ongoing process of tracking recommendations, on whether and how they have responded to the recommendations in these reports.
- Conducted 31 workshops and interviews with officials from central government departments and their arm's-length bodies, local government, scrutiny bodies and other relevant stakeholders.

1 Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

2 Comptroller and Auditor General, *Achieving government's long-term environmental goals*, Session 2019–2021, HC 958, National Audit Office, November 2020.

Figure 1

Enablers for the government to improve the delivery of its climate change and environmental goals

This figure summarises the enablers for success that we include in this report

Enablers for ensuring strong leadership from lead departments and the centre of government

Create a culture of shared commitment to delivery of climate change and environment goals

To achieve this, the government should:

- ensure effective arrangements to coordinate across government and secure buy-in from senior leaders;
- embed environment and climate change in business planning; and
- ensure arrangements for effective joint working with local government.

Integrate climate change and environmental ambitions with each other and wider policy objectives

To achieve this, the government should:

- manage the links between different policy areas; and
- support integration with a land use framework.

Provide clear strategic direction through overarching long-term plans

To achieve this, the government should:

- clarify roles, responsibilities and the timing of key decisions;
- support long-term, strategic planning in delivery bodies; and
- support long-term investor confidence.

Enablers for designing and implementing successful environment and climate change interventions

Proactively plan for the resources and skills needed

Support the people and organisations involved with the changes required to make progress

Develop approaches that support well-managed risk taking

Collect, use and evaluate information to understand what is working and when to change course

Notes

- 1 In this report, we took a pragmatic decision to present two sets of enablers targeted at different audiences, but the issues involved are intrinsically linked and have broad relevance across government.
- 2 Enablers for ensuring strong leadership from lead departments and the centre of government are shown in purple, enablers for designing and implementing successful environment and climate change interventions that deliver best value are shown in green.

7 This report includes illustrations of how the government's arrangements for achieving its environment and climate change goals have developed but does not seek to give a comprehensive account of these. While our recommendations take account of the new government's priorities, we have not sought to carry out a full assessment of the extent to which the new government's plans are likely to help it make progress against the enablers we identify. In line with the NAO's remit, this report does not give advice on what the government's environment and climate change interventions should be and does not assess whether the government is on track to meet its overall targets, which the Climate Change Committee and Office for Environmental Protection provide as part of their annual progress reporting to Parliament.

Concluding remarks and recommendations

8 Achieving the government's legislative climate change and environmental targets requires sustained and coherent action over successive parliaments, and substantial progress over the next five years. This means that the leadership role of the centre of government and lead departments – the Department for Environment, Food & Rural Affairs (Defra) and the Department for Energy Security & Net Zero (DESNZ) – is critical. Strong leadership will ensure that the government develops a coherent set of interventions that together succeed in putting the UK on track to achieve its overall targets. Strong leadership also creates the conditions for securing most value from the public and private investment involved. The scale and complexity of improving the natural environment and responding to climate change means that the government's approach to leadership on these issues needs continued focus and attention. Our work shows that this should include building its approach to culture, strategic direction and integration.

9 It will be important that government identifies tangible opportunities to test and develop its approach to these enablers. As part of this, over the next six months, HM Treasury, Cabinet Office, Defra and DESNZ should work together towards the following goals:

- a** Ensure that the reviews which they are carrying out of the government's overarching plans to reach its environment and climate change goals lead to significantly greater clarity over roles and responsibilities, the timing of key decisions, and where the most important shared opportunities and tensions are likely to be. The new government has committed to review plans for environmental improvement in 2024 and is required to publish an updated strategy for reaching net zero in 2025.
- b** Ensure an effective and coherent effort across the government to embed environment and climate change considerations into the forthcoming Spending Review. The government plans to conduct a multi-year Spending Review in Spring 2025 through which it will make decisions about its spending priorities.

- c** Work with other parts of government to secure a shared view of how to make the most of shared opportunities and manage trade-offs as the government takes forwards its wider priorities. This should include working with the new Growth Mission, chaired by the Chancellor, to secure a shared view of the main links between the government's environment and climate change objectives and its ambition to boost growth and make every part of Britain better off. It should also include working with the Ministry of Housing, Communities & Local Government (MHCLG) to secure a shared view of the main links with government's plans to increase house building. The government has announced that it wants to enable 1.5 million new homes to be built over the current parliament.
 - d** Develop a shared view of how it expects the new ministerial level Mission Board for clean energy to interact with other environment and climate change governance arrangements to ensure a coherent approach to decarbonisation, climate resilience and environmental improvement. The Energy Secretary chaired the first meeting of the Mission Board in July 2024.
 - e** Use the introduction of requirements for climate-related disclosures in annual reports and accounts to embed environment and climate change considerations in departments' business planning. From 2025-26, new sustainability reporting requirements will require government departments to demonstrate how they are considering climate-related risks in their organisational strategies. This includes risks associated with fulfilling their role in influencing the transition to net zero, as well as how their operations may be affected by climate change.
- 10** Our work also shows that there are four enablers that senior officials across government responsible for environment and climate change interventions are likely to need to focus on. These reflect the importance of having the right skills in place, enabling well-managed risk taking, carrying out effective monitoring and evaluation, and supporting those involved with the changes.

Part One

Enablers for ensuring strong leadership from lead departments and the centre of government

1.1 The government's work on the environment and climate change is led by two departments. The Department for Environment, Food & Rural Affairs (Defra) leads work on improving and protecting the environment and adapting the UK to climate change. The Department for Energy Security & Net Zero (DESNZ) leads work on ensuring that the UK is on track to meet its net zero target. However, success depends on aligned activity across the government as a whole: to meet the UK's legislative targets on environment and climate change, all parts of the government need to design and implement interventions in the sectors that they are responsible for. Success also depends on the government helping to create the conditions for these interventions to be effective, for example through the cumulative impact of their activity on supply chains, skills and market sentiment.

1.2 This means that the leadership role of lead departments and the centre of government is fundamental to value for money. This section focuses on three aspects of this leadership role: culture, overall direction and integration (**Figure 2** overleaf).

Figure 2

Enablers for ensuring strong leadership from lead departments and the centre of government

This figure summarises the enablers we include for lead departments and the centre of government for achieving the government's environment and climate change ambitions

Create a culture of shared commitment to delivery of climate change and environment goals

To achieve this, the government should:

- ensure effective arrangements to coordinate across government and secure buy-in from senior leaders;
- embed environment and climate change in business planning; and
- ensure arrangements for effective joint working with local government.

Integrate climate change and environmental ambitions with each other and wider policy objectives

To achieve this, the government should:

- manage the links between different policy area; and
- support integration with a land use framework.

Provide clear strategic direction through overarching long-term plans

To achieve this, the government should

- clarify roles, responsibilities and the timing of key decisions;
- support long-term, strategic planning in delivery bodies; and
- support long-term investor confidence.

Notes

- 1 The lead department for the government's work on environmental improvement and climate adaptation is the Department for Environment, Food & Rural Affairs (Defra). The lead department for government's work on climate mitigation, including net zero, is the Department for Energy Security & Net Zero (DESNZ).
- 2 The centre of government in this context refers to HM Treasury and the Cabinet Office.

Source: National Audit Office

Enabler 1: Create a culture of shared commitment to delivery of climate change and environment goals

1.3 The culture of an organisation or group of organisations is a key part of what determines how effectively people work together to take timely action in pursuit of a goal, make the most of shared opportunities, tackle common challenges, and resolve differences. Three aspects that we encourage the government to focus on as part of developing the culture it needs for its work on environment and climate change are to:

- ensure effective arrangements to coordinate across government and secure buy-in from senior leaders;
- embed environment and climate change in government's business planning; and
- ensure effective arrangements for joint working with local authorities.

Ensure effective arrangements to coordinate across government and secure buy-in from senior leaders

1.4 In 2020, we found that some stakeholders had raised concerns about whether DESNZ (then the Department for Business, Energy and Industrial Strategy – BEIS) had sufficient influence to ensure other parts of government took enough action in their areas of responsibility for net zero.³ At that time, the government had only recently established a group of senior officials from the main departments across government with responsibility for implementing a cross-government climate change action strategy covering domestic and international aspects of mitigation and resilience, and two cabinet committees for climate action to provide cross-government leadership and coordination. Under the previous government, DESNZ (then BEIS) told us that these arrangements for net zero were more likely to endure than previous arrangements because they had senior political buy-in, including the then Prime Minister chairing the Climate Action Strategy Committee.⁴

1.5 On environment more broadly, in 2020 we found that, while Defra had developed some good arrangements for collaboration and coordination on environmental issues and activities, it was hampered by the lack of mandate to direct the other government departments and partners it was relying on to deliver aspects of the 25 Year Environment Plan. Despite the key role of other government bodies in delivering aspects of Defra's 25 Year Environment Plan, there was no evidence of shared ownership over the Plan.⁵

3 Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

4 Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

5 Comptroller and Auditor General, *Achieving government's wider environmental goals*, Session 2019–2021, HC 958, National Audit Office, November 2020.

1.6 Our work since 2020 has highlighted examples where the government has established cross-government structures which aim to improve coordination. For example, in 2020, in response to our report, Defra established a new cross-government board for the environment, the 25 Year Environment Plan Board. In 2023, we noted that the Cabinet Office and Defra, working with HM Treasury, had established a senior-level Climate Resilience Board. The Board aims to oversee strategic, cross-cutting climate adaptation and resilience issues and drive government action to increase UK resilience to climate change.⁶

1.7 However, attempts to harness a collective effort across government on environmental and climate change issues can still be challenging. We have also seen instances where Defra has struggled to influence other departments to ensure a policy issue is prioritised across government. For example, in 2020, we found that Defra had not been sufficiently influential to ensure water efficiency was a priority across government.⁷ Similarly, in 2022, Defra told us that it was finding it difficult to encourage other departments to treat tree-planting as a higher priority in their policy design and incorporate it within planning rules and infrastructure projects.⁸

1.8 During fieldwork for this report, some government officials spoke about the importance of senior leadership for ensuring that the government's climate change and environment goals are seen as priorities across government. HM Treasury told us that it is particularly important that accounting officers feel accountable for their department's part in achieving the targets. We heard from some government officials that the Environmental Improvement Plan is still seen as Defra's programme of work to deliver, rather than a cross-government endeavour.

1.9 Cross-government committees are an important part of ensuring effective arrangements to coordinate across government and secure senior buy-in, though they are not the only potential solution. The previous government established new senior roles for sustainability outside of lead departments such as a second Permanent Secretary at the Department for Transport (DfT) with responsibility for decarbonisation, and a Chief Sustainability Officer in the Ministry of Justice.

1.10 Audit Risk and Assurance Committees (ARACs) also have an important part to play. But in 2021, we reported that senior finance officials in government had a limited understanding of climate change risks; 98% of ARACs said that they had not undertaken a detailed discussion or deep-dive into climate change risk, and 60% of ARACs did not know what to ask management about climate-related risks and the impacts on the department's operations.⁹

6 Comptroller and Auditor General, *Government resilience: extreme weather*, Session 2023-24, HC 314, National Audit Office, December 2023.

7 Comptroller and Auditor General, *Water supply and demand management*, Session 2019-2021, HC 107, National Audit Office, March 2020.

8 Comptroller and Auditor General, *Planting trees in England*, Session 2021-22, HC 1140, National Audit Office, March 2022.

9 National Audit Office, *Climate change risk: A good practice guide for Audit and Risk Assurance Committees*, August 2021.

1.11 During fieldwork for this report, some officials within the government told us that limited understanding of environment, net zero and sustainability issues, for example in relation to project appraisal and the government's own operational sustainability commitments, is holding back progress within some departments and making it hard to deliver effectively without the right skills and understanding.

Embed environment and climate change in the government's business planning

1.12 Embedding environment and climate change considerations into the government's business planning, such as funding decisions, policy appraisal and organisational strategies, is an important part of creating the conditions for a strong culture of shared commitment to these ambitions across government. In 2020, we recommended that HM Treasury should ensure that its guidance informing public spending decisions (including the Green Book and guidance for accounting officers) requires departments to evaluate how policies impact the net zero target and that this is consistently applied. During fieldwork for this report, HM Treasury told us that the Green Book is an important tool to help departments consider environmental and climate change issues in their project appraisals and funding bids, but it recognised that skills and capability within departments were an issue in its effective use.

1.13 Government departments need to consider and demonstrate how they consider climate-related risks in their organisational strategy as part of new sustainability reporting requirements that are coming into effect for their 2025-26 annual report and accounts. This includes considering the risks associated with fulfilling their role in influencing the transition to net zero, as well as how they may be affected by the impacts of climate change. This is an opportunity for departments, led by the centre of government, to use the new reporting framework to assess how climate change affects their operations and improve how they embed environment and climate change issues in their business planning.

Ensure arrangements for effective joint working with local government

1.14 Local authorities have an important part to play in meeting climate change and environment objectives because of the sector's powers and responsibilities for waste, local transport and social housing, and through their influence in local communities. In 2020, we recommended that DESNZ (then BEIS) considered how to extend its net zero coordination arrangements beyond central government departments to include the perspectives of other public bodies.¹⁰ In 2021, we reinforced this, finding that central government had not yet developed any overall expectations about the role of local authorities in achieving the national net zero target.¹¹ Without a clear sense of responsibilities and priorities we reported a risk that local authority action on net zero was not as coordinated, targeted, or widespread as it might need to be.

1.15 Our work since then has highlighted that coordination arrangements with local authorities to support environmental improvement and climate change response could be improved.

- In 2021, we examined the government's approach to reducing carbon emissions from cars.¹² We found a well-integrated working relationship between the Office for Zero Emission Vehicles (OZEV), DESNZ (then BEIS) and DfT. They had common goals and shared data, and had coordinated key policies. However, we identified a less effective relationship between the departments, OZEV and local government, with a lack of shared understanding of national and local strategies.
- In 2024, we reported that Ofgem intended to involve local authorities in energy network planning. Local authorities' understanding of the local housing stock, residents' needs and the availability of local suppliers meant they were well placed to support decisions on low-carbon home heating solutions in their local area.¹³ However, we were told that more clarity was needed on their roles and powers.
- In 2023, we reported that although the government had identified that developing resilience requires a 'whole of society' approach, it had yet to set out the respective roles of central government, local government, the devolved administrations, the private and voluntary sectors, and the public, leading to uncertainty on what actions to take.¹⁴

10 Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

11 Comptroller and Auditor General, *Local government and net zero in England*, Session 2021–22, HC 304, National Audit Office, July 2021.

12 Comptroller and Auditor General, *Reducing carbon emissions from cars*, Session 2019–2021, HC 1204, National Audit Office, February 2021.

13 Comptroller and Auditor General, *Decarbonising home heating*, Session 2023–24, HC 581, National Audit Office, March 2024.

14 Comptroller and Auditor General, *Government resilience: extreme weather*, Session 2023–24, HC 314, National Audit Office, December 2023.

- Local authorities have an important role managing responsibilities for statutory biodiversity net gain in their local areas, including considering new development proposals and enforcing rules locally.¹⁵ In 2024, we reported that there was doubt about whether local authorities would be able to discharge these duties effectively.¹⁶

1.16 In fieldwork for this report, a local authority representative organisation and lead environmental officers from local authorities spoke about the importance of greater clarity about the expected role of local authorities in delivering environmental improvement and responding to climate change. DESNZ told us about the Local Net Zero Forum that it announced in 2021 to bring together national and local government on a regular basis to discuss policy and delivery options on net zero. The forum met for the first time in November 2023. Officials from the local government sector that we spoke to were critical of the lack of seniority attached to the forum, and in July 2024 the Local Government Association published a white paper stating that the forum had not achieved its aims. DESNZ told us that the Government is currently reviewing the approach to engagement with Local Government on net zero.

Enabler 2: Integrate climate change and environmental ambitions with each other and wider policy objectives

1.17 Environmental improvement and responding to climate change are cross-cutting government objectives and, as such, they affect and are affected by the government's wider objectives. It is important that departments work together to make the most of opportunities for environment and climate change interventions to deliver multiple beneficial outcomes, avoid perverse outcomes and manage trade-offs and tensions between policy areas. Two aspects that we encourage the government to focus on as part of improving the integration of its climate change and environment ambitions with each other and wider policy objectives are to:

- manage the links between different policy areas; and
- support integration with a land use framework, which could provide a framework for integrating and informing decision-making on multi-functional land use.

¹⁵ Biodiversity net gain is a way of creating and improving natural habitats and ensuring that land development has a measurably positive impact (net gain) on biodiversity, on the site or in another location.

¹⁶ Comptroller and Auditor General, *Implementing statutory biodiversity net gain*, Session 2023-24, HC 729, National Audit Office, May 2024.

Manage the links between different policy areas

1.18 In 2020, we found that the government needed to identify how it would manage the links between different aspects of achieving net zero and how it related to other government priorities, and that DESNZ (then BEIS) was still considering how it would incorporate its understanding of interdependencies into the government's management of the net zero strategy.¹⁷ We also found, in 2020, that the limitations in Defra's arrangements for understanding how other parts of government would contribute to the 25 Year Environment Plan posed a risk that key opportunities or interdependencies may be missed.¹⁸

1.19 In our work, we have seen instances of departments developing approaches to manage the delivery of multiple outcomes.

- In 2022, we found that Defra had arrangements in place to manage the links between air quality and net zero. Since then, it has taken steps to clarify senior responsibility for handling the most significant trade-offs and opportunities.¹⁹
- In 2024, we found that Defra had been working to deliver multiple objectives through its Farming and Countryside Programme which covered delivering environmental outcomes, maintaining food production, and securing a thriving farming sector.²⁰

1.20 However, we have also found examples where departments have found it challenging to work across policy boundaries to deliver environment and climate change outcomes in a way which maximises co-benefits and manages trade-offs with other policy objective.

- DfT has identified that active travel has the potential to deliver substantial beneficial outcomes for health as well as the environment, the economy, and society. However, in 2023, we found that DfT had not identified or developed metrics to track and influence the delivery of health or other outcomes or assess what has been delivered.²¹

17 Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

18 Comptroller and Auditor General, *Achieving government's wider environmental goals*, Session 2019–2021, HC 958, National Audit Office, November 2020.

19 Comptroller and Auditor General, *Tackling local breaches of air quality*, Session 2022–23, HC 66, National Audit Office, June 2022.

20 Comptroller and Auditor General, *The Farming and Countryside Programme*, Session 2024–25, HC 123, National Audit Office, June 2024.

21 Comptroller and Auditor General, *Active Travel in England*, Session 2022–23, HC 1376, National Audit Office, June 2023.

- DESNZ intended that the Green Homes Voucher Grant Scheme would contribute to decarbonising home heating and economic growth. However, in 2021 we found that DESNZ had not fully reconciled the tension between creating jobs quickly, as part of a short-term economic stimulus package, and its aim of delivering a long-term carbon impact. The tension between these two aims and the short delivery time was never properly resolved which led to an overly complex scheme that could not be delivered to a satisfactory level of performance in the time available.²²

1.21 In 2022, the government introduced the Environmental Principles Policy Statement (EPPS) – a requirement for ministers to consider environmental principles when making policy.²³ One of these, the integration principle, requires that policymakers look for opportunities to embed environmental protection into policy. For this report, OEP told us that effective consideration of the EPPS in policy making across government could support the delivery of the commitments of the EIP23. DESNZ has also developed a ‘systems map’ for key sectors across the net zero system, such as transport and land use, and has developed a new net zero ‘systems tool’ to explore interdependencies within and across subsystems.

1.22 During fieldwork for this report, stakeholders within and outside of government, including DESNZ and Cabinet Office officials and environmental non-governmental organisations (NGOs), still characterised central government’s work delivering against its environment and climate change goals as siloed, with others from Defra, the Ministry of Housing, Communities & Local Government (MHCLG), Natural England and the National Infrastructure Commission (NIC) noting the difficulty of reconciling differing departmental priorities. Cabinet Office told us that better coordination among senior leadership would help ensure that sustainability and adaptation activities are considered by all central government departments. The new government has established Mission Boards, including on clean energy and growth, which DESNZ and Defra told us could have an important part to play in integrating government’s environment and climate change ambitions with each other and with wider ambitions.

²² Comptroller and Auditor General, *Green Homes Grant Voucher Scheme*, Session 2021-22, HC 302, National Audit Office, September 2021.

²³ When making policy, and where relevant, ministers will need to consider the: integration principle; prevention principle; rectification at source principle; polluter pays principle; and, precautionary principle.

Support integration with a land use framework

1.23 In fieldwork for this report, a wide range of stakeholders including environmental NGOs, the Climate Change Committee (CCC), Office for Environmental Protection (OEP), NIC and officials from Defra, MHCLG, HM Treasury and DESNZ identified land use and strategic spatial planning as a key facilitator of better integration between different policy areas. When making land use decisions, there are multiple usages which must be considered including, housing, infrastructure, power generation, food production and the delivery of environmental and climate change outcomes such as nature recovery, carbon storage, renewable energy generation and natural flood resilience. Achieving multiple land use objectives requires delivery by MHCLG, DESNZ, Defra, and other government departments, local authorities and the private sector. The government committed to publish a Land Use Framework in 2023 which would support multi-functional land use. However, this Framework has not yet been published despite environmental organisations and Natural England telling us that it has the potential to be an important tool to enable land to support multiple outcomes and manage trade-offs.

Enabler 3: Provide clear strategic direction through overarching long-term plans

1.24 Meeting the government's targets for environmental improvement and responding to climate change requires sustained, coherent action over decades. Overarching long-term plans from lead departments are needed to help other central departments, delivery bodies and the private sector make well-informed decisions about prioritising work and investment, and for government and businesses to prepare for the regulatory changes that may be required. While long timeframes mean that departments cannot plan every step in detail now, it remains important to establish a clear critical path setting out what new interventions are likely to be needed and when, with plans being refined as circumstances change. Plans need to be sufficiently flexible to respond to changes over time.

1.25 Three aspects that we encourage the government to focus on as part of developing a clear strategic direction for its work on environment and climate change are to:

- clarify roles, responsibilities and timing of key decisions;
- support long-term strategic planning in delivery bodies; and
- support long-term investor confidence.

Clarify roles, responsibilities and the timing of key decisions

Environmental Improvement Plan

1.26 In 2020, we found that Defra's 25 Year Environment Plan brought together a number of the government's environmental commitments and aspirations in one place, but that the government had yet to set a clear course for the development of a coherent and complete set of environmental objectives, and for a full set of costed delivery plans.²⁴ The Government is required by law to develop and regularly update its overarching, long-term plans for activities to improve the environment. The previous government published the latest update, the Environmental Improvement Plan (EIP), in 2023. The current government has announced a rapid review of EIP, which it says it will complete by the end of 2024.

1.27 During fieldwork for this report, we heard from stakeholders that Defra's 2023 EIP was a step forward in bringing the government's plans for the environment under a single vision. However, we also heard that the EIP needed to provide more detail about the specific underlying actions needed for the government's environmental goals to be met, to enable those with a part to play to understand their role and deliver.

Net zero strategy

1.28 The government is required by law to develop and regularly update its overarching, long-term plans for achieving net zero by 2050. In 2020, we reported that DESNZ (then BEIS) planned to launch a net zero strategy. At that time, we set out that this should clearly define what it was aiming to achieve, while ensuring flexibility in the plan to accommodate long-term uncertainties, such as the rate of technology development and the degree to which individuals may change their behaviours.²⁵

²⁴ Comptroller and Auditor General, *Achieving government's wider environmental goals*, Session 2019–2021, HC 958, National Audit Office, November 2020.

²⁵ Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

1.29 In 2021, the previous government published this Net Zero Strategy. In 2022, a High Court judgement found that the strategy provided insufficient detail for how the net zero target would be met. The court required the government to set out more detail on how it aimed to reach net zero and, in 2023, the government published its Carbon Budget Delivery Plan and Net Zero Growth Plan. In 2024, the High Court found that the Carbon Budget Delivery Plan did not comply with certain duties under the Climate Change Act as the delivery risks of several of the policies in the plan were not stated or were uncertain, meaning the Secretary of State could not have assurance that intended emissions reductions would be achieved. As a result of the judgement the government has committed to publish a new report setting out its plans to meet its carbon budget target by May 2025. The Government has to publish its proposed Carbon Budget 7 target (which will cover the period 2038-2042) by the end of June 2025. The Environmental Audit Committee has asked the government to set out its supporting plans at the same time as it announces Carbon Budget 7.

Climate change adaptation

1.30 The government is required by law to develop and regularly update its plans for preparing the UK for the impacts of climate change. It does this through five-yearly National Adaptation Programmes (NAPs), the latest of which (NAP3) was published in 2023. Unlike for net zero and environmental improvement, the government does not have any objectives or targets for adapting the UK to climate change.

1.31 In 2022, we noted that adaptation had not received as much attention within government compared with net zero.²⁶ In 2023, we reported a lack of scale and urgency in action to encourage private investment for adaptation compared with net zero, which did not reflect the magnitude and proximity of climate change risks. We also found that the lack of clarity on the outcomes that the government was looking to achieve for extreme weather risks, such as target levels of preparedness, meant that it was impossible for the government to identify the actions needed and to evaluate progress.²⁷

²⁶ National Audit Office, *Briefing for the Environment, Food and Rural Affairs Committee: Climate change adaptation*, February 2022; Comptroller and Auditor General, *Achieving government's wider environmental goals*, Session 2019-2021, HC 958, National Audit Office, November 2020.

²⁷ Comptroller and Auditor General, *Government resilience: extreme weather*, Session 2023-24, HC 314, National Audit Office, December 2023.

1.32 In fieldwork for this report, we heard from environmental NGOs that there is a lack of clear vision and leadership on adaptation in government. The CCC and NIC told us that measuring progress and monitoring and evaluation are more difficult for adaptation than for net zero which has quantifiable targets. Stakeholders, including the CCC and environmental NGOs, also told us that adaptation is not sufficiently prioritised compared with net zero, and HM Treasury told us that adaptation is often a lower priority for departments than decarbonisation. In its 2024 assessment, the CCC reported that NAP3 lacks the pace and ambition needed to address growing climate change risks which we are already experiencing and suggested that government policy making needed to be reorganised so that adaptation becomes a fundamental aspect and is embedded in other national policy objectives. The CCC's report also set out that NAP3 must be strengthened with a vision that includes clear objectives and targets.

Support long-term, strategic planning in delivery bodies

1.33 Our work has found that delivery bodies, including local authorities and the private sector, have had to navigate a complex and fragmented landscape of funding for interventions designed to support the transition to net zero. For example, in 2023 we reported that some businesses have found it difficult to navigate all the net zero research and innovation sources of public sector funding.²⁸ We found that these complex funding arrangements also make it harder to track spend on innovation centrally.

1.34 Where local authorities must bid for grant funding based on specified criteria, our work has found that these competitive processes tend to favour larger, better resourced authorities. This brings a risk of inequitable access to funding and that funding does not go where the need or opportunity is greatest, as shown by the following:

- In 2020, we found that DfT was using capital funding pots to support bus improvement but was concerned that some local authorities with viable projects were not accessing it because they lacked the capability or revenue funding to generate a bid.²⁹
- In 2021, we found that grant funding for local authority work on net zero was fragmented and dominated by competitive bidding for funds. We found that this can mean that local authorities that have been successful in winning funding previously continue to win most of the funding, because they have people with the expertise and time to identify suitable grants and apply.³⁰

28 Comptroller and Auditor General, *Support for innovation to deliver net zero*, Session 2022-23, HC 1321, National Audit Office, May 2023.

29 Comptroller and Auditor General, *Improving local bus services in England outside London*, Session 2019-2021, HC 577, National Audit Office, October 2020.

30 Comptroller and Auditor General, *Local government and net zero in England*, Session 2021-22, HC 304, National Audit Office, July 2021.

1.35 The government has recognised that longer-term and more coordinated funding streams can enhance innovation and investment, reduce bureaucracy, and encourage more efficient and integrated decision making. In its 2021 Net Zero Strategy, the government said that it was committed to exploring how funds for net zero could be simplified and consolidated at a local level, and that it was working across central departments to explore how to increase certainty.³¹ During fieldwork for this report, we heard that improved funding certainty for local authorities is needed to help local authorities plan strategically and develop longer-term, more cost-effective approaches to local delivery of environmental, net zero and adaptation interventions. We, and others, have previously recommended that the government simplify the net zero funding landscape for local authorities and develop a plan for funding climate action that gives local authorities the confidence and ability to invest over the longer-term.^{32,33}

Support long-term investor confidence

1.36 Significant upfront capital investment is needed to address the challenges of decarbonising, restoring nature and adapting to climate change. Government expects that this will need to include substantial investment from the private sector. There needs to be clear strategic direction to allow businesses to invest and deliver with confidence over long time periods. We have seen recent examples where uncertainty and repeated changes in strategic direction and lack of clarity and consistency in messaging from the government have undermined investor confidence and remains a barrier to unlocking private investment.

- In 2023, we found that the government had done less to encourage private sector investment in resilience to extreme weather events and climate change than on other long-term challenges such as net zero and nature recovery. For example, we found that the government's commitments for securing private investment in adaptation were substantially weaker than on net zero and nature, and that there were a lack of concrete goals and actions, milestones and plans to address the key barriers to adaptation.³⁴
- In 2024, we found that aspects of DESNZ's approach to decarbonising home heating remained unclear. For example, some stakeholders we spoke with at the time were of the view that the government should provide more policy certainty over the role of hydrogen in home heating as a priority, given the substantial capital needed to decarbonise home heating. We found that, without this certainty, the ability of local authorities and industry to plan and invest on a wide scale could be limited.³⁵

³¹ HM Government, *Net Zero Strategy: Build Back Greener*, October 2021.

³² Housing, Communities and Local Government Committee, *Local government and the path to net zero*, Fifth Report of Session 2021-22, HC 34, October 2021; Rt Hon Chris Skidmore, *Mission Zero: Independent Review of Net Zero*, January 2023; Climate Change Committee, *Local authorities and the sixth carbon budget*, December 2020.

³³ Comptroller and Auditor General, *Local government and net zero in England*, Session 2021-22, HC 304, National Audit Office, July 2021; Comptroller and Auditor General, *Active Travel in England*, Session 2022-23, HC 1376, National Audit Office, June 2023.

³⁴ Comptroller and Auditor General, *Government resilience: extreme weather*, Session 2023-24, HC 314, National Audit Office, December 2023.

³⁵ Comptroller and Auditor General, *Decarbonising home heating*, Session 2023-24, HC 581, National Audit Office, March 2024.

Part Two

Enablers for designing and implementing successful environment and climate change interventions

2.1 This part of our report is aimed at senior government officials in departments across government who are designing and implementing environment and climate change interventions. It includes enablers that will help ensure these interventions deliver best value (**Figure 3**). These enablers are not unique to the government's work on environment and climate change: in principle they reflect widely applicable good practice. However, we recognise that putting this learning into practice brings challenges for this area of government's work, because of how broad, interrelated and complex the underlying issues are.

Figure 3

Enablers for designing and implementing successful environment and climate change interventions

This figure summarises enablers for designing and implementing successful environment and climate change interventions that deliver best value

Proactively plan for the resources and skills needed

Support the people and organisations involved with the changes required to make progress

Develop approaches that support well-managed risk taking

Collect, use and evaluate information to understand what is working and when to change course

Note

1 These enablers are aimed at senior government officials in departments across government who are designing and implementing environment and climate change interventions.

Source: National Audit Office analysis

Enabler 4: Proactively plan for the resources and skills needed

Why this matters for environment and climate change interventions

2.2 A wide range of delivery bodies are involved in supporting the government's environment and climate change ambitions, including departmental arm's-length bodies (such as the Environment Agency, Natural England and Office for Zero Emission Vehicles (OZEV)), local authorities, and private sector supply chains. To undertake their activities effectively, delivery bodies need sufficient capacity and skills to respond to requirements from central government. This is especially relevant in relation to environment and climate change interventions where activity will need to ramp up to support delivery of the government's targets, and specialist skills can be required.

What our work has found

2.3 In our 2020 reports on achieving net zero and the government's long-term environmental goals, we identified that having sufficient capability and skills was a key delivery risk that the government must manage, and that skills shortages within arm's-length bodies and the wider supply chain could inhibit progress.³⁶

2.4 Since then, we have seen some positive examples where delivery bodies have identified workforce challenges that pose a risk to the successful delivery of an intervention and have taken action to address them.

- The Department for Transport (DfT) identified that limited skills and capacity within local authorities are a barrier to increasing active travel. Our 2023 report found that Active Travel England now undertakes annual assessments of local authority capability and ambition to deliver active travel interventions and uses this to guide allocation of active travel funding and identify where capability can be improved.³⁷
- In 2021, we found that resource and capacity within the OZEV had been under pressure as the programme it oversaw had grown.³⁸ Since then, OZEV has reviewed its capability and bolstered capacity, especially in relation to project delivery.

³⁶ Comptroller and Auditor General, *Achieving government's wider environmental goals*, Session 2019–2021, HC 958, National Audit Office, November 2020; Comptroller and Auditor General, *Achieving net zero*, Session 2019–2021, HC 1035, National Audit Office, December 2020.

³⁷ Comptroller and Auditor General, *Active Travel in England*, Session 2022–23, HC 1376, National Audit Office, June 2023.

³⁸ Comptroller and Auditor General, *Reducing carbon emissions from cars*, Session 2019–2021, HC 1204, National Audit Office, February 2021.

2.5 In many of our reports, however, we have repeatedly found capacity and capability challenges in those delivering interventions, and the wider supply chain, to bring about environmental improvement and climate change mitigation and adaptation, as illustrated in these examples:

- In 2022, we found a shortfall in the staff needed to deliver the tree-planting programme, with the most serious shortfall in qualified foresters working directly with landowners. This shortage of ‘on the ground’ expertise, which stemmed from a wider shortage in forestry expertise, was a major risk for the tree-planting programme.³⁹
- In 2024, we highlighted that others had reported a labour market capacity crisis and skills gap for ecologists, who are needed to support statutory biodiversity net gain requirements in planning processes. Local authorities we spoke to for that report told us that the funding that Defra had provided was inadequate to recruit sufficient ecological expertise.⁴⁰
- In 2024, we reported that the skills and capacity of suppliers may be limiting factors on the transition to decarbonising home heating. The Department for Energy Security & Net Zero (DESNZ) told us that it was supporting training but that it would need to ensure that these opportunities continue and expand to reach the number of installers needed after 2025.⁴¹

Enabler 5: Support the people and organisations involved with the changes required to make progress

Why this matters for environment and climate change interventions

2.6 The government needs to influence the behaviour of people, businesses and other organisations as part of many of its environment and climate change interventions. For example, it needs to ensure that people are encouraged to replace vehicles that run on petrol or diesel with zero-emission vehicles; replace domestic gas boilers with renewable alternatives, such as electric heat pumps; reduce consumption of water; and reduce the amount of waste they produce.

³⁹ Comptroller and Auditor General, *Planting trees in England*, Session 2021-22, HC 1140, National Audit Office, March 2022.

⁴⁰ Comptroller and Auditor General, *Implementing statutory biodiversity net gain*, Session 2023-24, HC 729, National Audit Office, May 2024.

⁴¹ Comptroller and Auditor General, *Decarbonising home heating*, Session 2023-24, HC 581, National Audit Office, March 2024.

2.7 An effective approach to behaviour change is important for the value for money of these interventions because it contributes to achieving the policy outcome cost-effectively. The government has choices about how it encourages behavioural changes to help achieve its goals, including through legislative, fiscal and regulatory mechanisms or through direct communication with individuals. The government also needs to understand and take account of the economic and social impacts of its interventions on different groups in society as part of affordability and equity considerations, for example, to avoid some groups bearing a disproportionate share of the investment costs, or disproportionately missing out on the benefits of a change.

What our work has found

2.8 For interventions where the government is relying on individuals to make changes to their lifestyles and behaviours, we have sometimes seen limitations in departments' approach to public engagement.

- Decarbonising home heating will require almost every household to make a decision that will have a significant impact on their home, but public awareness of this is low: around 30% of respondents to a government survey in summer 2023 had never heard, or hardly knew anything, about the need to change the way homes are heated to reach net zero. In 2024, we reported that DESNZ had developed a campaign and tools to promote heat pumps but did not have a long-term consumer engagement plan for decarbonising home heating.⁴²
- The government is implementing clean air zones to tackle nitrogen dioxide pollution in some areas, where vehicle owners are required to pay a charge if a vehicle does not meet a certain emissions standard. The government viewed communications with stakeholders as important for increasing awareness of and public support for clean air measures, and in helping the public and businesses to understand how to follow the rules and make payments. In 2022, we found that locally led public communications campaigns about Clean Air Zones did not seem to have been fully effective and some local authorities raised concerns about the lack of a coordinated national communication campaign about nitrogen dioxide pollution.⁴³

⁴² Comptroller and Auditor General, *Decarbonising home heating*, Session 2023-24, HC 581, National Audit Office, March 2024.

⁴³ Comptroller and Auditor General, *Tackling local breaches of air quality*, Session 2022-23, HC 66, National Audit Office, June 2022.

- Water shortages are an impending risk for the UK and demand for water is increasing with population growth and effects of climate change. The government expects water companies to manage this deficit in water availability by increasing supply and reducing demand and relies on water companies to get its message across about the importance of reducing water consumption. In 2020, we reported that there was little public awareness of the need to reduce personal consumption or understanding of how to do so.⁴⁴

2.9 We have observed that uncertainty in long-term plans for interventions can have implications for their success where the government is relying on others to help deliver its goals. For example, in 2024, we found that uncertainty around the changes that the Department for Environment, Food & Rural Affairs (Defra) was planning to make to the agricultural sector had undermined the confidence of farmers and land managers. We said that this could result in hesitation to participate in the schemes that the government is relying on to deliver its environmental and climate change ambitions.⁴⁵

2.10 Our work has identified instances where the government did not have a clear understanding of who will bear the costs of an initiative.

- In 2020, water companies told us that the government had not provided them with a sufficient steer on how to balance the need for investment in water network infrastructure with maintaining affordable bills for customers.⁴⁶
- In 2023, we found that DESNZ did not have a delivery plan for decarbonising the power sector. Without this, there was a risk that decarbonising power while maintaining security of supply would cost consumers more. In addition, DESNZ could not fully understand when costs could be highest and the potential effect on taxpayers and consumers.⁴⁷

2.11 If the government does not understand where the costs and benefits of interventions will likely fall, there is a risk that some groups of consumers disproportionately bear the costs or are left behind. In 2024, we found that the government was uncertain about who would pay for gas networks to be decommissioned or continue in service with a decreasing customer base, and how it would ultimately manage the transition for the last remaining customers on a gas network.⁴⁸

44 Comptroller and Auditor General, *Water supply and demand management*, Session 2019-2021, HC 107, National Audit Office, March 2020.

45 Comptroller and Auditor General, *The Farming and Countryside Programme*, Session 2024-25, HC 123, National Audit Office, June 2024.

46 Comptroller and Auditor General, *Water supply and demand management*, Session 2019-2021, HC 107, National Audit Office, March 2020.

47 Comptroller and Auditor General, *Decarbonising the power sector*, Session 2022-23, HC 1131, National Audit Office, March 2023.

48 Comptroller and Auditor General, *Decarbonising the power sector*, Session 2023-24, HC 581, National Audit Office, March 2024.

Enabler 6: Develop approaches that support well-managed risk taking

Why this matters for environment and climate change interventions

2.12 Many of the interventions that will support the government's net zero and environment targets are innovative, and some planned solutions involve technology or approaches which are under development. For example, the government's net zero plans include the use of novel technologies such as Carbon, Capture, Usage and Storage (CCUS) and to further progress on environmental improvement, the government has introduced the first national-level approach in the world on statutory biodiversity net gain.⁴⁹ A level of trial and error will need to be applied to the pursuit of innovative approaches and those delivering them need to ensure they have processes in place that support well-managed risk taking.

What our work has found

2.13 Our work has identified things that should be done when innovative environmental and climate change interventions are developed, delivered and overseen. These will help to ensure that the higher associated risk of innovative activities is well managed, and that the government is positioned to seize new opportunities and support emerging technologies that show promise. We have found some good practice, but overall room for improvement.

- **Identify priority areas for investment:** In 2023, we reported that DESNZ had published a framework setting out 31 areas where it expected research and innovation to be a crucial part of achieving net zero. These included technologies to improve energy storage, capture carbon emissions efficiently and at low cost, and improve the energy efficiency of buildings. We found that the framework had provided stakeholders with a clear steer on DESNZ's priorities and timelines.⁵⁰

49 Biodiversity net gain (BNG) is a way of creating and improving natural habitats and ensuring that land development has a measurably positive impact (net gain) on biodiversity on the site or in another location.

50 Comptroller and Auditor General, *Support for innovation to deliver net zero*, Session 2022-23, HC 1321, National Audit Office, May 2023.

- **Articulate acceptable levels of failure across a portfolio:** Despite identifying its priority areas, in 2023, we found that DESNZ had yet to define what level of failure it could tolerate when investing in innovative solutions across all 31 research and innovation areas. DESNZ had placed reliance on risk management at the individual programme level. Without a clear view across its portfolio of overall tolerance for failure, it was our view that it would be difficult for DESNZ to assess whether individual innovation areas are making sufficient progress to contribute to the UK achieving net zero within the expected timescales.⁵¹ For some projects, managers will need to decide the extent to which risks are managed. For example, in 2024, we reported that successful delivery of a CCUS programme may require the government to accept that some risks can only be partly mitigated, including higher costs to support early projects. We concluded that this could be a risk worth taking if the government determines that the potential costs of delays or pursuing alternatives could be significantly higher.⁵²
- **Understand and manage interdependencies with other interventions:** Innovative interventions where the outcome or effectiveness is uncertain can impact on the success of other government activities where there are interdependencies between them. For example, generating negative emissions using biomass as a fuel relies on the success of the government's programme to develop CCUS and the availability of verifiably sustainable biomass sources. In 2024, we reported that there are no plants currently operating in the UK that use biomass in conjunction with CCUS and there are no greenhouse gas removal projects being negotiated under the first stages of the CCUS programme although BECCS (bioenergy with carbon capture and storage) plants could be successful in later phases of the programme. If biomass cannot make the contribution to achieving net zero that the government currently expects, DESNZ may need to increase activity in other areas to achieve its net zero target.⁵³
- **Put in place robust management and governance arrangements:** In 2024, we reported on Defra's implementation of statutory biodiversity net gain. Ahead of the launch, we found that Defra had introduced new governance, project and risk management arrangements. These had strengthened its oversight, helped it to make progress, and mitigated implementation risks as far as they were under its control.⁵⁴

51 Comptroller and Auditor General, *Support for innovation to deliver net zero*, Session 2022-23, HC 1321, National Audit Office, May 2023.

52 Comptroller and Auditor General, *Carbon Capture, Usage and Storage programme*, Session 2024-25, HC 120, National Audit Office, July 2024.

53 Comptroller and Auditor General, *The government's support for biomass*, Session 2023-24, HC 358, National Audit Office, January 2024.

54 Comptroller and Auditor General, *Implementing statutory biodiversity net gain*, Session 2023-24, HC 729, National Audit Office, May 2024.

2.14 Timely and transparent monitoring and evaluation (paragraphs 2.16 to 2.23) is particularly important for innovative approaches. In 2024, we found that Defra and Natural England’s ability to monitor progress and evaluate the impact of the novel statutory biodiversity net gain approach was limited by information that was not available as it expected, was incomplete or inaccessible; delays in accessing information; and the lack of a standardised national approach to verifying and recording biodiversity gains. The proposed data sources would be difficult to combine to give a complete picture of the policy’s application or impact. Without information that is complete and of good quality there is a risk that the government will not know whether statutory biodiversity net gain is working as intended, and the government could miss insights useful for Defra’s wider work to leverage green finance for environmental improvement.⁵⁵ Monitoring and evaluation also enables departments to seize opportunities and identify new interventions that works.

2.15 It is also important that in its pursuit of innovative solutions, the government does not lose sight of interventions that are already proven to be workable solutions at scale or low-regrets options where outcomes and effectiveness are more certain.

Enabler 7: Collect, use and evaluate information to understand what is working and when to change course

Monitoring progress

Why this matters for environment and climate change interventions

2.16 Interventions to support environmental improvement and respond to climate change can be subject to high levels of uncertainty. This is because they are often delivered over long timeframes, during which there may be dynamic and changing economic, political and social landscapes. For some interventions, uncertainty also comes from them being among the largest, longest-running and most complex projects and programmes. The interventions are often innovative; for example, they exploit new technologies or lead to changes in behaviours. Decision-makers still need to make value-for-money decisions in this uncertain context. Monitoring the outcomes that are being delivered by an intervention supports decision-making and helps identify when an intervention needs to change.

2.17 The quality of the information collected is important. For cross-cutting ambitions like environmental improvement and responding to climate change, good data improve the interoperability between government departments and functions, enabling insights to be shared and performance to be measured across government.

55 Comptroller and Auditor General, *Implementing statutory biodiversity net gain*, Session 2023-24, HC 729, National Audit Office, May 2024.

What our work has found

2.18 Our reports on the government’s interventions which are designed to contribute to environmental improvement and respond to climate change have repeatedly raised concerns about insufficient information being available to monitor progress and the outcomes that are being delivered.

- In 2024, we reported that DESNZ does not have all the information it needs on heat pump installations to monitor whether progress is on track and to identify key barriers to uptake.⁵⁶ At the time, DESNZ told us that it intended to take a more systematic approach to monitoring barriers and would gather insights through six-monthly evaluations. It was our view that regular monitoring of progress in reducing all key barriers would help DESNZ better understand whether it is on track to deliver the anticipated increase in heat pump installations and where further intervention may be required from the government or industry. For this report, DESNZ told us that they are working to improve their understanding of the number of heat pumps installed. In September 2024, the government published new official statistics on the number of government-supported heat pump installations.
- In 2023, we reported that the Department for Education (DfE) lacks a clear, national picture of the sustainability position of the school estate or the risks that climate change poses to the sector. As a result, it could not strategically target funding or sustainability interventions to schools.⁵⁷
- In 2023, we found issues with the consistency, completeness and accuracy of information that the Environment Agency was using to manage and report progress on its flood defence programmes, including on the condition of its assets.⁵⁸

56 Comptroller and Auditor General, *Decarbonising home heating*, Session 2023-24, HC 581, National Audit Office, March 2024.

57 Comptroller and Auditor General, *Environmental Sustainability Overview: Department for Education*, Session 2022-23, HC 1514, National Audit Office, June 2023.

58 Comptroller and Auditor General, *Resilience to flooding*, Session 2023-24, HC 189, National Audit Office, November 2023.

2.19 During fieldwork for this report, we heard from DESNZ that it can be challenging to allocate enough resource early on to monitoring, and to know how much work is required to set up monitoring and reporting systems. We recognise that it is rarely possible to have perfect performance information, and that there is a balance to be struck between what is ideal and what is possible, available and affordable. Where improvements have been made to monitoring arrangements, we have seen this lead to a better understanding of performance and the ability to manage and mitigate risks to delivery. For example, in response to recommendations that we made in 2022, the Joint Air Quality Unit – which oversees delivery of the government’s nitrogen dioxide reduction programme – now monitors progress against key milestones every six months.⁵⁹ It now has a much better view of the status of local authorities in the programme, which has helped it to identify risks and issues faster and to work more closely with them where needed.

Evaluation

Why this matters for environment and climate change interventions

2.20 Evaluation enables informed decision-making and improves the design and implementation of future interventions, leading to a greater likelihood of objectives being achieved. Given that many net zero and environmental initiatives are novel and innovative, it is particularly important that effective evaluation arrangements are in place to gather evidence of what works.

What our work has found

2.21 We have seen instances where timely evaluation could have provided valuable information about the effectiveness of an intervention.

- In 2023, we reported that DESNZ was planning a full evaluation of its smart meters programme once rollout is completed. But it was our view that having this information earlier could have helped inform future decisions, including about the rollout after the current regulatory approach ends in 2025.⁶⁰ In response to our recommendation from our 2023 report that DESNZ consider whether more programme-wide evaluation would help to inform decisions on the remainder of the programme, DESNZ told us that it is developing an interim evaluation of the programme, with initial reports expected in Q2 2025.

59 Comptroller and Auditor General, *Tackling local breaches of air quality*, Session 2022-23, HC 66, National Audit Office, June 2022.

60 Comptroller and Auditor General, *Update on the rollout of smart meters*, Session 2022-23, HC 1374, National Audit Office, June 2023.

- Our audits in 2021 and 2023 on tax measures and regulation respectively, found that a lack of evaluation had limited the government's understanding of how effectively these key levers were working to bring about environmental improvement.⁶¹

2.22 We have seen some examples of departments improving their approach to evaluation to help them assess which initiatives justify future investment.

- In 2023, we found that DfE was piloting innovative ways to reduce emissions and increase energy efficiency in school buildings to assess which initiatives justified future investment. While DfE's approach to evaluation was still developing, it was using an 'innovate, test and invest' approach to learn what worked and what was worth scaling up with the money it had available.⁶²
- In 2023, we found that Active Travel England was developing plans to remedy gaps in its evidence base, and that its future evaluations would target specific themes, including school travel, traffic calming, adult cycle training and walking interventions. It would also include process evaluation to draw lessons for future delivery as part of a more strategic approach.⁶³

2.23 Past schemes are an important source of learning to inform the effective design and implementation of future schemes. In 2021, we reported on the then Department for Business, Energy & Industrial Strategy's (BEIS's) Green Homes Grant Voucher Scheme. We found that BEIS did not sufficiently understand the challenges facing installers before the scheme was launched, failing to learn from previous schemes, including that schemes should be designed following a robust evaluation of stakeholders' view. BEIS only consulted with installers after the government had announced the scheme. Installers subsequently reported frustrations about the complexity of the scheme and its short duration, which deterred some installers from participating.⁶⁴ During fieldwork, we heard that knowledge and data sharing between different parts of government remains challenging for climate change and environment initiatives.

61 Comptroller and Auditor General, *Environmental tax measures*, Session 2019–2021, HC 1203, National Audit Office, February 2021; Comptroller and Auditor General, *Regulating to achieve environmental outcomes*, Session 2022–23, HC 1283, National Audit Office, April 2023.

62 Comptroller and Auditor General, *Environmental Sustainability Overview: Department for Education*, Session 2022–23, HC 1514, National Audit Office, June 2023.

63 Comptroller and Auditor General, *Active Travel in England*, Session 2022–23, HC 1376, National Audit Office, June 2023.

64 Comptroller and Auditor General, *Green Homes Grant Voucher Scheme*, Session 2021–22, HC 302, National Audit Office, September 2021.

Appendix One

Our audit approach

Our scope

1 In 2020, we published two reports examining the government's approach to achieving its net zero and wider environmental goals. These reports looked at the government's arrangements for achieving its goals and highlighted the main risks the government should manage. Since then, we have published nearly 40 reports examining different aspects of the government's work to achieve its net zero and environmental goals and to increase resilience. These reports have examined a range of government interventions, including the delivery of specific schemes or projects, delivery of overarching objectives, policy levers, and how departments across government manage their environmental impact.

2 In this report we have applied our experience of auditing cross-government challenges to identify enablers of success. The government can apply these in its work to achieve its net zero and wider environmental targets and adapt to a changing climate. This report includes examples from our published work on environment and climate change topics. These are illustrative examples and not indicative of the overall performance of specific departments. This report does not set out all the actions that government may have taken, or all the changes implemented since the relevant National Audit Office (NAO) reports were published.

Our evidence base

3 We conducted our fieldwork between November 2023 and July 2024. The purpose of this work was to identify and illustrate the most important things that can be learned from our back catalogue and cross-government experience of auditing climate change and environment programmes and projects.

Review of NAO reports

4 We reviewed the following 38 NAO reports published between 2018 and 2024, to identify recurring findings related to the government's delivery of programmes and projects which aimed to deliver against the government's climate change or environmental objectives. Using these reports, we developed an initial list of insights which we then tested with stakeholders through workshops and interviews.

- *Low carbon heating of homes and businesses and the Renewable Heat Incentive (2018)*
- *The packaging recycling obligations (2018)*
- *Rolling out smart meters (2018)*
- *Environmental metrics: government's approach to monitoring the state of the natural environment (2019)*
- *Early review of the new farming programme (2019)*
- *Electricity networks (2020)*
- *Water supply and demand management (2020)*
- *Environmental Sustainability Overview: Ministry of Defence (2020)*
- *Managing flood risk (2020)*
- *Improving local bus services in England outside London (2020)*
- *Achieving government's wider environmental goals (2020)*
- *Achieving net zero (2020)*
- *Environmental tax measures (2021)*
- *Reducing carbon emissions from cars (2021)*
- *Climate change risk: A good practice guide for Audit and Risk Assurance Committees (2021)*
- *Local government and net zero in England (2021)*
- *The Environmental Land Management scheme (2021)*
- *Green Homes Grant Voucher Scheme (2021)*
- *Briefing for the Environment, Food and Rural Affairs Committee: Climate change adaptation (2022)*
- *Planting trees in England (2022)*
- *Investigation into government's action to combat waste crime in England (2022)*
- *Environmental compliance and enforcement (2022)*

- *Measuring and reporting public sector greenhouse gas emissions (2022)*
- *Tackling local breaches of air quality (2022)*
- *Decarbonising the power sector (2023)*
- *Regulating to achieve environmental outcomes (2023)*
- *Support for innovation to deliver net zero (2023)*
- *Update on the rollout of smart meters (2023)*
- *Active Travel in England (2023)*
- *Environmental Sustainability Overview: Department for Education (2023)*
- *The government's resources and waste reforms for England (2023)*
- *Resilience to flooding (2023)*
- *Government resilience: extreme weather (2023)*
- *The government's support for biomass (2024)*
- *Decarbonising home heating (2024)*
- *Implementing statutory biodiversity net gain (2024)*
- *The Farming and Countryside Programme (2024)*
- *Carbon Capture, Usage and Storage programme (2024)*

Review of publicly available information

5 We supplemented this review with additional sources of information to understand the government's activities and where areas for improvement had previously been identified, for instance reports published by relevant scrutiny bodies such as the Climate Change Committee, the Office for Environmental Protection, and the National Infrastructure Commission.

Interviews with other government officials and wider stakeholders

6 To test the themes identified in our back catalogue, we interviewed a range of stakeholders within and external to the government. In total we conducted 31 semi-structured online interviews with stakeholders. During these discussions, we presented an initial list of insights drawn from our back catalogue review and tested them during:

- four meetings with Department for Energy Security & Net Zero (DESNZ) staff; we interviewed senior members of the Net Zero Strategy Directorate, senior responsible officers for a range of key net zero interventions and members of the Evaluation team;

- three meetings with the Department for Environment, Food & Rural Affairs (Defra), including representatives of Defra's arms-length-bodies, the Environment Agency and Natural England; we interviewed senior members of the Environmental Improvement Plan Strategy Team and senior responsible officers for a range of key interventions;
- nine meetings with relevant teams in other government departments and bodies: Cabinet Office, the Department for Transport, HM Treasury, the Ministry of Housing, Communities & Local Government, Natural England, UK Government Investment, and members of the cross-cutting Government Chief Sustainability Officers board;
- three meetings with relevant scrutiny bodies with responsibility for reporting on government's performance and progress in delivering its environmental and climate change goals: the Climate Change Committee, the Office for Environmental Protection and the National Infrastructure Commission;
- one workshop discussion with House of Commons staff from relevant parliamentary select committees, the Parliamentary Office of Science and Technology and House of Commons and House of Lords Library; and
- thirteen meetings with other expert stakeholders whom we selected to participate because of their relevance to the audit; these meetings were held individually with:
 - the Aldersgate Group;
 - the Association of Directors of Energy, Planning and Transport;
 - the British Retail Consortium;
 - Citizens Advice;
 - the Grantham Research Institute on Climate Change and the Environment;
 - Green Alliance;
 - the Green Finance Institute;
 - the Institute for Government;
 - Linear Infrastructure Planning Panel;
 - the Local Government Association;
 - the Royal Society for the Protection of Birds;
 - The Wildlife Trusts; and
 - Wildlife Countryside Link.

Analysis of NAO recommendations

7 Since 2021, the NAO has carried out six-monthly reviews of the progress that government departments have made against the recommendations in our published reports. Of the 38 reports that we reviewed for this report, 23 included recommendations for various government departments that the NAO had followed up on by June 2024. As part of our work for this report, we reviewed information that departments had provided to the NAO since 2022 as part of our regular recommendations follow-up work. We reviewed the status of recommendations, as at June 2024, and examined how departments had responded to our recommendations. This analysis was used to build a picture of progress made in areas where we have previously made recommendations relating to the government's work on environment and climate change and where they may still be gaps in its approach.

Appendix two

Other National Audit Office resources

1 The National Audit Office (NAO) has published good practice guides, value for money reports and insights reports which may be helpful resources for further reading. We have listed those that are most relevant to each of the enablers in this report below.

2 In addition, in 2024 we published *Making public money work harder: Learning from recent NAO work*. This report distils some of the most important messages from our work on value for money and brings them together in a short publication. Many of these messages are relevant to Government's delivery of its climate change and environment work.

Enabler 1: Create a culture of shared commitment to delivery of climate change and environment goals

Ensure effective arrangements to coordinate across government and secure buy-in from senior leaders

- Comptroller and Auditor General, *Lessons learned: Cross-government working*, Session 2022-23, HC 1659, National Audit Office, July 2023.
- Comptroller and Auditor General, *Civil service leadership capability*, Session 2023-24, HC 582, National Audit Office, March 2024.

Embed environment and climate change in business planning.

- Comptroller and Auditor General, *Efficiency in government*, Session 2021-22, HC 303, National Audit Office, July 2021.
- National Audit Office, *Good practice guide, Financial management in government: enablers of success*, July 2023.
- National Audit Office, *Good practice guide, Financial management in government: strategic planning and budgeting*, September 2023.

Ensure arrangements for effective joint working with local government

- Comptroller and Auditor General, *Central government's communications and engagement with local government*, Session 2012-13, HC 187, National Audit Office, June 2012.
- Comptroller and Auditor General, *Lessons learned: How to deliver effective regulation locally*, Session 2022-23, HC 1373, National Audit Office, May 2023.

Enabler 2: Integrate climate change and environmental ambitions with each other and wider policy objectives

Manage the links between different policy areas

- National Audit Office, *Improving operational delivery in government: A good practice guide for senior leaders*, March 2021.
- Comptroller and Auditor General, *Lessons learned: cross-government working*, Session 2022-23, HC 1659, National Audit Office, July 2023.
- National Audit Office, *Good practice guide, Cross-government working*, July 2023.

Enabler 3: Provide clear strategic direction through overarching long-term plans

Clarify roles, responsibilities and the timing of key decisions

- National Audit Office, *Managing uncertainty – questions for decision-makers to ask in an uncertain environment*, August 2023.

Support long-term, strategic planning in delivery bodies

- Comptroller and Auditor General, *The local government finance system in England: overview and challenges*, Session 2021-22, HC 858, National Audit Office, November 2021.

Enabler 4: Proactively plan for the resources and skills needed

- Comptroller and Auditor General, *Capability in the civil service*, Session 2016-17, HC 919, National Audit Office, March 2017.
- National Audit Office, *Climate change risk: A good practice guide for Audit and Risk Assurance Committees*, National Audit Office, August 2021.
- Comptroller and Auditor General, *Lessons learned: how to deliver effective regulation locally*, Session 2022-23, HC 1373, National Audit Office, May 2023.

Enabler 5: Support the people and organisations involved with the changes required to make progress

- National Audit Office, *Auditing behaviour change*, August 2011.
- National Audit Office, *Delivering public services through markets: principles for achieving value for money*, June 2012.

Enabler 6: Develop approaches that support well-managed risk taking

- National Audit Office, *Overcoming challenges to managing risks in government*, December 2023.

Enabler 7: Collect, use and evaluate information to understand what is working and when to change course

- Comptroller and Auditor General, *Challenges in using data across government*, Session 2017–2019, HC 2220, National Audit Office, June 2019.
- Comptroller and Auditor General, *Evaluating government spending*, Session 2021–22, HC 860, National Audit Office, December 2021.
- National Audit Office, *Good practice guidance, Evaluating government spending: an audit framework*, April 2022.
- National Audit Office, *Good practice guidance, Improving government data: A guide for senior leaders*, July 2022.

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